

FIRST LOOK: Microsoft's Radical New Version of Office

WI-FI
We Test the
Fastest Wireless Yet

PCWORLD



USB DRIVE TRICKS

From Security to Data Recovery

Powerful **GRAPHICS CARDS**



PC COUNTERFEITS

FAKES ARE EVERYWHERE...
HERE'S HOW TO SPOT THEM

FEBRUARY 2006 • TECHNOLOGY ADVICE YOU CAN TRUST® • WWW.PCWORLD.COM

50

BEST NEW SITES

POWERFUL WEB TOOLS FOR

Search, Storage,
Photos and Video,
E-Mail, Instant Messaging,
Collaboration & More



\$6.99 USA • \$7.99 CANADA • Printed in USA



DISPLAY UNTIL FEBRUARY 13, 2006



With new systems, you can work better, smarter and faster. (Finally.)

Upgrading your systems means upgrading your productivity. At CDW, we have the top-name technology to do just that. Our account managers provide fast answers to your product questions. And with access to the largest in-stock inventories, you'll get what you need when you need it. So why wait? Get new systems today and start benefiting tomorrow.



HP Compaq Business Notebook nx6110

- Intel® Centrino® Mobile Technology
- Intel® Pentium® M Processor 740 (1.73GHz)
- Intel® PRO/Wireless 2200 Network Connection (802.11b/g)
- Memory: 512MB
- CD-RW/DVD-ROM combo drive
- 15" active-matrix display

\$999 NOTEBOOK
CDW 817910

-200 TRADE-IN*

\$799



Special service
offer available†



Microsoft® Windows Small Business Server 2003 Standard Edition

- A networking solution that's easy to integrate into any system
- Can be added to an existing server-based network to take on the role of the multi-function server, providing a fully integrated solution for networking, e-mail, fax and database functions

Open License Business with 5 CALS** \$509.28 CDW 555771

Microsoft

Eligible processors include Intel Pentium II, III or Intel Celeron Processor; AMD processors do not qualify; trade-in values are estimates only; actual trade-in values may vary from \$25 to \$500; all products must be in good working condition and have a fair market value; call your CDW account manager for details; offer ends 3/31/06. *HP Smart Buy instant savings reflected in price shown; HP Smart Buy instant savings based on comparison of the Smart Buy price versus the standard list price of an identically configured product if purchased separately; savings may vary based on channel and/or direct standard pricing. †Qualifying businesses that make the minimum purchase requirement of five (5) qualifying Microsoft Office licenses OR one (1) Windows Small Business Server 2003 license separately or together will receive a preset credit dollar amount from Microsoft good for redemption for services at CDW relating to the Microsoft® Office + Windows® Small Business Server 2003 IT Consultant Services Promotion. Credit dollar amount varies per product SKU with a maximum redemption of \$30,000. Please consult your CDW account manager for dollar credit schedule, redemption restrictions, terms and conditions of the promotion. Offer ends 3/31/06 OR limited to the 75,000 licenses purchased by all qualifying businesses.

SMART BUY -
\$300 INSTANT
SAVINGS*



HP Compaq Business Notebook nc6220

- Intel® Centrino® Mobile Technology
- Intel® Pentium® M Processor 750 (1.86GHz)
- Intel® PRO/Wireless 2915 Network Connection (802.11a/b/g)
- Memory: 512MB
- CD-RW/DVD-ROM combo drive
- 14.1" active-matrix display

\$1299 NOTEBOOK
CDW 817921
-200 TRADE-IN*
\$1099



ACT! by Sage 2006 Standard Edition

- Helps selling professionals and small businesses make contact, build relationships and get results
- Increase your productivity with this powerful and easy-to-use software

Full version* \$219.55 CDW 828821



\$80 mail-in
rebate* available



SMART BUY -
\$239 INSTANT
SAVINGS*

Monitor sold
separately



HP Compaq Business Desktop dc5100

- Intel® Pentium® 4 Processor 530 with HT Technology (3GHz)
- Memory: 512MB
- 80GB hard drive
- 48X CD-RW drive
- Windows® XP Professional

\$759 DESKTOP
CDW 790692
-30 TRADE-IN*
\$729



Intuit QuickBooks: Pro Edition 2006

- Quickly and accurately track finances, including routine tasks like payroll, invoicing and paying bills
- View sales, expenses and your bottom line with a click

Windows Full Version \$199.95 CDW 867631



SMART BUY -
\$350 INSTANT
SAVINGS*

Hard drives sold
separately



HP ProLiant ML350 G4p Series Servers

- Intel® Xeon® Processor (3.20GHz)
- Designed with an expandable platform that delivers affordable, two-way performance
- Delivers state-of-the-art technologies, including Intel® Extended Memory 64 Technology (EM64T), PCI-X support and DDR memory to provide enhanced processing power
- Memory: 1GB std., 12GB max.
- 2 PCI-Express and 4 PCI-X slots

\$1870⁶⁹
CDW 716623



Intuit QuickBooks Enterprise Solutions 2006

- Designed to meet the demands of growing businesses by boosting efficiency with high-performance access for up to 10 simultaneous users
- Runs reports up to 90% faster than other QuickBooks editions

10-user license \$4059.84 CDW 869854



The Technology You Need When You Need It.



The Right Technology. Right Away.™

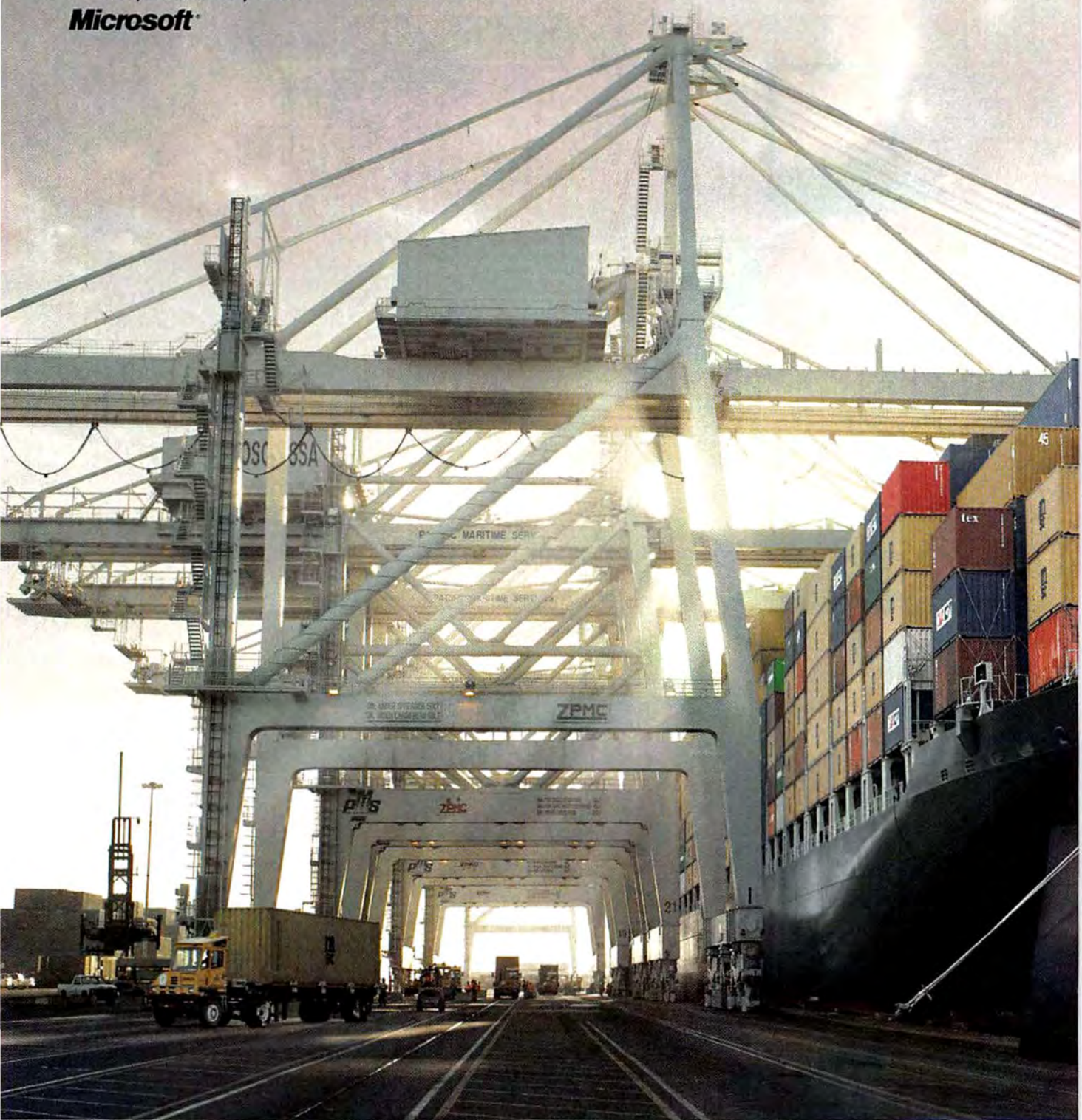
CDW.com • 800.399.4CDW

In Canada, call 888.898.CDW • CDW.ca

during this time period, whichever comes first, services must be redeemed by 5/31/06. Credits NOT redeemable for purchase of hardware, software and peripherals from CDW. CDW and Microsoft are not held responsible for lost submissions. Visit HYPERLINK "http://www.microsoftincentives.com/sbofficeoffer" www.microsoftincentives.com/sbofficeoffer or ask with your CDW account manager for specific details. *Purchase five licenses or one processor license to qualify for the Microsoft Open License Business program; call your CDW account manager for details. *Receive \$80 mail-in manufacturer rebate when you upgrade to ACT! by Sage 2006 from a previous version of ACT! or a qualifying competitive product; offer ends 12/09/06. Offer subject to CDW's standard terms and conditions of sale, available at CDW.com. © 2006 CDW Corporation

Your potential. Our passion.™

Microsoft®



A Shipper Managing 15 Billion Transactions a Year.
Running on Microsoft SQL Server 2005.



Mediterranean Shipping Company, the world's second largest containership line, tracks 7 million containers out of 116 countries. Upgrading their mission-critical 5TB database to SQL Server™ 2005 delivered 99.999% availability*. See how at microsoft.com/bigdata



*Results not typical, and are based on use with Windows Server™ 2003 Enterprise Edition. Availability is dependent on many factors, including hardware and software technologies, mission-critical operational processes, and professional services. © 2005 Microsoft Corporation. All rights reserved. Microsoft, the Windows logo, Windows Server, Windows Server System, and "Your potential. Our passion." are either trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries. The names of actual companies and products mentioned herein may be the trademarks of their respective owners.

Toshiba recommends Windows® XP Tablet PC Edition.

Satellite®

Smart notebooks for every budget.
Starting at \$949

Tecra®

The reliability business demands.
Starting at \$999

Portégé®

Thin, light and powerful.
Starting at \$1,599

Qosmio™

4-in-1 personal entertainment center.
Starting at \$1,799

libretto®

Power of a desktop in the palm of your hand.
Starting at \$1,899

Tecra® M4 Tablet PC

Combines high-performance notebook
technology with tablet functionality.

Intel® Centrino® Mobile Technology

Genuine Microsoft® Windows® XP Tablet PC Edition 2005

Toshiba EasyGuard™ enhancements¹ for increased
mobile security, system integrity, network
connectivity and overall ease of use.

Starting at \$1,699

ToshibaByDesign.com/M4
1.800.TOSHIBA



1. Toshiba EasyGuard technology comprises a number of features some of which may or may not be available on a particular Toshiba notebook depending on the model selected. See www.easyguard.toshiba.com for detailed information. 2. Toshiba's shock absorption technology provides higher impact protection for your system as compared to Toshiba systems without similar shock protection features based on Toshiba's drop tests. Toshiba's standard limited warranty terms and limitations apply. Visit www.warranty.toshiba.com for details. ConfigFree, libretto, Portégé, Satellite and Tecra are registered trademarks and EasyGuard and Qosmio are trademarks of Toshiba America Information Systems, Inc. and/or Toshiba Corporation. Intel, the Intel logo, Intel Inside, the Intel Inside logo, Celeron, Intel Centrino, the Intel Centrino logo and Pentium are trademarks or



Toshiba Trusted Platform Module (TPM)

Chip embedded on motherboard helps protect your data with NSA-level encryption.



HDD Protection Design²

Shock-absorbing materials and integrated 3D accelerometer help safeguard your hard drive from falls, impacts or vibrations.



High-Resolution Video Display

14" diagonal SXGA+ display offers an extended viewable range and more vivid visuals — plus, the polycarbonate protective surface offers an authentic pen and paper experience.



Patented Diversity Antenna

Improves wireless signal reception by strategically placing a dual-band Wi-Fi[®] antenna in the notebook display.



ConfigFree[®] Software

Simplifies finding and connecting to networks and allows collaboration between connected users and workgroups.

The power of versatility.

The ability to adapt to your surroundings is a key component of success. The Tecra[®] M4 Tablet PC brings together state-of-the-art notebook technology with innovative tablet functionality to become Toshiba's most advanced notebook yet. It works around you, instead of the other way around. That's innovation 360[°].

Where can innovation take you?

ToshibaByDesign.com/M4

TOSHIBA

Innovation **by design.**

registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. Microsoft and Windows are registered trademarks of Microsoft Corporation in the United States and/or other countries. Wi-Fi is a registered certification mark of the Wi-Fi Alliance. All other trademarks are the property of their respective owners. While Toshiba has made every effort at the time of publication to ensure the accuracy of the information provided herein, product specifications, configurations, prices, system/component/options availability are all subject to change without notice. Toshiba is not liable for pricing, typographical or photography errors. Prices listed are based on products listed at ToshibaDirect.com at time of publication printing. Reseller/Retailer pricing/products may vary. © 2006 Toshiba America Information Systems, Inc. All rights reserved.

At **2 MILLISECONDS** *blurs vanish.*

*Average gray-to-gray response. Corporate names, trademarks stated herein are the property of their respective companies. Copyright © 2005 ViewSonic Corporation. All rights reserved. [1267/401E 10/05]



VX922 | THE WORLD'S FASTEST LCD MONITOR

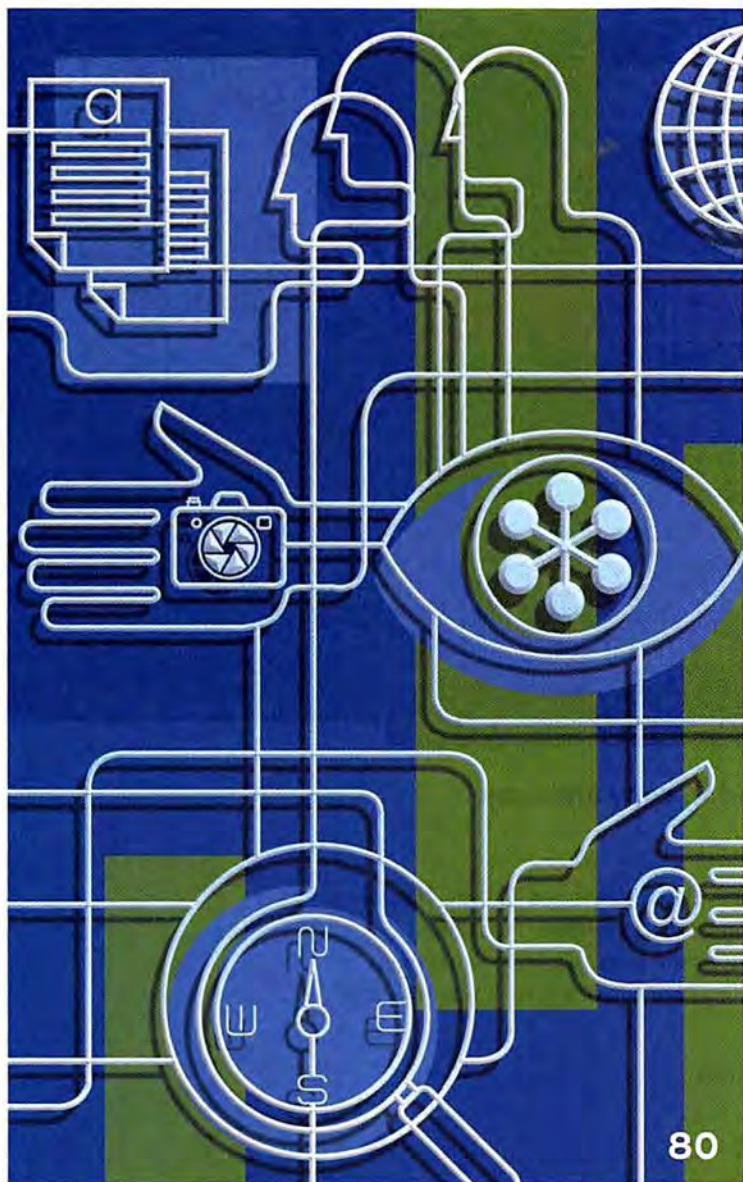
A new revolution in speed from the leaders of the visual experience. The VX922 offers the world's fastest grayscale response time. No blurs. No ghosts. Just pure broadcast-quality, full-motion crystal-clear video. Once again, the ClearMotiv™ line of LCD products innovates everything else off the desktop. See the VX922 now. Hurry!

SHIPPING NOW! CALL 888-881-8781 TODAY FOR YOUR DEMO UNIT OR VISIT VIEWSONIC.COM/FASTANDFIRST FOR PRODUCT DETAILS.

ViewSonic



the choice of professionals



SITES & SERVICES

80 New, Improved Web

Bid farewell to passive browsing: The Web is evolving into an increasingly interactive, customizable experience. Here are over 50 great sites and services, many of them free, that allow you to post images and video clips, share your opinions, connect with like-minded folks, and find specialized information in a flash.



Cover illustration by Glenn Mitsui

PC WORLD

FEBRUARY 2006

VOLUME 24 ♦ NUMBER 2

WWW.PCWORLD.COM

FEATURES

GRAPHICS BOARDS

90 Greater Graphics

Graphics power isn't just for gamers. A new card can enhance video and high-def content, handle dual monitors, and boost system performance. Our tests reveal the best picks.

COUNTERFEIT PARTS

105 Fakes!

Does a new brand-name product at half price sound too good to be true? It may be. Counterfeiting high-tech merchandise is a huge and lucrative industry. We look at how it works and what you need to watch out for.

USB DRIVES

113 23 Things to Do With a Thumb Drive

Only slightly larger than a Swiss army knife, pocketable USB flash drives have recently developed just as many uses—from an emergency security or recovery kit to a miniature holding tank for transporting games, music, and other files.



ON THE COVER





OKI Printing Solutions offers cutting-edge versatility in a color multifunctional system

A complete range of tools that lets you print, copy and scan faster and easier than ever before.

Now you can do it all—more colorfully and more productively—with the new full line of color multifunctional systems from OKI Printing Solutions. Versatile and reliable, these high-performance multifunctional systems excel in small offices and large corporate workgroups alike. The new network-ready color multifunctional systems are one of the most cost-effective digital LED color solutions on the market, offering:

- Print and copy speeds up to 36 ppm color/40 ppm mono*
- Up to 1200 x 1200 dpi print and copy resolution
- Low cost printing per color and mono page
- Standard scan-to-email/network/FTP capability
- Toll-free technical support 24/7, 365 days a year with agents based in North America

Bottom line: OKI Printing Solutions offers the best value for business color.



ES3640e MFP
July 2005
&
ES1624n MFP
August 2005

To learn more about our **NEW** line of color MFPs, call us at:
1-866-OKI-COLOR or visit www.okiprintingsolutions.com/us

©2005 Oki Data Americas, Inc. OKI Reg. T.M., Oki Electric Industry Co., Ltd. *Published performance results are based on laboratory testing; individual results may vary. BERTL® Four Star Highly Recommended award (www.BERTL.com) applies to the ES1624n and ES3640e.

OKI®
PRINTING SOLUTIONS

REVIEWS & RANKINGS

- 46 32-Inch LCD TVs**
Sets from Dell, Hewlett-Packard, JVC, Samsung, and Sharp
- 49 Wireless Networking**
Routers from Belkin, Buffalo Technology, and Linksys
- 50 Top 5 Ultraportables**
- 51 Cell Phone/PDA**
RIM BlackBerry 8700c
- 52 Accounting Software**
Intuit QuickBooks 2006
- 54 Top 10 Desktop PCs**
- 56 DVD Recorder**
Sony DVDirect VRD-MC1
- 60 Productivity Suite**
Microsoft Works Suite 2006
- 61 Notebook Add-On**
Matrox DualHead2Go
- 62 Top 5 Photo Printers**
- 64 Digital Audio**
Slim Devices Squeeze-box Wireless Network Music Player
- 66 Top 5 IM Clients**
- 68 Digital Camera**
Nikon Coolpix P1
- 70 Desktop PC**
Apple iMac G5
- 72 More Reviews**

See page 46 for a complete list of new products reviewed.

51



66



37



61

FIND-IT URLs

TO ACCESS INFORMATION about any item in *PC World* with an accompanying Find-It URL, enter find.pcworld.com/xxxxx (where *xxxxx* is the appropriate five-digit number) into your browser's location field. You'll jump to a Web page containing the information you want.

COMING UP IN MARCH

Get More Out of Your PC: A few hardware and software tweaks will let you use your system in new ways.
Best Virus Killers: We test 11 popular antivirus apps to find which are best (and worst) at guarding a PC.

Broadband to Go: New services get you online, without Wi-Fi. We evaluate how effectively they do the job.
Hollywood vs. Your Computer: We examine industry trends that may affect how you use digital content.

DEPARTMENTS

- 17 Up Front**
Honoring 50 years of breakthrough products.
- 33 Letters**
Favorite shopping sites, plus reviews reactions.
- 37 Consumer Watch**
Web-based tech support is rapidly improving.
- 41 Hassle-Free PC**
Use a signature-line image to defeat spammers.
- 43 Gadget Freak**
Portable video is here, but the content is lacking.
- 45 Bugs and Fixes**
New IE and Windows holes, plus faulty batteries.
- 136 Full Disclosure**
Some old problems the "new" Web should solve.

NEWS & TRENDS

- 22 A Smart New Office**
Interface changes and XML-based file formats are the big features in the Office 12 beta.
- 25 Sneaky Copy Controls: How Far Will They Go?**
The controversy over Sony's rootkit anticopy technology may presage bigger battles ahead.
- 26 New Ways to Access Your Files Anywhere**
We look at three handy Web-based services.
- 28 Wi-Fi Reaches the Speed of Ethernet**
Superfast wireless products approach the broadband capabilities of wired networking.
- 28 Command-Line Comeback**
In the works: a command-line shell for Vista.
- 30 Plugged In**
Microsoft to open up Office file formats to competitors; sync your TiVo recordings to your iPod.

HERE'S HOW

- 118 Backup Tips**
Develop a simple plan for archiving your data.
- 122 Windows Tips**
Quickly create multiple folders simultaneously.
- 124 Internet Tips**
Learn some key terms to avoid online attacks.
- 125 Hardware Tips**
No-cost maintenance tools for a trouble-free PC.
- 126 Answer Line**
Troubleshoot a hard drive that won't stay on task.

RESOURCES

- 12 How to Contact PC World**
- 128 PC World Marketplace**
- 135 Advertiser Index**

NO Compromise on **M**assive & **M**essy Chargers/ Power Cords



N

L

Y

POWER



Combotronic Ltd., Hong Kong

Welcome to www.combotronic.com

My Character

- Illuminated Voltage Indicator
- Attachable Voltage Selector Key
- 16 Selectable Main Output Voltages
- 2 Auxiliary Voltage Outputs
- Simultaneous Multiple-Chargings
- Over 90% Efficiency (70W)
- No AC Power Cords
- Easily Changeable AC Plugs & DC Tips
- Output Tip with Lock Feature
- 100 – 240V Worldwide Voltages
- Absolutely Compact & Handy
- Usable on Cars, Planes & Boats[†]



YOU WILL NEED

- Notebook
- Mobile
- PDA
- Digital Camera
- DV Device
- iPod
- PSP Game
- Game Boy
- Other Electronic Devices

Go to find.pcworld.com/50188

[†] DC Booster SDC70 Series Required

Patents
Pending



Just Click It



**AMBIENT LIGHT SENSOR
WIDESCREEN DISPLAY
AUDIO DJ CONTROLS**

Be Cool

Make a statement with the **Ajump Z71A Notebook** featuring Intel® Centrino® Mobile Technology in a stylish design that tells the world you're cool.

**FREE 1.5GB
USB JUMBO Drive**

for more Freebies
please check our website
www.ajump.com

Just Click It

For more info about Ajump Z71A
www.ajump.com/pcw1

©2006 Ajump.com Inc.. All rights reserved. Intel, Intel logo, Intel Inside, Intel Inside logo, Intel Centrino, Intel Centrino logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.



PCWORLD

PHONE:
415/243-0500

FAX:
415/442-1891

E-MAIL:
letters@pcworld.com

WORLD WIDE 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

EDITOR IN CHIEF Harry McCracken
CREATIVE DIRECTOR Robert Kaness
EDITOR, PCWORLD.COM Ramon G. McLeod
MANAGING EDITOR Kimberly Brinson
EXECUTIVE EDITORS Edward N. Albrow, Randy Ross
TEST CENTER DIRECTOR Ulrike Diehlmann

EDITORIAL PCW COMMUNICATIONS

ASSISTANT MANAGING EDITOR
Paul-Michael King

SENIOR EDITORS
Yardena Arar, Eric Dahl, Kalpana
Ettenson, Rex Farrance, Karl Koessel,
Tom Mainelli, Anush Yeghazarian

SENIOR WRITER Alan Stafford

SENIOR ASSOCIATE EDITORS
Grace Aquino, Andrew Brandt, Anne B.
McDonald, Dennis O'Reilly, Melissa J.
Perenson, Dan Sommer

SENIOR REPORTER Tom Spring

ASSOCIATE EDITORS Danny Allen, Laura
Blackwell, Eric Butterfield, Liane
Cassavoy, Erik Larkin, Narasu
Rebbapragada

SENIOR PRODUCER, DOWNLOADS
Max Green

WEB PRODUCER David Lake

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

EDITORIAL ASSISTANT Amber Bouman

FOUNDER David Bunnell

FOUNDING EDITOR Andrew Fluegelman

ART AND DESIGN

ART DIRECTOR Barbara Adamson

DEPUTY ART DIRECTOR Pierre Granier

ASSOCIATE ART DIRECTORS Jeff Berlin,
Beth Kamoroff, Carolyn Perot

DESIGNER Chip Taylor

DIGITAL IMAGING SPECIALIST Rick Rizner

CONTRIBUTING EDITORS

Steve Bass, Scott Dunn, Steve Fox,
Judy Heim, Stuart J. Johnston, Anne
Kandra, Dan Littman, Stephen Manes,
James A. Martin, Aoife M. McEvoy,
Scott Spanbauer, Lincoln Spector, Kirk
Steers, Carla Thornton, Dan Tynan

PC WORLD TEST CENTER

MANAGER OF BENCHMARK DEVELOPMENT
James Motch

SENIOR PERFORMANCE ANALYSTS
Elliot S. Kirschling, Jeffrey Kuta

DEVELOPMENT ANALYSTS Tony K. Leung,
Thomas Luong

PERFORMANCE ANALYST Chen Xing Wang

TEST CENTER COORDINATOR
Greg Adler

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 pcwcustserv@cdsfulfillment.com.

PRESIDENT, CEO Jeff Edman

VP, PUBLISHER - PC WORLD MAGAZINE
Wayne Silverman

VP, PUBLISHER - PCWORLD.COM,
CUSTOM PUBLISHING
Michael Carroll

SENIOR VP, COO/CMO Vicki Peilen

VP, HUMAN RESOURCES Kate Coldwell

VP, CONSUMER MARKETING
Shawne Burke Pecar

NEW PRODUCT ANNOUNCEMENTS

Send press releases via e-mail to
newproducts@pcworld.com.

BACK ISSUES

PC World issues are available in digital format starting with the July 2002 issue. Go to www.pcworld.com/singlecopy. PC World issues and article copies are available on microfilm and microfiche from UMI, 300 N. Zeeb Rd., Ann Arbor, MI 48106-1346; 800/521-0600.

SUBSCRIPTION SERVICES

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

INTERNET: www.pcworld.com/customer

E-MAIL: pcwcustserv@cdsfulfillment.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 letters. 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

CONSUMER WATCH:
consumerwatch@pcworld.com

FULL DISCLOSURE: steve@cranky.com

HARDWARE TIPS:
kirk_steers@pcworld.com

HASSLE-FREE PC:
hasslefreepc@pcworld.com

INTERNET TIPS: nettips@spanbauer.com

LETTERS: letters@pcworld.com

ON YOUR SIDE: onyourside@pcworld.com

PLUGGED IN: eric_dahl@pcworld.com

PRIVACY WATCH:
privacywatch@pcworld.com

WINDOWS TIPS: scott_dunn@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 e-mail 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.

THE NEW SCANSNAP PAPER MANAGER/ORGANIZER



STRAIGHTEN UP YOUR PAPERWORK INSTANTLY.

With the touch of a button, turn documents into easy-to-file PDFs. The new ScanSnap™ scanner with Adobe Acrobat 7.0 included (an incredible value by itself!) even processes both sides at once. Its Organizer software makes managing documents easier than ever. Its CardMinder V2.0 "reads" business cards directly into your contact manager...in 5 different languages. And it scans documents into email for faster, surer delivery than faxing. All in a footprint smaller than a sheet of paper. One year warranty is standard, and service upgrades are available from Fujitsu, the world leader in scanners. So don't let paperwork foul you up. Call 800-831-8094 ext.8355 or see it in action now at www.fcpa.fujitsu.com/8355

Adobe Acrobat® 7.0 Standard - Included

\$495⁰⁰



FUJITSU

THE POSSIBILITIES ARE INFINITE

© 2005 Fujitsu Computer Products of America, Inc. All rights reserved. Advance Exchange upgrade of \$59 is sold separately and is not included in the \$495 cost. Service program prices are subject to change. Fujitsu and the Fujitsu logo are registered trademarks of Fujitsu Ltd. ScanSnap and Advance Exchange are trademarks of Fujitsu Computer Products of America, Inc. Adobe, the Adobe logo and Acrobat are either registered trademarks or trademarks of Adobe Systems, Inc. in the United States and/or other countries. All other trademarks are the property of their respective owner.



TigerDirect.com

PCNation®
We cut prices... not corners!

PC Connection

PC Mall

THE I CAN'T DEAL WITH
ALL THIS DATA ERA IS OVER.



Your potential. Our passion.™

Microsoft

© 2005 Microsoft Corporation.



Microsoft® Office has evolved. Have you?

After all, the way we work has changed. Today, managing that ever-rising tide of information is a growing challenge. That's why you need the latest version of Microsoft Office with programs like Microsoft Office Outlook® and Microsoft Office OneNote®. Now you can organize, prioritize, and synthesize information like never before. It's time to evolve the way you work. Discover how at microsoft.com/office/evolve

I think our Office 97 needs an upgrade.

You are correct, sir.





A MARKER TO LABEL YOUR DISCS?

THAT'S LIKE WEARING A CONCERT T-SHIRT
TO A CLIENT PRESENTATION.

MAKE YOUR BUSINESS LOOK BETTER. Do disc publishing right. Do it affordably. With the Rimage 2000i, you can design, burn and print directly to CDs and DVDs. And since it's from the world leader in disc publishing, you can be sure it's easy to install and fully network-capable. Whether you need one disc, or a hundred, the Rimage 2000i will be there to handle the task.



RIMAGE 2000i™

CREATE. BURN. PRINT.™

To give your discs a sharp, professional image call 1-888-482-3327 for a Rimage dealer near you, or visit www.rimage.com/2000i.



TigerDirect.com

PC Connection





UP FRONT

HARRY MCCRACKEN

A Celebration of 50 Years of Innovation

PC World's gadgeteers name the best new (and old!) ideas in technology.

NEW PRODUCTS? In the crowded, competitive world of technology gear, there's never a shortage of 'em. But truly new *ideas*—and genuinely better takes on existing concepts—have always been a rarer breed. When it comes to innovation, there are far more wannabes than winners.

Which is why we're kicking off the new year with our third annual Innovations Awards. Once again, we started with a long, long list of hardware, software, and services introduced during the past 12 months. Editors then spent quality time with the strongest contenders, making sure that each product's innovations were real and practical, not theoretical.

After plenty of spirited debate, we wound up with 25 winners that bring fresh thinking to personal technology. Flip to page 18 for the complete list.

Speaking of new ideas, this year's big Innovations celebration is happening at PCWorld.com, where we've posted detailed info and photos for all the winners. The online focus is in response to the rousing success of "The 100 Best Products of 2005" (find.pcworld.com/50984), the site's most popular article of all time.

Strangely enough, as we were selecting forward-looking products for Innovations honors, we were also happily wallowing in five decades of tech nostalgia. That's because we were picking "The 50 Greatest Gadgets of the Last 50 Years," yet another original story for PCWorld.com. (Coupling the two stories makes sense: Many notable gizmos of years past were among the most inventive products of their eras.)

Head to find.pcworld.com/50986 for both articles, plus our news reports from the 2006 Consumer Electronics Show, the early-January event where countless products we'll consider for *next* year's Innovations Awards will be launched.

As for this year's Innovations winners, they cover a lot of ground, from the thoroughly useful (Fujitsu's 2.2-pound convertible Tablet PC) to the purely fanciful (Nintendo's Nintendogs game).

Overall, though, there's a distinct theme to this year's crop. "The trend we're seeing is toward products that let you do more with photos, video, and audio," notes Senior Associate Editor Melissa J. Perenson, who led this year's awards team with fellow Senior Associate Editor Grace Aquino. By my count, 21 of 25 winners are on the list at least in part because of their digital-media savvy.

ONE TECH WORLD, INDIVISIBLE

ANOTHER STRIKING THING about this year's award winners is that they don't divide into tidy groups such as *PC product*, *mobile communications device*, and *consumer electronics*. The lines between categories aren't merely blurring—they're becoming irrelevant. And some imaginative hybrids are emerging.



OUR 25 INNOVATIONS

Awards winners include (clockwise from top center) Sony's DSC-R1 camera,

Fujitsu's P1510D Tablet PC, Kodak's EasyShare V570 camera, Nokia's N91 phone, Creative's Zen Vision video handheld, Yamaha's RX-V4600 home theater receiver, Sling Media's Slingbox Internet TV streamer, and JVC's Everio GZ-MG70 DV camera.



Consider, for instance, the DVDirect VRD-MC1 from Sony. Can you use it as a PC-based DVD burner? Check. Is it a consumer electronics device? Yep—its LCD screen and full complement of connectors and memory slots allow you to use it directly with digital cameras, printers, and camcorders, no computer required. Does it qualify as mobile? Absolutely, thanks to its trim, lightweight case.

Oh, and the DVDirect is a handsome example of industrial design, too. That's another trend among this year's winners: They not only do new things, but they also look better doing them.

A GADGETS HALL OF FAME

MEANWHILE, CHOOSING "The 50 Greatest Gadgets of the Last 50 Years" was both a blast and a challenge. People are amazingly passionate about the gadgets that have mattered to them. When we began deliberations, I'd never heard of Polaroid's Swinger, a \$20 camera that brought instant photography to the masses. After hearing one editor's argument for its importance, I'm sorry I never owned one.

INNOVATIONS



50
GREATEST
GADGETS

FIVE DECADES of personal audio, from left: Regency's stylin' 1950s radio

(#10 on our gadget list), Sony's landmark Walkman (#1), and Apple's original iPod (#2). The sleek iPod Nano (far right) is one of our Innovations winners.

You were expecting maybe a newer audio player by a company named after a kind of produce? The iPod took

second place. One lesson here: Portable audio has long set the standard for gadget cool. In fact, our top ten also included Regency's transistor radio, still a sexy little number after all these years.

Elsewhere on the list, you'll find everything from PCs to game consoles to cell phones. Reading it, you'll be reacquainted with some old friends—we sure were. Have a favorite high-tech gadget of your own, past or present? Please drop me a note at mageditor@pcworld.com and tell me all about it. We'll continue the conversation over at my Techlog blog (blogs.pcworld.com/techlog). ■

Harry McCracken is PC World's editor in chief.

25 NEW PRODUCTS THAT ARE ANYTHING BUT ORDINARY

HEREWITH, THE WINNERS of PC World's Innovations Awards for 2006. For our complete report, plus "The 50 Greatest Gadgets of the Last 50 Years," visit find.pcworld.com/50986.

- ♦ **AIRGO TRUE MIMO GEN3:** Technology for superfast Wi-Fi.
- ♦ **APPLE IPOD NANO:** Irresistibly stylish, it lives up to the hype.
- ♦ **AVVENU:** Free remote access to files, from a PC or handheld.
- ♦ **CREATIVE ZEN VISION:** A video handheld we'd actually buy.
- ♦ **FUJITSU LIFEBOOK P1510D:** Superportable Tablet PC.
- ♦ **GOOGLE EARTH:** Both amazingly useful and just plain amazing.
- ♦ **JVC EVERIO GZ-MG70:** With its built-in hard disk, this under-size DV camcorder dispenses with tapes and discs.
- ♦ **JVC RX-D702B:** A reasonably priced receiver for the digital age.
- ♦ **KODAK EASYSHARE V570:** One compact camera, two lenses.
- ♦ **MAXTOR SHARED STORAGE PLUS:** 500GB of network storage.
- ♦ **MICROSOFT XBOX 360:** Next-gen console-based entertainment.
- ♦ **MITSUBISHI HC3000U:** The first projector featuring Texas Instruments' aptly named BrilliantColor technology.

- ♦ **NEC MULTISYNC LCD2180WG-LED:** Stunning LED backlighting makes for the ultimate desktop display.
- ♦ **NINTENDO NINTENDOGS:** Cute canines in a serious simulation.
- ♦ **NOKIA N91:** A more highly evolved approach to camera phones.
- ♦ **PANASONIC OXYRIDE:** Today's power-hungry gadgets need these long-life AA and AAA batteries.
- ♦ **SLING MEDIA SLINGBOX:** Slings your TV shows across the Net.
- ♦ **SONOS DIGITAL MUSIC SYSTEM:** Elegant music streaming.
- ♦ **SONY CYBER-SHOT DSC-R1:** Takes point-and-shoot photography to the next level—and packs 10.3 megapixels.
- ♦ **SONY DVDIRECT VRD-MC1:** Burns DVDs with (or without) a PC.
- ♦ **SONY HANDYCAM HDR-HC1:** Puts HD video within reach.
- ♦ **TIVOTOGO:** Sends your shows to a PC, a DVD, or a handheld.
- ♦ **TOSHIBA RD-SX54:** A DVD recorder that does it all.
- ♦ **YAMAHA RX-V4600:** This top-notch receiver offers HD radio.
- ♦ **YAMAHA YSP-1000:** One slick audio box that outdoes multiple-speaker surround-sound setups.

➔ find

your way out of the dark.



Discover a new world of potential with the first automatic projectors.

As the world's first truly automatic projectors, the LT30 and LT35 are bright, powerful and packed with cool technology innovations. Even with a footprint smaller than a sheet of paper, these little powerhouses do everything automatically, including start-up, focus, keystone correction and even cool down. The advances of the LT30 and LT35 are so revolutionary, don't be surprised if they make everything else look a little flat.

Please visit www.necvisualsystems.com to explore NEC's automatic projectors!



DLP is a registered trademark of Texas Instruments. The DLP™ logo and DLP™ medallion are trademarks of Texas Instruments.



LT30 & LT35 digital projectors

- World's first automatic projectors
- 2600/3000 ANSI lumens (LT30/35)
- XGA 1024x768 native resolution
- Quick set up and cool down
- Automatic focus and keystone correction



Because It's your Image

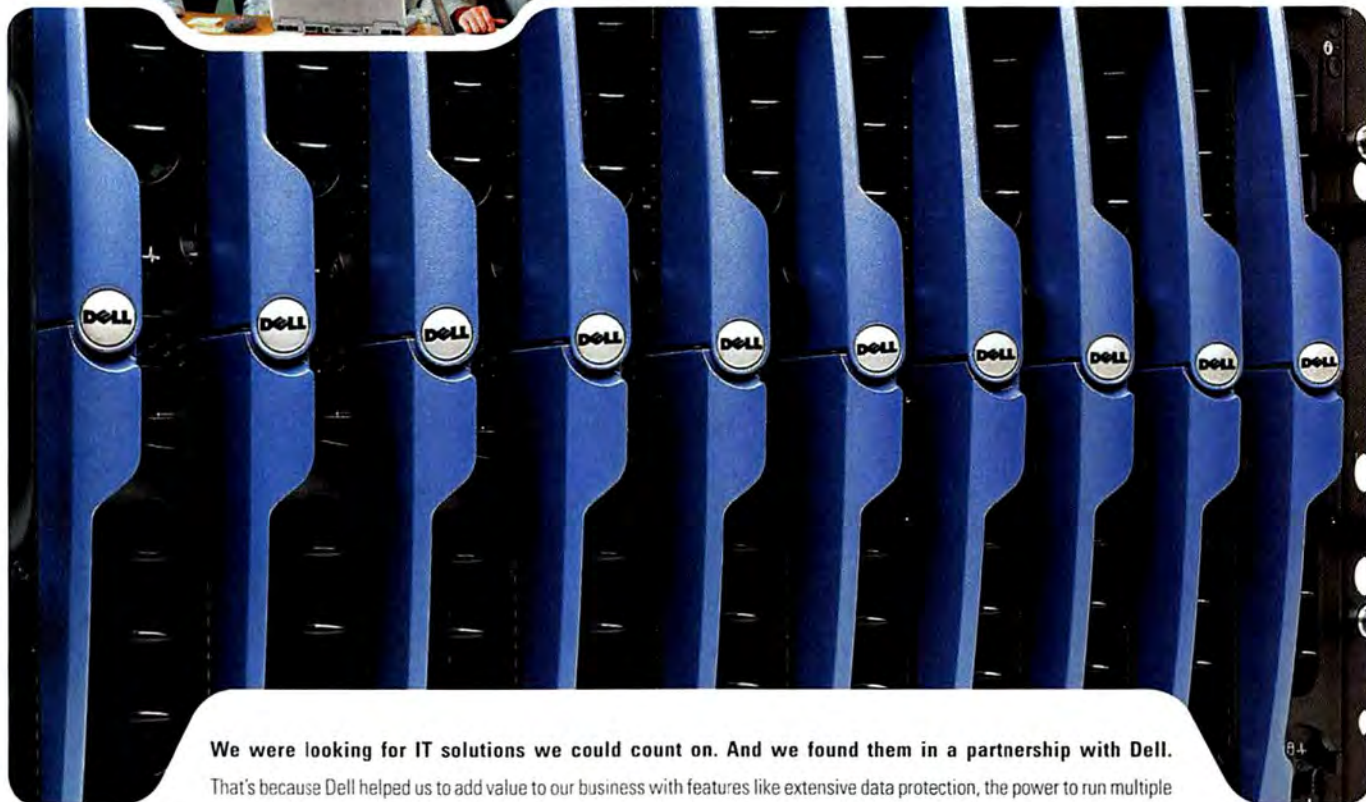
NEC

Empowered by Innovation



Small Business

HOW DID WE GET TO THE NEXT LEVEL?
BY WORKING WITH SOMEONE
WHO'S BEEN THERE.



We were looking for IT solutions we could count on. And we found them in a partnership with Dell.

That's because Dell helped us to add value to our business with features like extensive data protection, the power to run multiple apps, web serving and even remote management capabilities. Between hardware and software, we were able to upgrade our capabilities in no time at all. Plus with Dell, we were able to easily integrate premium blades into our existing operation – which gave us a huge boost. And their award-winning 24x7 service and support help keep us up and running at all times. The end result was a customized IT infrastructure that's led us to a big advantage over our competition. Now that's taking it up a level.

POWEREDGE™ 2850* RACK SERVER

\$1999 Lease as low as **\$53/mo.** (48 pmts.)*
E-VALUE Code: 06951-pe2850-min
Small Business Pricing

High-Speed 2U Rack Server – Optional Dual-Core Processing on Select Configurations

- Intel® Xeon® Processor (2.80GHz, 2MB Cache, 800MHz FSB)
- Upgradable to Dual-Core Intel® Xeon® Processor featuring dual-core processing (2.80GHz, 2x2MB L2 Cache, 800MHz FSB)
- 1GB ECC DDR2 SDRAM (Up to 12GB)
- 73GB* (10,000 RPM) Ultra320 SCSI Hard Drive
- 24X IDE CD-ROM
- Dual Embedded Intel® PRO Gigabit* NICs
- 3-Yr Basic Enterprise Support (L1 Hardware Queue, Next Business Day On-Site Service* M-F 8am-6pm, CT)
- Optional Factory-Installed Microsoft® Server 2003, Standard Edition Operating System, add \$799

POWEREDGE™ 1855* BLADE SERVER

\$1879 per blade Lease as low as **\$50/mo.** (48 pmts.)*
E-VALUE Code: 06951-pe1855-bsapp
Small Business Pricing

Optional Dual-Core Processing on Select Configurations

Dual Processor Blade Server Configuration Per Blade:

- Intel® Xeon® Processor (2.80GHz, 2MB Cache, 800MHz FSB)
- Upgradable to Dual-Core Intel® Xeon® Processor featuring dual-core processing (2.80GHz, 2x2MB L2 Cache, 800MHz FSB)
- 1GB ECC DDR2 SDRAM (Up to 12GB)
- 36GB* (15,000 RPM) Ultra320 SCSI Hot-Swap Hard Drive (Up to 600GB*)
- 3-Yr Basic Enterprise Support (L1 Hardware Queue, Next Business Day On-Site Service* M-F 8am-6pm, CT)
- Does not include Enclosure. PowerEdge™ 1855 Enclosures start at \$2999.

POWEREDGE™ 830 TOWER SERVER

\$979 Lease as low as **\$26/mo.** (48 pmts.)*
E-VALUE Code: 06951-S20109e
Small Business Pricing

1P Value Tower Server – Optional Dual-Core Processing on Select Configurations

- Intel® Pentium® 4 Processor 521 supporting hyper-threading technology (2.80GHz, 1MB, 800MHz FSB)
- Upgradable to Intel® Pentium® D Processor 840 featuring dual-core processing (3.20GHz, 2x1MB L2 Cache, 800MHz FSB)
- 512MB ECC DDR2 SDRAM (Up to 8GB)
- 80GB* (7200 RPM) SATA Hard Drive
- 48X CD-ROM, 680MB, INT
- Embedded Broadcom Gigabit* NIC
- 3-Yr Basic Enterprise Support (L1 Hardware Queue, Next Business Day On-Site Service* M-F 8am-6pm, CT)

*PowerEdge Servers and PowerConnect Switch: These devices have not been approved by the Federal Communications Commission for use in a residential environment. These devices are not, and may not be, offered for sale or lease, or sold or leased for use in a residential environment until the approval of the FCC has been obtained.

THE TOTAL ENTERPRISE SOLUTION.

Reliable. Expandable. Scalable. And just plain "able." Dell™ PowerEdge™ servers with Intel®

Xeon® Processors provide unique answers for businesses of all sizes. Especially when working in tandem with network support products like PowerVault™ storage, PowerConnect™ switches and Dell's OpenManage™ Systems Management software. Together, they offer flexible, high-performance technology, security, and the power to run critical apps. Sounds like just the edge you're looking for.



NEW DELL™ POWERVAULT™ 110T LTO-3 TAPE DRIVE

Automated, high-capacity back-up and recovery data solution with WORM protection for enterprise and departmental servers and Network Attached storage.

\$4549



POWERCONNECT™ 3424P POWER-OVER-ETHERNET GIGABIT SWITCH*

Robust 24-Port Managed fast Ethernet switch* delivering industry-standard technology that integrates data, voice, and power on standard Ethernet infrastructure. Ideal for network Gigabit Ethernet® backbone traffic aggregation.

\$999



The Service & Support Professionals Association (SSPA), the leading organization for IT support professionals, has awarded Dell Enterprise Services its STAR Award for service excellence in the category of mission-critical support.

Create a customized IT infrastructure with Dell's network installation assessment and deployment. Dell-certified IT Professionals can assess and evaluate your current network infrastructure and business requirements and help develop a comprehensive optimization plan for your exact needs. So

whether you're upgrading an existing network or installing a new one, Dell can recommend and deploy the optimal mix of hardware, software and services you're looking for. Call and find out what Dell can do for your business. Chances are it's a lot more than you think.

dell.com/pcworld

IT'S A SINGLE ANSWER TO COMPLEX ISSUES.



call 888.697.4533

toll free

Call: M-F 7a-8p Sat 8a-5p, CT *Pricing/Availability: Pricing, specifications, availability, and terms of offer may change without notice. Taxes, fees, shipping, handling and any applicable restocking charges, other than free shipping offer, if applicable, are extra and vary. Offers may be combined with other select offers or discounts. U.S. Dell Small Business new purchases only. Items leased will be subject to applicable end-of-lease options or requirements. Dell cannot be responsible for pricing or other errors, and reserves the right to cancel orders arising from such errors. **On-Site Service:** Service may be provided by third-party. Technician will be dispatched, if necessary, following phone-based troubleshooting. Subject to parts availability, geographical restrictions and terms of service contract. Service timing dependent upon time of day call placed to Dell. U.S. only. **Leasing:** Monthly payment based on 48-month Fair Market Value ("FMV") QuickLease and does not include taxes, fees, shipping and handling charges. Your monthly payment may vary, depending on your creditworthiness. QuickLease arranged by Dell Financial Services LP ("DFS"), an independent entity, to qualified Small Business customers. Minimum transaction size of \$500 required. At the end of the FMV QuickLease, you can: purchase the equipment for the then FMV, renew the lease or return the equipment to DFS. Please contact your DFS representative for further details. All terms subject to credit approval and availability, and are subject to change without notice. **Gigabit Ethernet:** This term does not connote actual operating speed of 1GB/sec. For high-speed transmission, connection to a Gigabit Ethernet server and network infrastructure is required. **Hard Drive:** For hard drives, GB means 1 billion bytes; actual capacity varies with preloaded material and operating environment and will be less. **Trademarks/ Copyright Notices:** Dell, the stylized E logo, E-Value, Dimension, Inspiron, Latitude, OptiPlex, PowerEdge, Dell Precision, PowerConnect, PowerVault CompleteCare, ExpressCharge, Tri-Metal and UltraSharp are trademarks of Dell Inc. Intel, Intel logo, Intel Inside, Intel Inside logo, Pentium, Pentium Inside and Intel Xeon are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. Digital Light Processing, DLP, the DLP logo and the DLP medallion are trademarks of Texas Instruments. Microsoft and Windows are trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries. ©2006 Dell Inc. All rights reserved.

NEWS & TRENDS

EDITED BY EDWARD N. ALBRO

- 25 FALLOUT FROM SONY'S INVASIVE COPY CONTROLS
- 26 NEW SERVICES MAKE FILES MORE ACCESSIBLE
- 28 WI-FI THAT RIVALS ETHERNET SPEEDS
- 28 THE C:\ PROMPT MAKES A COMEBACK
- 30 PLUGGED IN: MICROSOFT OPENS UP OFFICE XML

A Smart New Office

WE TRIED OUT THE FIRST BETA OF MICROSOFT'S MAJOR OVERHAUL OF ITS VENERABLE OFFICE SUITE—AND FOR THE MOST PART, WE LIKED WHAT WE SAW. **BY MICHAEL S. LASKY**

WHEN MICROSOFT says that the next version of Office is the most important revision in over a decade, it's not kidding. Both new XML-based default file formats and a major interface revamp are intended to make the market-dominating productivity suite more flexible and accessible than ever. Veteran users may find the changes in the new version, code-named Office 12, unsettling, but they seemed well worth the adjustment in my tests of the first beta release. The final edition is slated to ship sometime in 2006.

A NEW LOOK

EVEN BEFORE THE technical beta's limited release, Microsoft had previewed Office's startling new interface, which all but does away with drop-down menus and toolbars in most of the suite's applica-



tions. Instead, users get a set of tabs atop what the company calls the "ribbon"—an inch-high toolbar that displays various functions relevant to the selected tab. Click on the Write tab in Word, for example, and the ribbon presents you with font and formatting options as

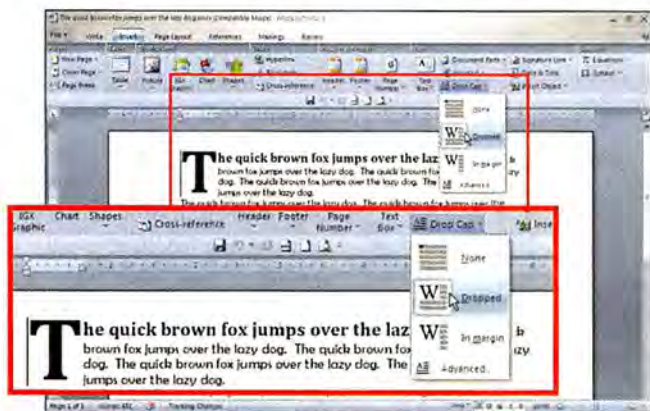
well as the familiar cut, paste, and find/replace functions that used to live in the Edit menu. A number of functions, however, still reside in menus that appear when you click on the down arrows in the ribbon or next to the File button located to the left of the tabs.

Unlike Windows XP, which allows users to revert to the Start menu and Control Panel of previous versions of Windows, Office 12 offers no legacy interface option—a decision that will likely irritate those who have grown accustomed to Office's old face.

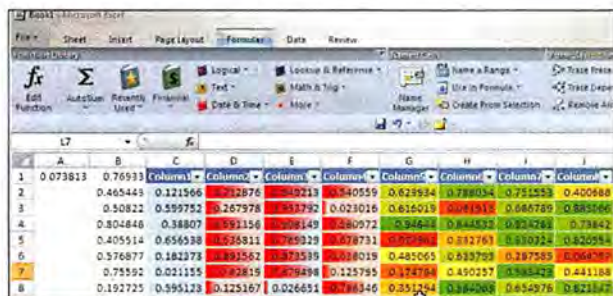
NEW FILE FORMATS

BUT LURKING behind the scenes is a change that may ultimately prove even more significant than the interface makeover: Microsoft's replacement of its current proprietary default file formats with new compressed XML-based file formats, denoted by the addition of the letter *x* to traditional file name extensions (.docx instead of .doc, .xlsx instead of .xls, and so on).

These new Office Open XML formats improve on their predecessors in several



CLICKING ON THE DROP-CAP FUNCTION in Word 12's Insert ribbon creates a live preview of the effect in the open document.



EXCEL'S CONDITIONAL FORMATTING function lets you liven up your spreadsheet with colors and effects based on the contents of the cells.

ways. For starters, they are more compact: When I saved an unchanged Word 2003 file as a .docx file, it was less than half its previous size. And since Office XML formats are based on both XML and Zip formats, they should be more universally accessible to other applications—even those in other operating systems—as developers begin incorporating Microsoft's XML schemas (which provide the programming details for interpreting XML documents) into their software. The company has already published draft versions of these schemas, and it has also proposed Office XML to the Ecma International standards organization as a royalty-free, open standard.

Office 12 still lets you read and write to Office 2000–2003 default formats—and, for the first time, it permits you to

save files as read-only PDFs. Conversely, Microsoft says it will offer free downloadable extensions allowing users of Office 2000–2003 to create, open, edit, and save Office XML files. When users of the legacy versions try to open an Office XML file, they will be directed to the download site.

ZIPPED COMPONENTS

BECAUSE EACH Office XML file is actually a zipped collection of component files (text lives in one component, style attributes exist in another, reviewer comments are in a third, and so on), you can easily alter these attributes by changing the Office XML extension to .zip, opening the file using any unzipping utility, and removing or substituting component files. For example, you could quickly swap in a new style subfile (created

by programmers, or simply copied over from another Office XML document) without making changes to the text.

INITIAL CONFUSION

IN MY TESTS with Word, I was initially confused by the relocation of features: In some cases I had to do more clicking to get to functions I previously could have accessed via toolbars. Thankfully, Microsoft has retained the default keyboard controls (such as <Ctrl>-S for Save and <F12> for Save As), and other new features compensate for having to learn a new interface.

Chief among the additions is the live preview capability. As you hover the mouse over a format—for example, a new font or paragraph style—in the ribbon, the change shows in your document before you commit to it. This time-saving feature is available across the suite for a variety of options.

One downside: The ribbon does cut into your screen real estate, and the ribbon's size is not adjustable—the larger your monitor screen, the better.

Another significant interface change in Word: The Status toolbar at the bottom of the window, which shows the number of pages and the current page of a document, now also displays a running word count and a sliding zoom bar for adjusting your view from the default 100 percent.

An equally welcome addition to Word, Excel, and PowerPoint is the Document Inspector (under File>Finish), which searches for hidden text that you might not want others to see—comments, the document owner's name, and the like—and offers to remove any or all such material. ▶

IN BRIEF

Product Pipeline



TINY TOUGHBOOK: The Toughbook W4 is Panasonic's first ultrathin and lightweight notebook designed to withstand assorted dings and drops. Reinforced with a magnesium alloy, the 2.8-pound, Wi-Fi-ready W4 ships with a 1.2-GHz Intel Pentium M processor, 512MB of RAM, a shock-mounted 40GB hard drive, and a 12.1-inch antiglare display; Panasonic says it will run up to 6 hours between charges. Its suggested retail price is \$2150. find.pcworld.com/50862

Tidbyte

WINDOWS TLC: Microsoft is seeking to make Windows safer and easier to manage with Windows OneCare Live, a service slated to debut sometime in 2006 (read details about the beta at find.pcworld.com/50860). OneCare offers antivirus protection, a personal firewall, and backup and PC-cleanup tools. Microsoft says it plans to charge for the service, but it hasn't yet stated how much. The OneCare offering is part of a larger push by the company to provide more online tools—some on a subscription basis, others ad-supported—under the Live brand.



The improvements in Excel 12 include enhanced help for beginning users, beefed-up capacity (worksheets can now handle up to 1 million rows and 16,000 columns), and easy-to-apply cell designs.

AN EXCELLENT EXCEL

EXCEL'S CONDITIONAL formatting function lets you jazz up your spreadsheet with colors and effects based on the cells' contents. For example, you can create thermometer-like color gradients depending on the numerical values contained in a group of cells.

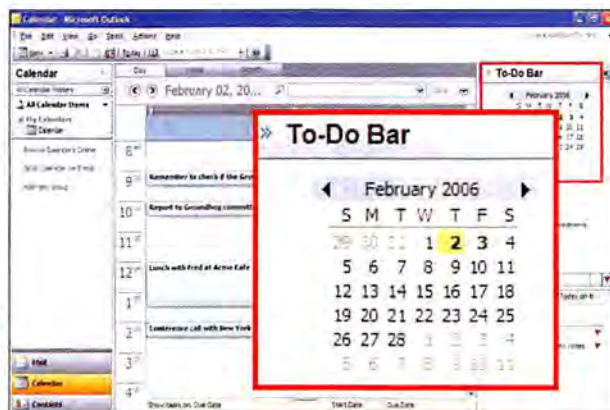
I particularly liked Excel 12's formula-writing help: In past versions, you had to type in the exact name of a formula. Now, as you start typing, a pop-up menu shows all formulas that begin with the letters you've typed, and each formula has its own tool-tip definition. As you continue typing, Excel narrows your options accordingly.

Excel's Sheet Tab ribbon offers a gallery of visualizations that you can apply with as few as two clicks. As in Word, live preview lets you see how your choices will look in the actual document before you commit to them.

Page Layout view finally lets you easily see exactly how each page of a worksheet will print and where the page breaks are. When you add a column or row to a worksheet, Excel now applies the document's style elements to the addition—something you must do manually in current Excel versions.

PETITE POWERPOINT

OFFICE XML's file-shrinking magic is particularly striking in PowerPoint 12. A single slide containing a photo and



LOOKING AHEAD: The new To-Do Bar on the right of the Outlook 12 window shows all pending tasks and upcoming appointments.

graphics that took up a hefty 5MB in PowerPoint 2003's default file format shrank to a modest 610KB (about 0.6MB) in the new .pptx format.

PowerPoint 12's use of the ribbon provides a sense of control lacking in earlier versions. For example, by clicking on Effects in the Design ribbon, you can turn a rudimentary bulleted list into a logical diagram—and then quickly spruce up that diagram with a 3D or glow effect using other options on the same ribbon. In previous versions of PowerPoint, these options were buried in a labyrinth of multiple menus.

OUTLOOK UPDATE

OFFICE 12'S INTERFACE consistency breaks down in Outlook, however. No ribbons here—just the same old drop-down menus. What is different is the new and potentially

useful To-Do Bar. Similar to the task pane found in Word or Excel 2003, it appears on screen right and is supposed to display all pending tasks and upcoming meetings.

Microsoft says that when used on a corporate network, the To-Do Bar will display meetings assigned through other networked Office system applications, such as Access and OneNote. You can adjust the size of the pane, but I didn't find that it made the screen feel cluttered.

Until you mark a task done, Outlook will keep it in the To-Do Bar. To reserve time to complete a To-Do Bar task, you can simply drag it over into your calendar (by default the program will schedule a 30-minute appointment).

Outlook 12 also allows you to exchange calendar information with another user via e-mail; you can even overlay

appointments from various users into your calendar (each person's events are color-coded for easy identification).

Outlook's search capability seems much improved over past versions, too. But I found myself missing the convenience of the absent ribbons.

EASIER ACCESS

FOR MANY WHO USE Office, one component—Microsoft's powerful database program, Access—has always seemed impenetrable, especially compared with the more user-friendly FileMaker Pro. Access 12 adds features that make the software more, well, accessible.

Getting-started templates, presented visually in the ribbon, guide new users through the creation of databases for specific uses—for example, tracking a collection or organizing an address book. The new version also makes it easy to reformat database reports on the fly: You can now edit each database field from the report view, a major improvement. And simplified query tools will help you extract the data you need without having to learn any special jargon.

FINAL THOUGHTS

LIKE ITS predecessors, Office 12 is a mammoth program suite, and most folks will never use all its features. I would have liked having the option to revert to the old interface—but the new design has its advantages, and the move to XML is clearly a good one.

Along with a host of less dramatic but potentially useful new features, these major innovations—at least as introduced in the beta—make for a more powerful and helpful productivity package.



QUICK-CHANGE ARTIST: Applying new styles to presentations takes only a couple of clicks using PowerPoint 12's Design ribbon.

Copy Controls: How Far Will They Go?

SONY'S INVASIVE ANTIPIRACY EFFORTS POINT TO A COMING BATTLE FOR CONTROL OF YOUR PC.

AFTER THE FIRESTORM kicked off by Sony's use of rootkit cloaking technology in CDs to prevent piracy, you might think other media firms would never consider such intrusive methods. But some observers believe the controversy may just lead studios to push for anticopying measures that are hard-wired into your system.

This conflict between users who want to control what goes on inside their PCs and media companies that want to protect their content is not likely to abate so long as the companies try to control CD copying, says Gartner research director Mike McGuire.

Since studios are unlikely to give up copy protection, he believes music firms may now redouble their efforts to get companies like Microsoft and Intel to build copy protection right into computers.

Meanwhile, if studios persist in using technology like XCP, then PC and device makers may turn hostile toward



MARK RUSSINOVICH, a software programmer, first drew public attention to the problems with Sony's XCP copy control scheme on his blog.

such media firms' interests—especially if PC vendors end up fielding more support calls due to buggy copy-protection software, McGuire says.

Sony is reviewing its copy-protection tactics (the company declined to comment for this story). But “there will be copy protection,” says Helene Blue, president of Helene Blue Musique, an independent

music publisher. Sony's big mistake was bringing out XCP without sufficient testing, Blue says, a mistake the firm seems unlikely to repeat after its embarrassment over XCP.

Mark Russinovich, chief software architect with Winternals Software LP, took a hard look at XPC (created by First 4 Internet, a British firm) after playing a Sony XPC CD

on his machine and encountering problems. He found that Sony's digital rights management scheme not only used technology typically employed by hackers, but it was designed in such a way that virus writers could hide their software with it, he says; he drew attention to the matter on his blog. His prediction came true—Trojan horse programs exploiting XCP began appearing on the Net soon after the problem was revealed.

Several security programs now treat Sony's XCP as a threat, and the firm has recalled all XCP CDs. MediaMax, another CD copy protection program used by Sony, has its own security problems. It can create a hole through which malicious agents can access affected Windows PCs. To protect themselves, Sony advises users to patch the software (see find.pcworld.com/50910). Sony also faces both a lawsuit brought by the Texas Attorney General and another filed by the Electronic Frontier Foundation over XCP.

Russinovich worries that we will still end up with invasive copy protection that runs roughshod over PCs, bogging down performance. “What I'm afraid of is that, after this is all said and done, the software is going to still be aggressive, and they'll just cover themselves by putting disclosure in the EULA [end user license agreement],” he says.

—Robert McMillan,
IDG News Service

PROTECTION TIPS

IS XCP RUNNING ON YOUR SYSTEM?

TO FIND OUT IF Sony's invasive DRM software is in your PC, Mark Russinovich advises users to choose *Run* from the Start menu, then type the following into the box that appears: `cmd /k sc query sysaries`. If the response is ‘STATE: 4 RUNNING’, you have the software. If you see, instead, ‘The specified service does not exist as an installed service,’ then you're clean. (Note that only Windows systems are vulnerable.)

Security tools such as Symantec's Norton

AntiVirus, McAfee VirusScan, and Microsoft's AntiSpyware beta can remove XCP from your PC. Sony issued its own XCP uninstaller but pulled it because of security holes. The company has promised to provide another one; go to find.pcworld.com/50730 for its status (browse to find.pcworld.com/50726 for a complete list of XPC CDs). The Rootkit Survival instructions posted on the Freedom to Tinker Blog (find.pcworld.com/50728) can also provide more help.

TELECOMMUTING

New Ways to Access Your Files Anywhere

WEB-BASED AVVENU, EASYREACH, AND BEINSYNC TRANSFORM FILE PORTABILITY.

NEW SERVICES ARE freeing your files from the confines of a single computer by making it easy to grab and share documents, pictures, and other files straight from your PC. These new offerings give you ready access to your files—as long as your computer is on and connected to the Internet. And while they don't provide the full-fledged remote control of software like GoToMyPC, they also cost much less than such remote access apps.

We looked at three of these services. Avvenu—an easy, free, and functional offering—is a clear winner for general use: You can quickly browse or search for files, and set up shared files and folders. But EasyReach's more thorough security is likely better for sensitive data, and BeInSync's automatic synchronization could be very useful if you frequently work at home or need to set up a group project.

AVVENU

AFTER INSTALLING Avvenu's (www.avvenu.com) free software on your PC, you can browse and access the files on that system by logging onto Avvenu's Web site from any other computer, Web-enabled phone, or PDA. Windows system folders or directories that you've specifically excluded are hidden, and if you've installed Google Desktop, you

can also search for a particular file. In addition, you can share files or entire directories by e-mailing someone a Web link to that folder or file.

Avvenu gets high marks for its functionality and ease of use on both PCs and mobile devices. It could offer stronger security, though. Data transfers are encrypted, but if anyone gets your Avvenu user name and password, they can latch onto your files.

EASYREACH

A NEWER SERVICE called EasyReach (www.easyreach.com) should appeal to business users and others for whom security is a priority. Its Web site acts as a portal to PCs you've configured with the EasyReach software, granting you access to your files via any Web-enabled phone, PDA, or BlackBerry. Once you are logged in to the site, you can



THE WEB INTERFACE of Avvenu helps put a user-friendly face on remote file access by showing thumbnails in folders full of photos.

search any of those computers for files, e-mail, or contacts over an encrypted connection. Separate logins for the Web site and each EasyReach-enabled PC grant an additional layer of protection. The service runs \$8 a month for one computer and \$2 a month for each additional machine. The company offers a free 30-day trial and a discount for an annual subscription.

When you find the file you want, you can e-mail it to someone from within the Web interface, instead of having them connect to your computer. Unfortunately, EasyReach isn't set up for file browsing, so you'll need to remember the name of the file you're looking for.

BEINSYNC

BEINSYNC (beinsync.com) takes a different approach: For \$7 a month or \$60 a year, the software creates an encrypted peer-to-peer network that synchronizes files and directories among your computers, as well as those of up to ten other BeInSync users. The company offers a 30-day free trial and a limited free version.

Configuring the software can be rather complex, and BeInSync limits you to five synched folders. Once configured, the software works as advertised, with the contents of directories updating automatically whenever they're changed on any computer.

BeInSync's Web site also lets you log in and download files from your synched directories. The Web interface looks and acts just like the desktop app, but it's accessible only via Internet Explorer.

As more people accumulate more computers and more mobile data storage devices, it becomes all too easy to lose track of which files are where. If you're the type who always forgets that critical spreadsheet at home, these services could make your day.

—Erik Larkin



BEINSYNC USES a peer-to-peer network to sync files between several PCs. You can then access those files through a Web interface.



COMPROMISE SOMEWHERE ELSE.

NEC MultiSync® displays mean no second-guessing. No crossed fingers. And no compromises in value, quality and performance. Your display choice is one IT decision that your users focus on day after day, week after week. That's why it's so important to insist upon the one brand of displays that delivers everything on your requirements checklist—from high-quality components and innovative technologies to user-friendly features. With NEC MultiSync displays, it's simple not to settle.



Make an informed decision. Learn more at
www.necdisplay.com/protectyourimage.
Or call 866.NEC.MORE.

MultiSync, ErgoDesign and Ambix are registered trademarks and Custom Care is a trademark of NEC Display Solutions of America.
©2006 NEC Display Solutions of America, Inc. All rights reserved.

PROTECT YOUR IMAGE. MAKE IT AN NEC MULTISYNC.



NEC
NEC Display Solutions

NETWORKING

Wi-Fi Reaches the Speed of Ethernet

NETWORKS BASED ON AIRGO'S GEN3 CHIPS MATCH WIRED SPEEDS AT CLOSE RANGE.

WIRELESS NETWORKS may be convenient to set up, but wired ethernet has always been faster. Now a new generation of Wi-Fi products is challenging ethernet's superiority for high-bandwidth apps. We sampled some of the first of these Wi-Fi products—Netgear's \$180 RangeMax 240 Wireless Router and \$100 Notebook Adapter—and found that at close range, even with encryption enabled, data speeds were only a little bit slower than on a standard 10/100 megabits-per-second ethernet network.

The RangeMax 240 line is based on Airgo Networks' new True MIMO Gen3 technology (also used in Linksys's new SRX240 line). Like Airgo's original True MIMO chip set (found in Belkin's Pre-N, Linksys's SRX, and other product lines), True MIMO Gen3 uses two transmitting and three receiving antennae to boost speed and range, while maintaining backward compatibility with standard 54-mbps 802.11g Wi-Fi products.

ACE TECHNOLOGY

BUT THE REAL key to Gen3's performance is Airgo's new Adaptive Channel Expansion technology, which doubles bandwidth by using two of the

three nonoverlapping channels in 802.11g's 2.4-MHz frequency. ACE instantly adapts to interference to find the fastest route for data. Netgear named the router for its theoretical maximum 240-mbps data rate, but Netgear and



NETGEAR'S RANGEMAX 240 router and PC Card can equal 10/100 ethernet at close range.

Airgo peg real-world Gen3 throughput at up to 120 mbps or more without encryption—and up to four times the range of standard 802.11g Wi-Fi.

Our informal tests with pre-production units generally backed up these claims. Without encryption, throughput matched that of 10/100 ethernet, and with WPA2 encryption, it was nearly as fast. (We would expect slower speeds with the software-based WPA-PSK encryption.)

Performance was between one-third and two-thirds faster than that of networks based on the original True MIMO

chips, and, even more impressive, the RangeMax 240 network maintained both signal strength and performance over a much greater distance. We even noticed speed increases of about a third using legacy 802.11g adapters with the RangeMax 240 router.

This kind of speed is ideal for homes and offices that want to simultaneously run such bandwidth-gobbling applications as VoIP telephony, network gaming, and streaming audio and video. With RangeMax 240 gear, we streamed flawless DVD-format video from a desktop hard drive to a wireless laptop 100 feet away, while surfing the Net. When we attempted the same tasks using gear based on Airgo's first chips, however, the video broke down.

The technology would be even more useful if it were available for devices other than notebooks: No adapters yet exist for desktops, set-top boxes, or other consumer electronics. And the RangeMax 240 router costs more than twice as much as some of the newer budget Wi-Fi routers (see page 49 in *Reviews and Rankings*), which offer good range and performance if you're only accessing the Internet (broadband speeds typically top out at 1 to 1.5 mbps) or moving an occasional file between computers.

Still, if you want the optimum wireless performance—say, to back up over a network or to maintain good coverage in a large structure—these impressive new products are worth the investment.

—Becky Waring

DOS SHELL

The Return of the C:\ Prompt?



MICROSOFT HAS big plans for the trusty old C:\ prompt. For its upcoming Windows Vista operating system, the company is developing a new command-line interface, or shell—the text-based controls typically accessed by clicking Command Prompt (under Start Menu•Programs•Accessories) in Windows XP.

Code-named Monad, the new shell will enable a host of new programs known as scripts—something at which rival Unix operating systems have historically excelled. While these new commands and scripts will interest primarily administrators and power users, less-technical types may benefit from Monad scripts that could circulate on the Internet as Unix scripts do. For example, a Monad script might quickly reorganize files and directories based on their name or creation date—a task that can take a fair bit of manual labor in Windows Explorer.

A beta version of Monad for Windows XP is available as a free download at find.pcworld.com/50604. Registration is required, and you will also need to have .Net Framework 2.0 (available at the same page) installed.

—Erik Larkin

Print CDs & DVDs



Signature **Z1**[™]
CD/DVD PRINTER



Print & Burn CDs & DVDs



Bravo II[™]
DISC PUBLISHER



Print & Burn Lots CDs & DVDs



BravoPro[™]
DISC PUBLISHER



We've got everything you need for fast and affordable CD/DVD printing and duplication.

The **Signature Z1 CD/DVD Printer** prints directly onto the surface of your discs with sharp, waterproof thermal transfer ink. It's great for labeling your music, video, data and photo CDs and DVDs, whether at home or the office. **Just \$139.95.***

Primera's award-winning **Bravo II Disc Publisher** burns and prints up to 50 discs at a time. It combines fast, automatic CD/DVD duplication with built-in 4800 dpi color printing. It's an incredible "all-in-one" disc factory that sits right on your desktop! **Just \$2195.00.****

Need to make lots of discs? The all-new **BravoPro™ Disc Publisher** tackles all of your high-volume, professional disc publishing and duplication jobs. It has two CD or DVD/CD drives and the fastest printing available. Mac® and PC compatible. **Just \$3495.00.****

PRIMERA
TECHNOLOGY, INC.

Call Primera at **1-800-797-2772** for more information and a **FREE** sample disc. Visit us at www.primera5.com or e-mail to sales@primera.com.

*Manufacturer's Suggested Retail Price in the U.S.A.; reseller prices may vary. **Manufacturer's Suggested Retail Price for the CD model, Bravo II DVD/CD model \$2695.00; BravoPro DVD/CD model \$3995.00. ©2005, Primera Technology, Inc. All rights reserved. Bravo is a trademark and Primera and Signature are registered trademarks of Primera Technology, Inc. All other trademarks are the property of their respective companies.

Go to find.pcworld.com/50752

PLUGGED IN

ERIC DAHL

Microsoft Office Opens Up?

PLUS: TIVO RECORDINGS ON IPODS, AND AMAZON'S WORST-PAYING JOB.

OFFICE XML EXPOSED

The Buzz: Suites that compete with Microsoft Office should get easier to use in the next year and a half. Microsoft announced in November that it would make publicly available the Open XML file formats it's using for Word, Excel, and PowerPoint documents in the next version of Office, expected this fall (see our look at Beta 1 on page 22); it will also submit the formats to the standards body Ecma International. According to Microsoft, this should make it easier for developers of suites like OpenOffice.org and StarOffice to build applications that can handle even the most complex Office files



without trouble. The snag is that it may take as long as 16 months for Microsoft to finish the documentation process.

Bottom Line: Any step toward more and better Office alternatives is a good one, but will the open-source community be okay with Microsoft's commitment not to sue?

HUMAN VS. MACHINE

The Buzz: While computers are wonderful at crunching numbers, they're terrible at some chores that humans perform easily, like picking out objects in photographs. That's where Amazon's Mechanical Turk project (mturk.com) comes in. Rather than writing complex code to identify which photograph best represents a storefront the company wants to include in its A9 Yellow Pages project, for example, Amazon pays its users to complete those tasks. Outside companies can hire Amazon's users as well; the "workers" are compensated with a transferable credit to their Amazon account.

Bottom Line: Cool idea, but here's the catch: At a paltry 3 cents per image, Mechanical Turk tasks pay even worse than journalism does.

FREE VIDEO TO GO

The Buzz: Which would you rather do, pay \$2 to download an episode of *Lost* from the iTunes Music Store, or use your TiVo to record the latest episode so you can sync it to your iPod? If you picked the second choice, get ready for the true killer app for Apple's video-ready iPod. Early this year, an enhancement to TiVo's TiVoToGo service will allow Series2 TiVo own-

HERE NOW

1 IPODIWAY.COM:

Download free driving directions to your iPod.

2 FILMLOOP:

Instantly share images with other people, in a beautiful interface. filmloop.com

3 TAB PREVIEW:

Slick Firefox extension lets you mouse over each open tab for a thumbnail preview. find.pcworld.com/50956

4 SAMSUNG A900:

Slim cell phone is Samsung's answer to the ultra-cool Motorola Razr; \$349 before wireless service bundle deals. sprint.com

5 MEDIABRIDGE:

The Digital MediaBridge from Acoustic Research streams media, including high-def video, from your PC. find.pcworld.com/50958

ers to download their recorded TV programs to a video-ready iPod or to a PlayStation Portable (check out *Gadget Freak* on page 43 for more). This is the first sensible idea I've seen for making more legal content available for portable video devices. Of course, it was inevitable that someone in the content industry would object to a service this logical and useful, and at press time NBC was the first to step up, registering its complaints.

Bottom Line: I can't see how NBC will get anywhere with its objections. This capability already exists on Portable Media Center devices, much to the delight of the 12 people who own one. ■

You can contact PC World Senior Editor Eric Dahl at eric_dahl@pcworld.com; visit find.pcworld.com/31643 to read additional Plugged In columns.

FUTURE TECH

FB-DIMM Memory



AFTER SOME DRAMATIC JUMPS in the past decade, memory speeds have begun to plateau. That's due in large part to the way standard memory communicates with the memory controller in your system. With standard DIMM memory, each DIMM talks directly to the memory controller, which can create conflicts that limit the amount of memory you can install on a PC. FB-DIMMs communicate via a single fast bus, linked by a special chip on each module that passes data down the line to the memory controller, reducing errors that can degrade memory performance. FB-DIMMs should start appearing this year in servers, but if system builders feel they need the speed, the modules could show up in desktop PCs by 2007.

**Sony recommends
Windows® XP Professional.**

A SINGLE BUSINESS NOTEBOOK SERIES
EQUIPPED FOR EXCEPTIONAL PERFORMANCE,
PRODUCTIVITY, AND FLEXIBILITY.

SONY.

Give me mobility.

Thin and light form factors

Long battery life¹

I want flexibility.

14" with modular bay

15.4" with modular bay

17" with modular bay

I demand security.

Biometric fingerprint sensor

Trusted Platform Module

I can't live without connectivity.

Bluetooth® Technology²

Optional integrated wireless WAN³

Optional integrated camera

The Sony® VAIO® Professional BX Series Notebook, featuring Intel® Centrino™ Mobile Technology for exceptional performance and productivity. Now every department, group, and individual in your organization has the power to handle the toughest applications with machines that offer extended battery life and sleek, lightweight designs. No other notebook boasts as many features.

Call **866-303-7669**

Visit **sony.com/bx2**

VAIO.
PROFESSIONAL



like.no.other™

©2005 Sony Electronics Inc. All rights reserved. Sony, VAIO, and Like no other are trademarks of Sony. Intel, Intel logo, Intel Inside, Intel Inside logo, Intel Centrino, and Intel Centrino 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. Viewable area measured diagonally. 1. Actual battery life may vary upon usage patterns. 2. Interoperability among Bluetooth devices varies. 3. Subscription with Cingular Wireless required. See sony.com/cingular for complete offer details, price plans, service terms and conditions, and coverage map. Call 1-888-739-VAIO (8246) for service activation.

Pine scent not included

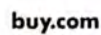


In today's environmentally-conscious world, the P150 Quiet PC Case establishes a new benchmark in computer cases. Designed around the highly-efficient Neo HE 430-Watt power supply, the P150 draws less power and reduces the impact your computer has on the power grid. A gleaming snow white finish and innovative Quiet Computing technologies round out the package, making your computer whisper-quiet and unobtrusive. Throw in some pine-scented air freshener and you might even forget you're at the office — it will give a whole new meaning to "computing environment".

Learn more about the P150 at www.antec.com.

Go to find.pcworld.com/49938

Antec
The Power of You



LETTERS

LETTERS@PCWORLD.COM

NEW YEAR, OLD PROBLEMS?

LCD FORMAT FOR HDTV DEFENDED

WHAT TO DO WHILE PC GRINDS AWAY



PRICE-COMPARISON SITES: READERS' PICKS

IN "DEAL FINDERS" [December], you missed one of the best shopping tools I know of: Activeshopper. If you go to activeshopper.com, you can download its toolbar for IE or Firefox. When you start shopping for something, it pops up and gives you sites that offer the lowest price for that item, saving a lot of time.

C. E. Ziegler, via e-mail

YOUR COMPARISON of shopping search engines omitted the best of them all: Froogle. With Google's brand recognition, it's surprising you did not include it. My firm uses it to purchase industrial and commercial equipment, as well as consumer goods. It even searches eBay.

Greg Lopez, via e-mail

I CAN'T UNDERSTAND how you missed MySimon.com and Dealtime.com in your roundup. These are two of the biggest and best-known comparison sites.

David S. Bookbinder, via e-mail

TELL US WHAT YOU THINK

RATE THIS ISSUE by going to www.pcworld.com/pcwininput—you could win a \$500 gift certificate from Amazon.com. You'll need to provide the subscriber number from your mailing label to take this survey online. The site explains the official rules and also describes how you can participate in the drawing if you're not a PC World subscriber.

PRICEWATCH.COM is a site everyone I know uses, and it has served all of my needs for more than two years now.

Claude Kosinski

Baton Rouge, Louisiana

Author's response: We tried to balance older and newer sites, so some popular engines had to be excluded. One important criterion in our preliminary judging was user interface, and in this regard we felt that some well-known sites, including Froogle and Price-watch.com, fell short.

—Grace Aquino

NEW FOR 2006—BUT NOT BETTER?

IN THE DECEMBER ISSUE, "What's New for 2006" begins, "...there's a lot to look forward to in the coming year." Yes; more bugs, viruses, updates, fixes, upgrades, and so on. A new year changes nothing—the procession of updates is unending and constant. Just once I would like to see a product that has gone through some rigorous testing so that it doesn't need patches or updates right out of the box.

Joe Zinskie, Thailand

RATING REVIEWS AND RANKINGS

YOUR TWEAKING of the design of PC World works well. Integrating the Top 100 and New Products provides greater context for both of these features. At first I wasn't sure it would, because I liked having all the Top 100 items in one place for easy reference. But the combined format makes sense. And the new 1–100 rating system is certainly more nuanced than the previous star ratings. I expect it to be very helpful.

Paul Pigman, via e-mail

THE DECEMBER 2005 *Up Front* editorial says that PC World now includes price as a factor in determining a product's rating. Please reconsider this decision. Your reviews should be based solely on the functionality of the product. Under the new method, readers will not be able to determine which is the best product! Let each reader decide whether to spend more money for a higher-rated unit.

Kevin O'Brien, New York

PCs VS. MUSIC

STEPHEN MANES complains of music downloads crashing systems ["PCs and Music: Imperfect Together?" *Full Disclosure*, December]. I've been using iTunes for at least three years now, and have probably purchased nearly 1000 songs. Never has an update failed or disabled my machine, and never has a purchased song failed to download properly the first time. I can't think of any other software that has worked with such accuracy.

Paul Jay, Chicago

WHEN YOU PURCHASE music from, say, iTunes or Real Rhapsody, you're locked into using their software to play the music you've bought. Oftentimes it crashes your computer, hogs resources, or causes other programs to malfunction. This is one reason why many users prefer to get their music via peer-to-peer clients: not because it's free, but because you can play it on whatever player you're comfortable with, and because you can make backups on a CD-R or an external hard drive.

Phillip Mistretta, Brooklyn

SOFTWARE ALTERNATIVE

ALTHOUGH I WAS PLEASED to see PC World recommending free and low-cost software alternatives to expensive programs ["Software-Giant Killers," De- ▶

cember], I was disappointed not to see Blender 3D [blender.org] in the list. This wonderful three-dimensional modeling/animating tool is an open-source project and is quickly gaining the features many proprietary titles include. Perhaps it's not for everyone, but it does show the effectiveness of the open-source movement.

Janzen Brewer, Tifton, Georgia

HDTV ON LCD

REGARDING YOUR "Ten HDTV Myths" [*Digital World*, December]: The author did a good job of debunking some myths but expressed some unfair criticism of LCD sets—saying, for instance, that all such sets have "pedestrian" response times. My LCD set has an 8-millisecond response time with no motion artifacts.

And despite a warning about power demands of future models, my 37-inch LCD draws just 120 watts, whereas my friend's 40-inch plasma TV pulls 450.

James Reeve, Waterford, Virginia

A SMOOTH MOVE TO VoIP

WITH REGARD TO "Moving Your Number to VoIP? Please Hold" [*News and Trends*, December]: My landline phone carrier was Qwest, and the number transfer to Vonage took less than a week—despite the fact that my listed name with Qwest was my nickname, "Mac," while the name appearing on my landline phone bill was my given name. One e-mail exchange with customer service at Vonage cleared up the problem. Vonage was up to speed on my 911 registration, as well: It came through in less than a week.

Mac Kornelsen, Castle Rock, Colorado

HEALTHY COMPUTING

I FOUND IT REFRESHING to read your tip about getting up and stretching while the computer does something that makes you wait ["Don't Take a Windows Slow-Up Sitting Down," *Answer Line*, December]. Lincoln Spector wrote, "Sitting at a computer

all day is not healthy." How true. But we don't see statements like that very often.

Gord Braun, via e-mail

PC World welcomes letters to the editor. We reserve the right to edit for length and clarity. Send e-mail to letters@pcworld.com. ■

CORRECTIONS

IN JANUARY'S "Digital Photo Super-guide," the cameras chart should have listed the following specs for the Olympus Stylus 800: 8.0 megapixels; 38mm to 114mm zoom; 19 scene modes; and 7.3 ounces. The name of a camera that didn't make our chart should have appeared as Panasonic's Lumix DMC-LX1.

In December's "Ten HDTV Myths," the Find-It URL given for the Consumer Electronics Association's primer on HDTV should have been shown as find.pcworld.com/49884.

PC World regrets the errors.

GRISOFT



AVG Anti-Virus

The best testimonial from 30 million users: They barely realize they use us!

With more than 30 million loyal users worldwide, Grisoft is the best choice for people and companies seeking maximum virus protection. With its easy and intuitive interface, Grisoft AVG Anti-Virus software doesn't bog down system resources; instead, it works quickly and seamlessly. Our singular focus on your protection lets YOU work - not worry.

Stop worrying and start downloading your **FREE 30-DAY TRIAL...**

www.grisoft.com/doc/pcworld

Now also available
plus firewall



Tough on viruses, easy on users.

Go to find.pcworld.com/50194

Suffering from Web Hosting Dysfunction?



Uptime Guaranteed!

ix WEB HOSTING

www.ixwebhosting.com/promo

WIN A SONY VAIO!

When you sign up for any of our Linux or Windows® hosting plans during the months of December 2005 to March 2006, you will be automatically entered in our Contest.



* See our site for contest details

IX Web Hosting hosts your website data in its own State-Of-The-Art Carrier Class datacenter, giving you added security that others cannot offer.

The IX Advantage

- + Expert Support
- + Superior Hosting Solutions
- + TOLL FREE 24/7/365

STARTER 1 HOSTED DOMAINS

- + 100GB Data transfer
- + 2500MB of Disk Space
- + Free Software **\$4.95/mo**

GOLD 8 HOSTED DOMAINS

- + 500GB Data transfer
- + 10000 MB of Disk Space
- + Cold Fusion / MSSQL **\$24.99/mo**

ECOMMERCE READY

- + 1 Free Domain
- + 300GB Data transfer
- + 5000 MB of Disk Space
- + FREE Shopping Cart
- + MySQL & PostgreSQL databases
- + FREE Software

\$6.99/mo

☎ 1.800.385.0450

www.ixwebhosting.com/promo



Performance you Need, Versatility you Want.

When you want the ultimate choice in DLP projectors, go to the Projector Expert--BenQ. Offering the broadest selection of digital projectors, with models ranging from an industry-leading 10,000:1 contrast, to our multimedia products that start at just \$799.00. BenQ digital projectors offer solutions for micro-portable, high-performance business, and Home Cinema uses.

BenQ projectors are sRGB certified, insuring the ultimate in color fidelity and DLP performance. BenQ business projectors feature a five-segment color wheel, delivering the best color in the business. *Ask about it!*

True colors:
What you see is
What you get




New

MP610

Home or Business

- Native 800 x 600, Max. 1280x1024
- 2000 ANSI Lumens
- 2000:1 Ultra High Contrast Ratio
- HDTV Compatible, VGA out
- 4000 Hour Lamp Life (Eco. Mode)

\$799

**+FREE
Extra Lamp***
(\$399 Value)

PB2140
PB2250

Personal or Business

- Ultra Portable! 4.2 lbs
- Native 800 x 600 / 1024 x 768
- 1600/2200 ANSI Lumens
- 2000:1 Ultra High Contrast Ratio

\$899/\$1,299

**+FREE
Extra Lamp***
(\$399 Value)

New

CP120

Wireless!

- Micro Portable! 2.9 lbs
- Native 1024 x 768 Resolution
- 1500 ANSI Lumens
- 2000:1 Ultra High Contrast Ratio
- Built-In Wireless Connection 802.11 a/b/g

\$1,699

PB6240

Business or Home

- Best Price/Performance
- 1024 x 768 Native Resolution
- 2700 ANSI Lumens
- 2000:1 Ultra High Contrast Ratio
- HDTV Compatible

\$1,299

**+FREE
Extra Lamp***
(\$399 Value)

*Free Lamp is valid thru February 28th, 2006
Terms and conditions may apply, all programs
and prices are subject to change without notice.



Every BenQ projector features DLP™ technology and a five-segment color wheel, delivering unprecedented color fidelity, performance and reliability. Ask about it!

To purchase BenQ Projectors please check our web-site at:

www.benq.us/2006/PCW

or call toll free 866-700-2367

BenQ

Enjoyment Matters



CONSUMER WATCH

ANNE KANDRA

**GETTING GOOD ONLINE
TECH ASSISTANCE**

**HOW TO CLEAN A PC
BEFORE GIVING IT AWAY**

**WHO PAYS SHIPPING FOR
A JUST-FIXED PC?**

Hanging Up on Tech Support

Fed up with phone help? Online tools for solving PC problems are getting better.

SOONER OR LATER, it happens to all of us. Sometimes there are disturbing warnings: You may start to hear weird clicking sounds, or see cryptic messages that appear, chillingly, out of the blue. Other times your gear simply dies before you suspect that anything is amiss.

Either way, you need tech support, and you need it now.

But if you've ever whiled away half a day on hold listening to pop hits of the 1970s, or had difficulty understanding the patois of a customer service representative from an overseas call center, you know that telephone tech support is broken. And even if you're willing to give it a shot, in some instances support isn't available when you thought it would be. Dell's cheaper PCs, for example, offer only 90 days of warranty support.

But where can you find assistance when you're staring into the depths of PC purgatory and your presentation is due in 6 hours? Well, as long as your problem doesn't prevent you from going online (perhaps using a second computer), the solution might be just a few browser links away. The trick is to know where—and how—to find it.

ROOM FOR IMPROVEMENT

IF THERE'S A TARNISHED silver lining to the sorry state of phone support these days, it's that Web-based support seems to be improving—albeit slowly. People who responded to our annual Reliability and Service survey (see find.pcworld.com/50714) reported that, in general, the

support information they found on companies' sites was more relevant and more likely to address their problems than it had been in past years.

Granted, that's faint praise. The online support experiences of most users I've heard from run the gamut from abysmal to merely adequate. But the trend of companies improving and expanding their



online support options can only be positive news for consumers.

Most hardware and software vendors already provide at least basic Web services such as information centers (Microsoft's exhaustive Knowledge Base is one example) and e-mail support; many companies also supply assistance via live chat. Some of the bigger players, including Dell, Intuit, and Microsoft, have implemented more-sophisticated support resources for some products. Among these offerings

are expert-moderated user forums and newsgroups, links to product-specific blogs, remote diagnostic and trouble-shooting utilities, and even Webcasts.

START SEARCHING

IF YOUR PROBLEM SEEMS to be associated with a particular application or device—for example, you consistently see the same error message from your financial application whenever you try to download data—start by visiting the vendor's site and searching the support database there for your error message.

Many sites allow you to search by entering a question or a brief phrase describing the problem (for instance, "system crashes when I begin download"). Search engines have a limited ability to process complex ideas, so keep your search phrase as clear and simple as possible. Include keywords, such as "download" and "install," when you can, but also identify the problem so the query isn't too vague.

If your problem comes up empty, fire off an e-mail to the company's tech support address; better yet, look for a link to live chat. Regardless, you'll almost certainly have to complete several fields of very detailed information before you even get to the point of describing your problem—so keep all your system specs, along with any error messages, handy. This is where screen shots and cut-and-pasted documents can be helpful.

If you reach a tech support rep in an online chat forum, try to be as succinct as you can while still providing all the

pertinent information about the problem.

Online support reps typically work on multiple cases simultaneously, which can make their response times aggravatingly slow. Though you can't do much about that, try to keep your patience and don't let the support representative end the session until you're satisfied with the answers you receive. Generally, you'll then have the option to get a copy of the chat session, often via e-mail: Be sure to do so, as it may come in handy if you need to pursue the matter further.

BEYOND THE VENDOR

SOMETIMES, however, you simply cannot get satisfaction from a vendor's Web site. Ian Richards, editor of the Tech Support Alert Web site and e-mail newsletter, puts it bluntly: "Often online support tools represent boilerplate solutions that may be great for standard problems but marginalize difficult ones."

For more complicated issues, independently run tech support sites or user forums may be invaluable. "Volunteer support is expanding, and some of these

sites are outstanding," Richards says.

One way of ferreting out useful third-party sites is to repeat your error-message search on Google, Yahoo Search, or another general-purpose engine. Often this leads to obscure newsgroups or user forums where you may gain insights from others who have had a similar problem.

Do a Google search on an error message to find newsgroups or user forums.

The best advice frequently comes from other users, so be sure to include sites like PCMechanic (www.pcmach.com), Suggest a Fix (www.suggestafix.com), Tech Support Forum (www.techsupportforum.com), and Tech Support Guy (www.techguy.org) in your research.

Another site worth visiting is Experts Exchange (www.experts-exchange.com),

where IT professionals provide quick answers on just about any tech topic. There is a catch, however: You must pony up \$10 a month to use the site.

Hundreds of helpful online third-party tech support resources—some free, and others requiring subscriptions or service fees—specialize in helping hapless PC users chase the ghosts from their machines. The Web is also home to plenty of product-, product category-, and service-specific support sites, such as Broadband Reports (www.broadbandreports.com), which focuses on communications and ISP issues, and Fixyourownprinter.com, which posts discussions of particular problems, links to repair kits, and more. Some companies even host resources of this type on their own Web site; Intuit (www.intuit.com), for example, includes discussions, user forums, and links to blogs where users can look for practical information and advice.

A good place to unearth resources is Richards's site, Tech Support Alert (www.techsupportalert.com), which serves up a healthy collection of tech support links

PRIVACY WATCH

Make Sure Your Old Computer Tells No Tales



CHANCES ARE, your system runs software that keeps logs of every site you browse on the Web, every document you work on in any application, and every user name and password you type. What program is doing all this spying on you? It's called Windows.

Because of the sensitive information your Windows logs invariably contain, it's a good idea to purge them regularly. But if you're giving your PC away, it's essential. Of course, Windows isn't the only software that can betray you if you donate your hard drive—old financial documents are a dream come true for identity thieves. And even if you drag those old tax returns to Windows' Recycle Bin, plenty of utilities can retrieve them. The only way to ensure that you've taken out the trash for good is to use hard-drive-cleaning software.

After trying several programs, I've settled on a small tool kit that can help clean up a sloppy computer at a moment's notice. Which utility I use depends on what, exactly, I need to accomplish. Case in point: If you're donating your PC to a school or charity that needs the Windows installation to remain intact, you can't simply overwrite the hard drive. That's where Webroot Window Washer 6 (\$30, www.webroot.com) is extremely useful. This handy utility can

delete sensitive data from history lists, file caches, and logs created by more than 450 different third-party applications, without touching your Windows installation.

Of course, you'll still want to securely delete all the non-Windows files on your hard drive, especially any documents you created. Eraser 5.3 (free, tolvanen.com/eraser) has a bare-bones user interface, but it's the most effective free file-deleter I've found. It works by overwriting files with other data multiple times (four options let you choose how many overwrites take place) to ensure that the data can't be recovered. You simply drag any files or folders you want to delete into Eraser's window, and then click *Task+Run*.

If your system's next owner doesn't need your Windows installation, your best bet is Darik's Boot and Nuke (free, dban.sourceforge.net). Boot and Nuke does exactly what its name suggests: Once you've installed the appropriate files on a bootable floppy or copied them to a CD, just boot the computer with the DBAN disc to wipe the hard drive completely clean. Its advantages are speed and ease of use, but DBAN can't delete individual files, so it's suitable only when you want to get rid of all the data on an old hard drive.

It's good to find a new home for your old PC. Just make sure the machine doesn't tell any of your secrets once it gets there.

—Andrew Brandt

(including active sites and user forums), reviews, and advice on an extensive range of technology topics.

Of course, some problems are so complex that all the Web resources in the world won't help you escape their toils. And if you can't get online at all, you'll probably have to call tech support eventually. But with a little research, some scrupulous note-taking, and an extra dose of patience, you just might be able to cure your tech woes without having to pick up the phone. ■

Anne Kandra is a contributing editor, Andrew Brandt is a senior associate editor, and Amber Bouman is an editorial assistant for PC World. E-mail them at consumerwatch@pcworld.com, privacywatch@pcworld.com, or onyourside@pcworld.com. To read previously published Consumer Watch, Privacy Watch, or On Your Side columns, visit find.pcworld.com/31703, find.pcworld.com/31706, or find.pcworld.com/31709, respectively.

ON YOUR SIDE

Double-Whammy Shipping Charge



SEVERAL MONTHS AGO, I purchased an Averatec notebook to use for video editing. But when I tried to download video from my camcorder, the notebook's FireWire port failed to work. I had to pay \$26 to ship the notebook to Averatec for repair.

When I got it back, however, a different problem arose: The notebook would boot only when hooked up to the AC adapter, and the system's power meter indicated that no battery was present.

I don't feel I should have to pay for shipping again, since I only just got the notebook back, but Averatec's support representative insisted that I would have to because the notebook was being returned with a new problem.

Tem Mills, Fairfield, California

On Your Side responds: We contacted Averatec's Barbara Bridges, who told us that, contrary to the tech support rep's claim, the company normally doesn't ask a customer to pay more shipping charges for a unit that had just been returned. Bridges says Mills's experience may have stemmed from Averatec's recent switch to a new call center: The support representative who talked with Mills may not have been aware of the company's policy.

Bridges arranged for expedited pickup, repair, and delivery of the troubled notebook at no cost to Mills.

The moral of this story: Don't hesitate to complain repeatedly—or to ask to speak to a supervisor—when a vendor hits you with a seemingly unfair service charge.

—Amber Bouman

So, how do you keep those Ricoh printers so dependable?

You add paper, Jerry.



Ricoh dependability moves your ideas forward.

RICOH™

Everything you need to securely store your data. (Peace of mind included.)



APC® NetShelter VX

- Black, 42U base enclosure
- Next-generation, high-quality enclosure solution designed to meet the needs of your networking environment
- Removable doors and side panels
- Ships fully assembled

APC

\$1086³⁰

CDW 349447

SMART BUY:
\$300 INSTANT
SAVINGS



Hard drives sold separately

HP ProLiant DL360 G4p Rack-mount Server

- 64-bit Intel® Xeon™ Processor (3GHz)
- 533MHz Front Side Bus
- Memory: 1GB std., 12GB max.
- 2 SATA hard drive bays

\$2579⁷⁷

CDW 876530



APC Back-UPS® ES 750VA

- Offers 5 outlets with PowerChute® Plus software and 5 surge protection outlets with RJ-45 protection
- Hot-swappable batteries
- USB connectivity

APC

\$92⁹⁹

CDW 784413



HP Non Hot-plug SATA Hard Drive

- Internal, 3.5" drive
- Capacity: 80GB, 7200 rpm
- Provides entry-level performance and high capacity



\$135⁴¹

CDW 660272

The Storage Solutions You Need When You Need Them.

We don't have to tell you that data loss can be a financial blow to any company. And with more data being stored, more assets are at stake. CDW has a full line of top-name storage solutions that can help you increase capacity and reduce risk. And our account managers have the expertise to ensure you get the right solution for your needs. So you don't just get secure storage, you get peace of mind.



The Right Technology. Right Away.™

CDW.com • 800.399.4CDW

In Canada, call 888.898.CDW • CDW.ca

HP Smart Buy instant savings reflected in price shown; HP Smart Buy instant savings based on a comparison of the HP Smart Buy price versus the standard list price of an identically configured product if purchased separately; savings may vary based on channel and/or direct standard pricing. Offer subject to CDW's standard terms and conditions of sale, available at CDW.com. © 2006 CDW Corporation



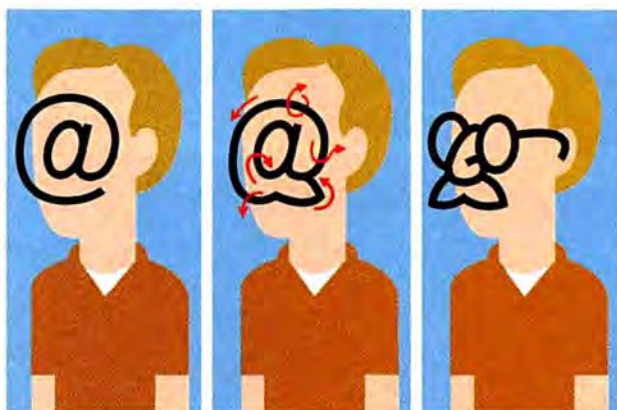
Use a Sneaky Signature to Reduce Spam

Plus: Relief from Web form woes, and a way to send cell phone text messages.

CALL ME A KVETCHER, but I'm tired of spam (ain't that a surprise). I also think it's nutty to have to fill in a field on a Web form repeatedly. If you are as steamed as I am, read on for some nifty solutions.

The Hassle: I keep reading that to prevent spam, I shouldn't put my e-mail address into messages or on newsgroups. But I'd also like to make it easy for people to send e-mail messages to me.

The Fix: My solution was to turn my e-mail address into an image and use it as my signature line in messages so spammers can't harvest it. You can customize it for a slew of e-mail services, including EarthLink, Gmail, and Yahoo. Check out mine at find.pcworld.com/50356, and create yours at find.pcworld.com/50396. Adding the image to a message takes a couple of steps. Once done, the signature line is easy to use. For an Outlook Express step-by-step, consult About.com (find.pcworld.com/50358). There are also instructions for current Outlook versions (find.pcworld.com/50360)



and for Eudora (find.pcworld.com/50362).

The Hassle: I use spam controls but need to make sure that no legitimate e-mail messages get blocked. Is there an easy way to check?

The Fix: I'm in the same boat because I regularly and diligently check three large lists of e-mail marked as spam. I sort on the subject line, which lets me immediately spot the duplicate spam messages and single out legitimate arrivals. I'm obsessive so I sort again on sender.

The Hassle: I replied to someone on a Web site and was forced to fill out an annoying and lengthy Web form. To make matters

worse, my browser then crashed and I lost everything I had said. This is miserable. Help!

The Fix: I have a few fixes. The quickest trick is to copy the contents of the lengthiest field into the clipboard for safekeeping. That way, you have it stored in case you need to paste it. A more elegant method of grabbing forms by the lapels is with IEFillForm (find.pcworld.com/50364), a free tool that

saves the contents of every field with one click, letting you fill out the form later. See how to use it at find.pcworld.com/50366. It's not as automatic, but Firefox users can use InFormEnter, which is also free and is available at find.pcworld.com/50908. And if you don't mind spending the bucks, get the advanced version of RoboForm (find.pcworld.com/49772); it costs \$30 but works in all browsers.

The Hassle: I need to send text messages to friends' and coworkers' cell phones. I've tried using my phone to do it, but that's cumbersome. Using my PC is even worse because I have to know the carrier, the domain, and other complicated syntax. Got a better way?

The Fix: Just enter the ten-digit phone number followed by @teleflip.com into the To: box of an e-mail message. It looks like this: 4255551212@teleflip.com. And yes, the service is a freebie (www.teleflip.com). ■

TOOL OF THE MONTH

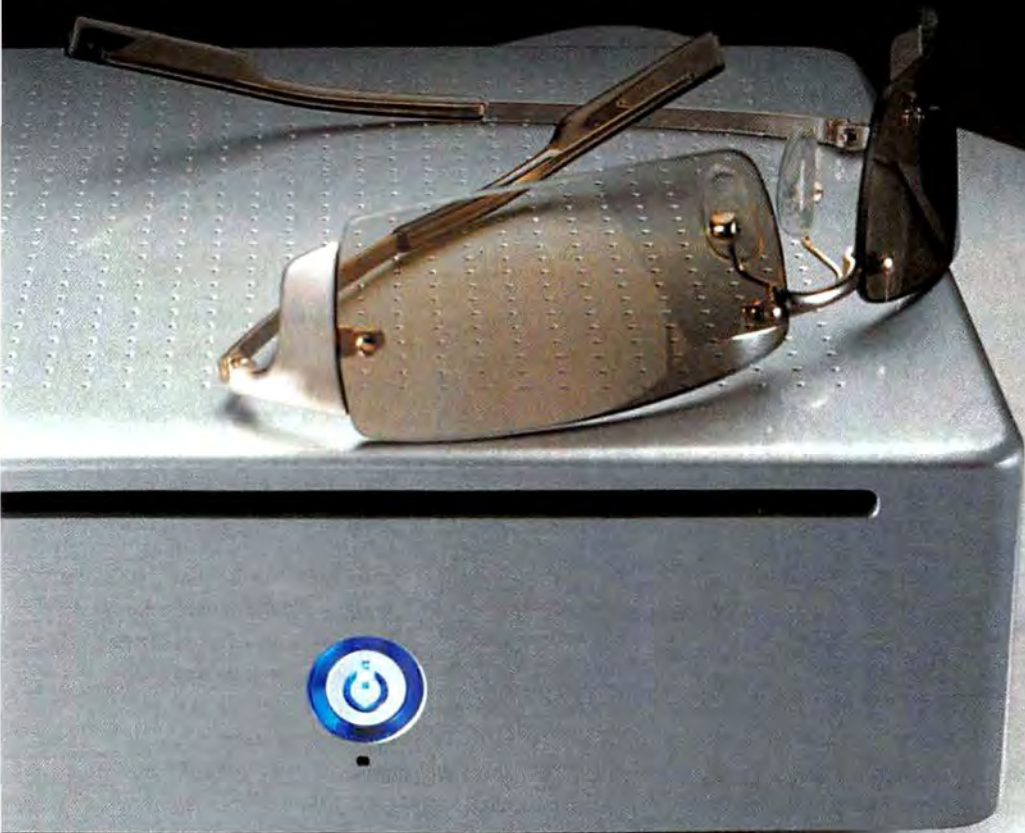
A Cool, Free, and Geeky Diagnostic

PROGRAMS RUNNING in the background can slow your PC—and may even signal the presence of malware on your machine. To find out what kind of load your PC is carrying, try Silent Runners, a handy little tool (actually, a Visual Basic Script) that looks at all the programs, add-ons, and other things that start when you boot Windows. The utility reports analysis results—the

program's name, its Registry entry, and its hard-drive location—in a text file. Then you can use the Process Library (find.pcworld.com/50398) to look up suspect entries. Your firewall, antispyware, or antivirus program may whine (as it should) because of the .vbs extension. But ignore the warning and don't worry: Silent Runners is safe to use. Get it at find.pcworld.com/50386.

Contributing Editor Steve Bass writes the Bass Blog (see find.pcworld.com/50264) and is the author of PC Annoyances, published by O'Reilly (see find.pcworld.com/43818). Contact him at hasslefreepc@pcworld.com. To read Steve's previous columns and newsletters, go to find.pcworld.com/50268.

Small in stature, LARGE in features.



miniPC

The AOpen miniPC[®] features the Intel Pentium M notebook processor, allowing near silent cooling without sacrificing performance. Packed in the 6"x 6"x 2.5" brushed aluminum housing is a slot loading DVD writer, 2.5" HDD, integrated Ethernet, USB2.0, IEEE1394, optional mini-PCI 802.11b/g wireless and more. The miniPC provides DVI, S-Video, component and composite connectors so it can be hooked up to HDTVs, plasma displays, large screen flat panel LCDs.



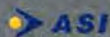
IEEE1394



YPbPr



Visit AOpen at the
2006 International



Where to buy:



www.jetta.com/store



For Distribution Purposes, visit:

<http://usa.aopen.com/wheretobuy>

AOpen America Inc. 1911 Lundy Ave. San Jose, CA 95131 1-888-97-AOPEN

AOpen

Venice/Toscana 3710

* System configuration will vary depending on reseller

All logos are trademarks of their respective companies.
Go to find.pcworld.com/49439



GADGET FREAK

DAN TYNAN

Portable Video: It's the Content, Stupid

Lost in the supermarket and Desperate for entertainment? Try video-to-go.

MY WIFE SAYS I'm addicted to TV, and she may well be right. Homer Simpson is my role model and I think Jon Stewart should run for president. But do I want to carry video with me wherever I go, and is the content worth paying for?

Those are the questions I pondered while playing with my new video-enabled iPod (\$299 for 30GB, \$399 for 60GB, www.apple.com/ipod). Apple's handheld player is easily the slickest I've ever seen. Video playback is sharp (the smallish 2.5-inch screen makes it seem even sharper), and it's a snap to use. (See find.pcworld.com/50564 for a full review of the iPod.)

What makes this iPod truly innovative is that Steve Jobs managed to convince Hollywood to loosen its death grip on content and allow shows to be sold on iTunes.com. Though this content is exclusive to the iPod, the deal could lead to a tsunami of video-to-go for other portable players.

THE VIDS ARE ALL RIGHT

AT PRESS TIME iTunes served up more than 2000 music videos, a half-dozen Pixar short films, and a handful of TV shows—including ABC's *Desperate Housewives* and *Lost*, as well as NBC's *Law and Order* and *Surface*—for \$2 a pop. You can view 30-second samples and pithy summaries of each episode, like this one for *Desperate Housewives*: "Gabrielle causes a prison riot while visiting Carlos, while Lynette learns that Parker has an imaginary friend." Who could resist that? I immediately bought it along with four Green Day music videos.

Purchasing video content from iTunes and moving it over to the iPod is a breeze.

Click the Buy Video button and enter your account name and password, and the file starts downloading. Plug the iPod into your computer's USB port, and the file transfers automatically. It took about 12 minutes to purchase and download 200MB worth of data on a cable connection and a few minutes more to transfer the video files to the iPod.

But transferring other video is less



snappy. You have to use Apple's iTunes software, which is mighty finicky about the types of video files it supports. To transfer home movies or other unsupported content, you'll need to buy a copy of QuickTime Pro (\$29, www.apple.com/quicktime) and convert the files to the iPod's H.264 MPEG-4 format. (So much for Apple's famous devotion to ease of use.) You can also try a third-party tool such as the free Videora iPod Converter (www.videora.com). With Videora I could convert AVI and MPEG-2 files, but I had less luck with other formats.

TiVo also has announced it will let sub-

scribers transfer shows they've recorded to an iPod or a Sony PlayStation Portable, though details were fuzzy at press time.

DEARTH OF CONTENT

OTHER PLAYERS have their own content problems. If you have a Windows Portable Media Center like Samsung's Yepp YH-999 (\$500, www.samsung.com) or iRiver's PMC-120 (\$550, www.iriver.com), you can use Windows Media Player 10 to convert home movies into a viewable format. You can also record shows on a Windows Media Center PC or TiVo Series2 and export them to the PMC, spend \$20 a year for news and sports clips from MSN (www.msnvideodownload.com), or rent films from CinemaNow (www.cinemanow.com). Otherwise, video fare is hard to come by.

AOL and Warner Bros.' In2TV network plans to stream old shows like *Maverick* to PCs for free (with ads), but without support for portable devices. NBC and CBS will sell shows on demand for 99 cents apiece, but only for DirecTV satellite and Comcast cable subscribers. For now, most portable content is likely to come from video podcasts, which are a) usually free and b) worth every penny.

I like the iPod, but I can't say it will cure my TV jones. It's great for watching 4-minute music videos. But when I want to view a 43-minute show, I'd rather do it on my couch, with a Duff beer in hand, just like my man Homer. ■

Contributing Editor Dan Tynan is the author of Computer Privacy Annoyances, published by O'Reilly (find.pcworld.com/50566). Contact him at gadgetfreak@pcworld.com.

Transcend

Exceeding Your Expectations



Flash Your Digital World

8GB JetFlash™ 2A USB Flash Drive

Imagine holding 5,500 floppy disks in the palm of your hand. Transcend brings you the 8GB JetFlash™ 2A, the ultimate USB 2.0 flash drive. Lightning fast performance and beautiful simplicity have been combined to bring you the latest data storage tool for your home or office.

JetFlash™ 110

USB Flash Drive



- Elegant design with sliding USB connector
- Sleek body and increased performance
- A brand-new data storage experience

JetFlash™ 120

USB Flash Drive



- Colorful design and ultra performance
- The eye-catching colors will make you and your JetFlash™ 120 the center of attention
- The ultimate value in USB storage

JetFlash™ 2B/2L

USB Flash Drive



- Proven design and aggressive performance
- Designed to expedite the exchange of huge amounts of data
- The simple solution for your portable storage needs

Transcend Information, Inc.

www.transcendusa.com

© Transcend 2006. 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.

Go to find.pcworld.com/49861



BUGS & FIXES

STUART J. JOHNSTON

Internet Explorer Holes Threaten Your PC

Plus: Poisoned images, skins, and other graphics files could lead to system breaches.

FIXING A GLITCH whose only known ill effect was that it forced users to restart Internet Explorer hardly ranked at the top of Microsoft's to-do list. But that was before a UK-based security researcher named Stuart Pearson pointed out a way that bad guys could exploit the hole to take over affected computers. With the exploit code floating around the Web, it was only a matter of time before somebody created malware that employed it as an infection mechanism. You could get infected by visiting a site that has a contaminated banner ad in the background, by opening an HTML e-mail with the malware, or by viewing a tainted attachment.

The flaw involves the way IE handles JavaScript—a common Web programming language. IE versions 5.5, 6, and 6 Service Pack 1 running on Windows 98 through XP Service Pack 2 are affected. The research company where Pearson works, counterintuitively called Computer Terrorism, has posted a self-test site (find.pcworld.com/50590) where you can check whether your PC is vulnerable. A successful test means your PC is vulnerable, and the calculator in Windows appears on screen to indicate your system is at risk.



Given the newly discovered (and more dire) potential consequences of the breach, Microsoft has released a security warning about the problem (see find.pcworld.com/50592 for details). But as we went to press, the company had not released a patch to fix things yet. The company does identify three workarounds. One option is to disable JavaScript in IE or to set up the browser to prompt you for permission before it executes any JavaScript. For details on the various workarounds, visit find.pcworld.com/50592, scroll down to General Information, click *Suggested Actions*, and then click *Workarounds*.

GRAPHICS GLITCH

MICROSOFT has also patched a pair of critical security holes in the way Windows displays

images using the Windows Metafile (WMF) and Enhanced Metafile (EMF) formats, which are used to transfer images between Windows applications—when cutting and pasting graphics between Office apps, for example. The security gaps appear in the portions of the Windows operating system that handle graphics rendering either for on-screen display or for printing.

By sending a corrupt WMF or EMF file containing a bad command to your Windows' graphics system, an attacker could easily crash the OS and then run a rogue program to take control of your computer. Typically, the hacker must trick you into either clicking an infected image file or viewing an HTML e-mail message that has corrupted graphics embedded in it. But a bugged file could infect your system via the preview pane in Microsoft's Outlook or Outlook Express e-mail program. The flaw affects systems running any version of Windows between 2000 and XP SP2. You can download the patch at find.pcworld.com/50600. ■

Stuart J. Johnston is a contributing editor for PC World. Visit find.pcworld.com/31580 to see more Bugs and Fixes columns.

IN BRIEF

Malfunctioning Nikon Batteries

NIKON IS RECALLING more than 700,000 batteries for its D50, D70, and D100 digital SLR cameras. The lithium ion batteries that came with units sold from May 2004 to November 2005 can short-circuit, melt, or burn users. Some batteries that retailers sold separately are also affected. Get more details at find.pcworld.com/50598 or call 800/645-6678.

Flash Patch

MACROMEDIA has issued an update for Flash Player to block a hole that could let an attacker wreak havoc on your PC by using a poisoned .swf file. Download the patch at find.pcworld.com/50594.

RealPlayer Update

REALNETWORKS has fixed three holes in several versions of its RealPlayer and RealOne Player for Windows that could allow a bad guy to hijack your system. Hop over to find.pcworld.com/50596 for the updates.

BUGGED?

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

REVIEWS & RANKINGS

EDITED BY RAMON G. MCLEOD AND ALAN STAFFORD

- 49 **BELKIN WIRELESS G-PLUS MIMO ROUTER; BUFFALO TURBO G HIGH POWER WIRELESS SMART ROUTER; LINKSYS WIRELESS-G BROADBAND ROUTER WITH SRX200**
- 51 **RIM BLACKBERRY 8700C**



64



IN IMAGE QUALITY HP's LC3200N (left) scored below Samsung's LN-R328W, but the HP has more features.

Just-Right LCD TVs

Want a TV that's not too big or too small? One of these 32-inch models might be ideal.

L C D T V s

SOME TELEVISIONS are just too big: You can't convince your friends that you watch only PBS and nature shows when your TV looks like it

comes with an ice maker. But no one likes having to squint to see the names on the backs of Super Bowl players' jerseys, either. A moderate-size set will blend in with the décor without making you feel like you're sitting in the back row of your own home theater.

Our review includes five of the newest 32-inch direct-view LCD TV sets on the market (Sony and Toshiba declined to

send us their latest models). The five sets we tested are tightly bunched in price from \$1799 to \$2000 and have similar specifications. Nevertheless, we observed several important differences that may

affect how the sets work with your home theater setup.

The Dell W3201C, for example, has two tuners—one analog and one digital—but it offers no CableCard slot, so you can use the digital tuner

PCW RATINGS



VISIT find.pcworld.com/49902 for a complete explanation of our new rating system, as well as information about the test methodology we use.

- 52 INTUIT QUICKBOOKS 2006
- 56 SONY DVDIRECT VRD-MC1
- 56 NEATRECEIPTS SCANALIZER
- 60 MICROSOFT WORKS SUITE 2006
- 61 MATROX DUALHEAD2GO
- 64 SLIM DEVICES SQUEEZEBOX WIRELESS NETWORK MUSIC PLAYER
- 65 SERIOUS MAGIC OVATION
- 65 SONY CYBER-SHOT DSC-N1
- 68 NIKON COOLPIX P1
- 70 APPLE IMAC G5
- 72 MORE REVIEWS AT PCWORLD.COM

- 50 TOP 5 ULTRAPORTABLE NOTEBOOKS
- 54 TOP 10 DESKTOP PCs
- 62 TOP 5 PHOTO PRINTERS
- 66 TOP 5 INSTANT MESSAGING CLIENTS



56

only to bring in over-the-air digital broadcasts, not cable- or satellite-based ones. The Sharp Aquos LC-32D6U and the HP LC3200N share many components (including LCD glass manufactured by Sharp), but the HP has more ports and more-extensive color controls. And though all five models carry speakers, you can't remove the ones on the JVC or the Samsung LN-R328W; that constitutes an aesthetic drawback if, for instance, you want to route audio through your home theater's speakers instead of the built-in ones.

Choosing the top set wasn't easy: Dell's W3201C has the best cabinet design and by far the best speakers. Compared with the others, Samsung's no-frills LN-R328W scored highest in our image-quality tests. And HP's LC3200N has the best selection of ports and extensive on-screen controls. Ultimately, those features plus solid image quality won the HP our Best Buy award.

HIGH SCORES FOR HD

AS THEY HAVE ON practically every TV we've evaluated recently, our high-definition test programs looked best on these sets, DVD movies looked fairly

	32-INCH LCD TV	PCW Rating	Performance	Features and specifications
1	HP LC3200N Best Buy \$1900 find.pcworld.com/50572	80 Very Good	<ul style="list-style-type: none"> HDTV: Good SDTV: Good DVD: Good Overall design: Very Good 	<ul style="list-style-type: none"> 1366-by-768-pixel screen Tuners: one NTSC, one ATSC Inputs: one HDMI, two component CableCard ready
Bottom line: A great selection of ports and color controls makes this LCD TV a top choice. The cabinet sits on a huge base.				
2	Sharp Aquos LC-32D6U \$2000 find.pcworld.com/50576	77 Good	<ul style="list-style-type: none"> HDTV: Good SDTV: Very Good DVD: Good Overall design: Fair 	<ul style="list-style-type: none"> 1366-by-768-pixel screen Tuners: one NTSC, one ATSC Inputs: one HDMI, two component CableCard ready
Bottom line: Though it shares some components with the HP LC3200N, this set doesn't have as many ports or image controls as the HP.				
3	JVC LT-32X776 \$2000 find.pcworld.com/50578	76 Good	<ul style="list-style-type: none"> HDTV: Good SDTV: Good DVD: Good Overall design: Fair 	<ul style="list-style-type: none"> 1366-by-768-pixel screen Tuners: one NTSC, one ATSC Inputs: one HDMI, one component CableCard ready
Bottom line: Its stand is a little wobbly, and it has old-fashioned-looking on-screen controls. Image-quality scores were just average.				
4	Dell W3201C \$1799 find.pcworld.com/50570	75 Good	<ul style="list-style-type: none"> HDTV: Good SDTV: Good DVD: Fair Overall design: Very Good 	<ul style="list-style-type: none"> 1366-by-768-pixel screen Tuners: one NTSC, one ATSC Inputs: two HDMI, two component Not CableCard ready
Bottom line: Cabinet design is great and speakers are superb, but there's no CableCard slot, and image quality was a bit below average.				
5	Samsung LN-R328W \$1800 find.pcworld.com/50574	71 Good	<ul style="list-style-type: none"> HDTV: Good SDTV: Good DVD: Very Good Overall design: Good 	<ul style="list-style-type: none"> 1366-by-768-pixel screen Tuner: one NTSC Inputs: one HDMI, two component Not CableCard ready
Bottom line: Basic TV has no CableCard slot—just one tuner, a nonadjustable stand, and few ports—but it won our image-quality tests.				

CHART NOTES: Ratings are as of 12/28/05. For more details about the products listed in this chart, see find.pcworld.com/50980.

good, and standard-definition content looked pretty bad. The TVs we examined earned similar scores in our tests for high-def and standard-def content, but the Samsung LN-R328W got markedly better scores for its display of DVD movies. Among the five sets, its color-accurate picture stood out.

Sharp's Aquos LC-32D6U earned the top mark in our

high-definition tests (albeit by a razor-thin margin over the Samsung and HP), and it beat the field by a good margin in tests involving standard-def content. The HP LC3200N and the JVC LT-32X776, respectively, ranked third and fourth overall in image quality, with consistently average scores; some images were a tad dull on both sets. Dell's W3201C

scored somewhat lower on high-definition and DVD content, mainly because its picture looked oversaturated and dark, even after calibration.

We calibrate and test sets in their standard picture modes (so as to establish a level testing field). However, each set provides additional modes, and some of these improved the picture dramatically, ►

depending on the type of content. The Sharp Aquos LC-32D6U exhibited the most benefit; facial tones were far more natural in the set's dynamic mode than in its default standard mode.

Both Sharp's Aquos LC-32D6U and HP's LC3200N offer the same basic color controls, but the HP also lets users tweak hue, saturation, and image-value settings for six different colors. You could drive yourself nuts trying to get a perfect picture using such fine controls, but you can save settings you like to different picture modes and then automatically apply them to different inputs.

The JVC has relatively few color controls, which it presents in a large, old-fashioned opaque-background menu that hides much of the picture you are trying to adjust. The Dell W3201C's menus, in contrast, are far more attractive; though they, too, overlay the picture, you can change their transparency to make more of what you're adjusting visible. Meanwhile, the Samsung set has a mode in which you can see on one side of the screen how the picture looks before adjustments and on the other side how it looks afterward; that's easily the best arrangement.



THE SHARP AQUOS LC-32D6U's speaker panel is removable; speakers on the JVC LT-32X776 are built into the set.

All of these sets use LCD panels, so you need to be concerned about viewing angle. We observed definite color shifts depending on where we sat in front of every one of the sets; some of our judges even preferred the image quality that they got when seated at a slightly off-center angle.

HP HAS MORE PORTS

TO OBTAIN THE best image quality, you must use the best available port. Unfortunately, only the Dell W3201C has two HDMI ports, for accommodating connections to both a cable set-top box and a DVD player, for example. Of the models we tested, the prize for the largest number of ports went to HP's LC3200N; the back panel even has FireWire ports so you can display video from a DV camcorder or export high-definition content to

we had to place magazines under the legs to keep it from wobbling. The Samsung's stand doesn't adjust at all. Although the Dell's included stand doesn't tilt, it's by far the most stable of the group.

Dell includes a pair of tall, thin speakers with the W3201C that sound great, delivering generous power, plenty of separation, and

a digital VHS deck. (For a full breakdown of each set's ports, see find.pcworld.com/50980.) Despite having the smallest number of ports, the Samsung LN-R328W has all of the most important connectors, including one HDMI port and two sets of component inputs.

The HP, JVC, and Sharp sets offer CableCard slots for tuning in digital broadcasts without your having to use an external set-top box. (Read about CableCard's limitations at find.pcworld.com/50588.)

INTERIOR DECORATING

DELL'S W3201C HAS the most attractive and functional cabinet in our test group: It's surrounded by a thin silver bezel, so most of what you see is the screen. The HP LC3200N's speakers mount on the sides of the panel—giving its long, dark cabinet an even longer look—but a huge, ungainly base supports everything.

JVC's and Sharp's panels tilt and swivel; but both tilt very awkwardly, and moving them to a desired angle takes effort. The base accompanying the Sharp Aquos LC-32D6U that we tested wasn't very stable;

very nice clarity. Dell also tosses in speaker stands so you can spread the speakers out for even better audio separation; alternatively, you can mount them to the sides of the display. It has an output for connecting a powered subwoofer, too, but you'll have to supply that component yourself. The other sets' speakers are merely adequate.

HP's remote control is long and thin with large, flat buttons, but it looks and feels a little cheap. While Dell's remote looks flashy, and the buttons feel nice, they're so shiny and reflective that I had trouble seeing the button labels under strong light. The Sharp's remote seems unnecessarily long, and its tiny, recessed buttons require a firm press. JVC and Samsung provide large, gray, bland-looking remotes with their TVs; the buttons on both work well.

You'll have to make compromises with any of these sets, but the HP LC3200N qualifies as the best-equipped of the group. Its extensive array of ports and color controls gives you the best shot at getting a good picture from multiple sources. I'd remove its stand and hang it on a wall, though.

—Alan Stafford

DELL'S W3201C has a rock-solid stand and great speakers.



Better Budget Wi-Fi

NETWORKING

TEST THE TRICKLE-DOWN effect has hit the Wi-Fi world: New, moderately priced routers and notebook cards now promise and deliver some or most of the speed and range improvements first seen last year in costlier products. In our tests of shipping products from three lines—Belkin's **Wireless G-Plus MIMO**, Buffalo Technology's **AirStation Turbo G High Power Wireless**, and Linksys's **Wireless-G with SRX200**—all performed creditably, even at distances that older, standard 802.11g equipment can't cover. However, the Belkin and Linksys products generally outperformed the Buffalo gear.

Both Linksys's \$115 Wireless-G with SRX200 and Belkin's \$90 Wireless G-Plus

MIMO routers use second-generation chips from Airogo Networks, whose first MIMO (multiple-in, multiple-out) chips powered several of the high-performance lines in our last Wi-Fi roundup (find pcworld.com/50702).

Buffalo's \$89 AirStation Turbo G High Power Wireless router and \$59 notebook card (the least-expensive products in this group) don't depend on MIMO technology; they use older high-speed 802.11g chips and owe their enhanced performance mainly to high-powered amplification of the radio signal.

VARIED RESULTS

FOR COMPARISON purposes, we tested the original Linksys SRX router (which is being discontinued) along with the

FAST WI-FI:

New products from networking companies such as Belkin, Buffalo Technology, and Linksys offer good range and data speeds at more-affordable prices.

newer products and found that the Linksys SRX200 router with the SRX card—the priciest setup—fell only a

bit short of it (see chart). Belkin's less expensive G-Plus MIMO products were noticeably slower, especially at close range, where they were only a little faster than routers in Buffalo's line. The new Buffalo model's performance fell off significantly in our long-range test, but many older Wi-Fi setups that we've seen couldn't even connect at that distance. And when we tested the three new routers with a standard 802.11g card on the network, their performance differences shrank.

If price has been a barrier preventing you from installing a wireless network or upgrading older equipment to improve its range, consider these products; alternatively, you might watch for mark-downs on the older and faster technology. If low cost is key, I'd go with the Belkin G-Plus MIMO gear: It costs a little bit more than Buffalo's High Power products, but at long range it's nearly twice as fast.

—Yardena Arar

FEATURES COMPARISON

Belkin Leads the Budget Wi-Fi Pack

NEW LINKSYS COMES closest to original SRX's performance, but Belkin wins out with better pricing.

WI-FI ROUTER AND CARD	PCW Rating	Average throughput (mbps)			
		Close range	Medium range	Long range	Close range with 802.11g
Belkin Wireless G-Plus MIMO Router and Notebook Card Street: \$160 find.pcworld.com/50832	85 Very Good	26.2	22.6	12.2	19.8
▶ Bottom line: This model trails the Linksys in performance, but its solid transfer speeds and a bargain price make it our top choice.					
Linksys Wireless-G Broadband Router with SRX200 and Linksys Wireless-G Notebook Card with SRX Street: \$228 find.pcworld.com/50830	84 Very Good	37.2	28.8	15.1	22.9
▶ Bottom line: The Linksys combination delivers super performance, though at this price you can find faster (albeit older) gear.					
Buffalo Technology AirStation Turbo G High Power Wireless Smart Router and Notebook Adapter Street: \$148 find.pcworld.com/50834	78 Good	23.8	21.5	6.7	19.5
▶ Bottom line: An ultralow price for decent range, but the Buffalo's speeds are sluggish and its user interface needs work.					
Linksys Wireless-G Broadband Router with SRX and Linksys Wireless-G Notebook Card with SRX ¹		39.3	33.4	15.5	26.4

HOW WE TEST: Visit find.pcworld.com/50836 for details about our test methodology. ¹The original price of this combination was \$275.



ULTRAPORTABLE LAPTOPS

New Notebooks Get Lighter and Run Longer

TEST Center OUR NUMBER ONE ultraportable, the refreshed Lenovo ThinkPad X41, weighs little and runs for 6 hours on an extended-life battery. It retains its predecessor's comfortable keyboard and ThinkLight illumination for working in dark environments, and still has only an eraserhead for a pointing device. Our test unit came with a 1.6-GHz Pentium M 725, the fastest processor you can currently get with the X41, and 512MB of RAM. Its WorldBench 5 performance score of 66, however, was merely fair and a few points shy of two other notebooks we've tested with the same CPU and RAM.

The Fujitsu LifeBook T4020 convertible tablet claims third

place and comes with three ways to protect data: a smart card, tablet buttons that double as a combination lock, and an optional \$50 biometric fingerprint reader that sits in the spot the scroll button would normally occupy. The T4020 works well as a note-taking device, and its swiveling screen is easy to read, indoors or out. Switching between tablet and notebook, however, took several more steps than with some other convertibles we've tested.

Dell's Inspiron 710m, a refresh of the Inspiron 700m wide-screen ultraportable, snags the fifth spot. The included Dell Media Experience



THE FUJITSU LIFEBOOK T4020 convertible notebook has three options for security.

applications are a fun extra, although the 710m does not come with a remote control to take full advantage of them. The diminutive keyboard is an

acquired taste, and you'll want the \$99 extended-life battery to improve battery longevity.

Three models missed our chart. Micro Express's N3320 has its good points. Our test unit came with a 2.2-GHz Turion 64ML-40 processor and a whopping 2GB of inexpensive RAM, and it aced our WorldBench 5 tests with a top-notch score of 99. It also has a double-layer DVD burner. However, the laptop falls short in the design department, as its memory modules and hard drive are located deep inside the case and are hard to upgrade, and the battery release is flimsy.

Asus's Z33Ae and Chem USA's ChemBook 2333 (a re-branded version of the Asus Z33Ae) also failed to rank. Light and stylish, with a black, gray, and silver design, each has a 1.86-GHz Pentium M 750 processor, and the two models earned WorldBench 5 scores of 84 and 82, respectively. Each accepts Memory Stick and SD Card media and has a FireWire port, as well. Unfortunately, the two units also share a battery life that's around 2.2 hours and a slightly cramped keyboard with tiny <Shift> and arrow keys.

—Carla Thornton

ONLINE

FOR ADDITIONAL information about the ultraportable notebooks reviewed in this chart, including details on how we tested them, go to find.pcworld.com/50932.

	ULTRAPORTABLE	PCW Rating	Performance	Features and specifications
1	Lenovo ThinkPad X41 Best BUY \$2199 find.pcworld.com/50500	79 Good	<ul style="list-style-type: none"> WorldBench 5 score: 66 Fair Overall design: Very Good Tested battery life: 6:02 	<ul style="list-style-type: none"> 1.6-GHz Pentium M 725 12.1-inch screen 3.3 pounds DVD-ROM/CD-RW
▶ Bottom line: Lightweight notebook offers fair performance but excellent battery life; docking station houses the optical drive.				
2	Acer TravelMate 3000 \$1299 find.pcworld.com/48906	78 Good	<ul style="list-style-type: none"> WorldBench 5 score: 78 Good Overall design: Good Tested battery life: 3:58 	<ul style="list-style-type: none"> 1.73-GHz Pentium M 740 12.1-inch wide screen 3.2 pounds DVD-ROM/CD-RW
▶ Bottom line: Inexpensive model comes with two batteries, a four-in-one media card reader, and an external optical drive.				
3	Fujitsu LifeBook T4020 Tablet PC \$2149 find.pcworld.com/50504	76 Good	<ul style="list-style-type: none"> WorldBench 5 score: 75 Good Overall design: Good Tested battery life: 4:01 	<ul style="list-style-type: none"> 1.73-GHz Pentium M 740 12.1-inch screen 4.7 pounds DVD-ROM/CD-RW
▶ Bottom line: Convertible notebook with memory card reader has excellent security features, but conversion to tablet mode is awkward.				
4	WinBook X512 \$998 find.pcworld.com/48672	76 Good	<ul style="list-style-type: none"> WorldBench 5 score: 67 Fair Overall design: Good Tested battery life: 3:24 	<ul style="list-style-type: none"> 1.5-GHz Pentium M 715 12.1-inch wide screen 4.6 pounds DVD-ROM/CD-RW
▶ Bottom line: Inexpensive unit has an elegant Media Center Edition knockoff app and makes a dandy stand-alone DVD player.				
5	Dell Inspiron 710m \$1786 find.pcworld.com/50494	75 Good	<ul style="list-style-type: none"> WorldBench 5 score: 82 Very Good Overall design: Good Tested battery life: 2:32 	<ul style="list-style-type: none"> 2-GHz Pentium M 755 12.1-inch wide screen 4.2 pounds DVD+R DL/DVD±RW
▶ Bottom line: Wide-screen ultraportable with a sleek case has a short battery life but performs well and comes with media software.				

CHART NOTES: Ratings are as of 12/28/05. Weight is of the notebook on its own, not including the AC adapter, power cord, and optical drive.

A More Treo-like BlackBerry

PHONE/PDA HYBRID

BLACKBERRY FANS WHO are also Cingular users have a sleek new option in Research in Motion's **BlackBerry 8700c**. This Bluetooth-enabled hybrid phone/personal digital assistant packs BlackBerry's signature QWERTY keyboard and e-mail management fea-

BlackBerry 8700c

Research in Motion

Preproduction unit, not rated
Phone/PDA hybrid should delight
e-mail addicts who don't need
the extra versatility of a Palm or
Windows Mobile device.

List: \$450 (\$300 with new two-
year contract)

find.pcworld.com/50704

tures, plus a few new tricks.

The 8700c (\$300 with a new two-year contract; otherwise \$450) is the first BlackBerry to support Cingular's EDGE network, which can deliver data transfer rates similar to those of very good dial-up service. It isn't as skinny as the Palm Treo 650, but the 8700c uses its extra width to accommodate larger keys, simplifying typing. Another plus: You can operate the BlackBerry's jog-wheel-and-escape-button navigation one-handed.

The included Intellisync software synchronizes with virtually all popular desktop organizers; it worked nicely in my hands-on testing of a

preproduction 8700c. The 8700c's browser does only a fair job of small-screen formatting. Other features on the 8700c include dedicated dial, hang-up, and mute keys.

If your company has invested in a BlackBerry Enterprise Server, you should find the 8700c an attractive choice for managing e-mail from up to ten accounts in a single inbox. Alternatively, you can use the BlackBerry Internet Service (free with any Cingular data account) to collect POP3, Microsoft Exchange, and Lotus Domino e-mail; but the service won't sync your handheld e-mail (so you have to delete messages twice), and it



THE NIMBLE BLACKBERRY
8700c from Research in Motion.

makes you choose one address to serve as the unique source identifier for all your outbound mail, regardless which account sends it.

—Yardena Arar

How can you be so sure this color printer
is as dependable as it is affordable?

I'm talking Ricoh
color here, Jerry.



Ricoh dependability moves your ideas forward.

RICOH

ricoh-usa.com/itchannel
©2005 Ricoh Corporation.

Go to find.pcworld.com/50198

QuickBooks 2006 Boosts Power Features

ACCOUNTING SOFTWARE

THE 2006 VERSION of QuickBooks introduces some of the most significant upgrades to Intuit's small-business accounting software that we've seen in years. The enhancements should make a difference at all levels, whether you use the software for a budding new business or for an established enterprise.

QuickBooks 2006 justifies the "Quick" part of its name. Setup for new business books is faster than in the past.

The software operates faster, too, speeding preparation of complex reports for a larger business. With this version, Intuit has shifted from an aging homegrown underlying database to a more robust SQL database based on Sybase's iAnywhere. Although

TECH TREND

every edition incorporates the new database, this change chiefly benefits bigger businesses, because they need to track many transactions. The bolstered database also eliminates much of the hefty performance penalty previously associated with making use of the audit trail, which tracks changes in transactions by users and helps users detect errors and fraudulent transactions. (QuickBooks' audit trail is turned on by default.)

IMPROVED LOOK, FEATURES

I LOOKED AT final software for Intuit's Premier Edition 2006 (\$400). The program comes in four packaged editions with varying capabilities, ranging from the entry-level Simple Start (\$100) to



QUICKBOOKS 2006's home page can show a customized workflow.

the top-of-the-line Enterprise Solutions (\$3000-plus). Intuit has dispensed with the Basic Edition of previous years.

QuickBooks' revised home page starts out with a graphical depiction of a workflow that's both easy to understand and customizable to suit your business's accounting capabilities. Among the interface niceties are new customer, vendor, and employee data centers for quicker access to contact data and transactions on the same page. And old interface frustrations such as a number of duplicate top menu items are gone, simplifying the menu structure.

The software has improved its integration with Microsoft Office, too, though it's still trying to catch up to the many slick integration-oriented tricks found in Microsoft Office Small Business Accounting. A step in that direction is the new QuickBooks Sync for Outlook, a free download you can use with QuickBooks and Outlook to trade customer, vendor, and job information between the two. The syncing is two-way (meaning that if you change info in the program, it changes in Outlook, and vice versa) and supports

different address books for vendors and customers.

QuickBooks has made up ground on another of its competitors, Sage's Peachtree Accounting, by adding powerful product inventory features. It even has Available-to-Promise, a feature that's available only in QuickBooks' Premier and in the industry-specific editions (Manufacturing & Wholesale, Accountant, and Enterprise Solutions). This feature juggles sales orders when they exceed the quantity of available product, and proposes ways to fulfill sales based on criteria you specify.

Intuit has trimmed \$100 each off the cost of its Pro and Premier Editions since last time around, but it has also eliminated the price break previously available for upgraders. Still, in view of the improvements to this year's application, this software is well worth the upgrade cost.

—Richard Morochove

Coming: Quad-Core CPUs

AMD AND INTEL ONCE traded blows by pushing processor speeds higher, but heat issues brought the megahertz war to an end. Today's arms race is about introducing more processor cores. AMD fired the latest shot, announcing in



November 2005 that it plans to produce a four-core chip by 2007. Intel has four-core CPU plans, too: The company plans to roll out its first multicore processor, code-named Tigerton, that same year.

Does this news mean your new dual-core desktop is already old news? Not really. The first quad-core chips will target servers; so Intel has announced plans for a quad-core won't make a lot of sense on comments AMD's Damon Muzny.

-Tom Mainelli

far, neither AMD nor Intel has announced plans for a quad-core desktop chip. "Quad core won't make a lot of sense on the desktop for a while," comments AMD's Damon Muzny.

QuickBooks 2006

Intuit

PCW Rating **83** Very Good

Value: Pricy software delivers solid business planning tools.

List: Premier Edition, \$400
find.pcworld.com/50706

Microsoft

☐ CAN IT REDUCE COSTS

☐ DECREASE TIME TO MARKET

☐ AND SHOW AN EARLY RETURN

☐ IS IT LINUX

☐ OR WINDOWS SERVER

☒ GET THE FACTS.

SWITCHING FROM RED HAT LINUX TO
WINDOWS SERVER WILL SAVE TOMMY HILFIGER
AN ESTIMATED 25-30% IN IT COSTS.

"Our migration to Windows Server™ will reduce our IT costs by an estimated 25-30 percent, but that's only the start. Our efforts are improving our competitive advantage. We developed a full e-commerce site within six months, in time for the 2005 holidays, and we'll continue to benefit from compressed product design times and an optimized supply chain."

-Eric Singleton, CIO TOMMY HILFIGER

For these and other third-party findings, go to
microsoft.com/getthefacts

Microsoft
**Windows
Server System**

TOP 10 DESKTOP PCs

Low-Cost Cisnet, HP PCs Race Onto Value List

TEST CENTER PC REVIEWS often discuss speedy systems, but this month we've found a machine that really reminds us of racing. Cisnet's very inexpensive NASCAR PC value system will appeal to stock-car racing fans with checkered flags on its case, monitor, mouse, and keyboard, as well as a number of racing tie-ins. You might think that a NASCAR-oriented PC would be fast, but it's a fairly straightforward model that lacks high-end components.

Three HP computers land on the chart this month. The new Pavilion s7220n Slimline Desktop PC, at third place in



CISNET'S NASCAR PC will never allow racing fans to forget their favorite sport.

the value section, has a case that's about the size of a fat phone book. Though it offers limited expansion options, the Pavilion s7220n has a pretty good collection of ports and will appeal to home users who don't need lots of power.

—Dan Sommer

ONLINE

FOR MORE information on the desktop PCs reviewed in this chart, including details on how we tested them, go to find.pcworld.com/50560.

	POWER SYSTEM	PCW Rating	Performance	Features and specifications
1	Xi M-Tower 64 AGE-SLI Best Buy \$3565 find.pcworld.com/48972	86 Very Good	<ul style="list-style-type: none"> WorldBench 5 score: 130 Superior Overall design: Good Graphics: Superior 	<ul style="list-style-type: none"> 2.4-GHz Athlon 64 X2 4800+ 600GB (RAID) drive space 19-inch ViewSonic VP191b LCD 256MB EVGA e-GeForce 6800 Ultra graphics
▶ Bottom line: The fastest machine in our tests, this M-Tower is a great choice for anyone who gives priority to performance.				
2	Velocity Micro Vision 64 \$3954 find.pcworld.com/49392	84 Very Good	<ul style="list-style-type: none"> WorldBench 5 score: 115 Very Good Overall design: Very Good Graphics: Superior 	<ul style="list-style-type: none"> 2.4-GHz Athlon 64 X2 4800+ 500GB (RAID) drive space 19-inch NEC MultiSync LCD1970GX LCD 256MB EVGA e-GeForce 6800 GT graphics
▶ Bottom line: Fast, SLI-ready dual-core system suits advanced gamers and graphics enthusiasts.				
3	Alienware Aurora 7500 \$4835 find.pcworld.com/49690	83 Very Good	<ul style="list-style-type: none"> WorldBench 5 score: 114 Very Good Overall design: Superior Graphics: Superior 	<ul style="list-style-type: none"> 2.8-GHz Athlon 64 FX-57 500GB (RAID) drive space 19-inch Samsung SyncMaster 930BF LCD 256MB EVGA e-GeForce 7800 GTX graphics
▶ Bottom line: Very fast, expensive PC with two graphics cards targets hard-core gamers and graphics pros with deep pockets.				
4	Micro Express MicroFlex 3464 \$2199 find.pcworld.com/48136	82 Very Good	<ul style="list-style-type: none"> WorldBench 5 score: 111 Very Good Overall design: Fair Graphics: Superior 	<ul style="list-style-type: none"> 3.4-GHz Pentium 4 650 400GB drive space 19-inch ViewSonic VP912b LCD 256MB ATI Radeon X850 graphics
▶ Bottom line: This PC offers plenty of pep for video editing and gaming, but overclocked 3.67-GHz CPU may cause problems down the line.				
5	HP Pavilion d4100e \$3648 find.pcworld.com/49996	82 Very Good	<ul style="list-style-type: none"> WorldBench 5 score: 102 Good Overall design: Very Good Graphics: Very Good 	<ul style="list-style-type: none"> 2.2-GHz Athlon 64 X2 4200+ 660GB drive space 21-inch HP f2105 LCD 256MB Asus Extreme N6800 graphics
▶ Bottom line: The d4100e is a great choice for the multimedia fan who also wants a powerful workhorse PC.				
	VALUE SYSTEM			
1	CyberPower Gamer Ultra 7500 SE Best Buy \$979 find.pcworld.com/48576	85 Very Good	<ul style="list-style-type: none"> WorldBench 5 score: 90 Very Good Overall design: Good Graphics: Very Good 	<ul style="list-style-type: none"> 2-GHz Athlon 64 3200+ 160GB drive space 17-inch ViewSonic VA712b LCD 256MB EVGA e-GeForce 6600 graphics
▶ Bottom line: Jazzy, neon-lit unit has an adjustable fan controller, a dual-layer optical writer, and a stellar LCD.				
2	Cisnet NASCAR PC \$868 find.pcworld.com/50490	84 Very Good	<ul style="list-style-type: none"> WorldBench 5 score: 83 Very Good Overall design: Good Graphics: Fair 	<ul style="list-style-type: none"> 2-GHz Athlon 64 3200+ 160GB drive space 17-inch Cisnet NCA-701 LCD Integrated ATI Radeon Xpress 200 graphics
▶ Bottom line: Kids and die-hard NASCAR fans should enjoy this inexpensive and racing-themed—but otherwise typical—value PC.				
3	HP Pavilion s7220n Slimline Desktop PC \$900 find.pcworld.com/50488	81 Very Good	<ul style="list-style-type: none"> WorldBench 5 score: 69 Fair Overall design: Very Good Graphics: Fair 	<ul style="list-style-type: none"> 1.5-GHz Celeron M 370 200GB drive space 17-inch HP vs17 LCD Integrated Intel 915GV graphics
▶ Bottom line: An affordable price and a very small footprint make this basic PC suitable for modest computing tasks in small spaces.				
4	HP Pavilion a1130n Desktop PC \$1060 find.pcworld.com/49394	81 Very Good	<ul style="list-style-type: none"> WorldBench 5 score: 93 Superior Overall design: Good Graphics: Fair 	<ul style="list-style-type: none"> 2.2-GHz Athlon 64 3500+ 250GB drive space 17-inch HP vs17 LCD 128MB integrated ATI Radeon Xpress graphics
▶ Bottom line: A great low-cost, entry-level PC for the budget-conscious student or multimedia enthusiast.				
5	Micro Express MicroFlex 35B \$1299 find.pcworld.com/48580	79 Good	<ul style="list-style-type: none"> WorldBench 5 score: 101 Superior Overall design: Very Good Graphics: Superior 	<ul style="list-style-type: none"> 2.2-GHz Athlon 64 3500+ 250GB drive space 17-inch LG Flatron L1710B LCD 128MB Sapphire Radeon 9800 graphics
▶ Bottom line: Strong value and performance; midsize tower includes a dual-layer burner and top-mounted USB and audio ports.				

CHART NOTES: Ratings are as of 12/28/05. Drive space (hard-drive capacity) may represent multiple drives.



Set up in less than five minutes.

MAXgTM

Feel smarter than your kids—for once.



Yes, installing a wireless network has never been easier than with the USRobotics **MAXg** wireless networking family. Securely sharing your Internet connection—and even your USB printer—is a snap with USRobotics' SureStart Wizard. Anyone can do it!



- **MAXimum range.** Up to 50% better range than standard 802.11g products.



- **MAXimum performance.** Delivers speeds up to 125 Mbps. Maintains compatibility with standard 802.11b and 802.11g devices.



- **MAXimum security.** Built-in high security encryption (WPA, WPA2) and authentication (MAC, 802.1x) plus SPI Firewall.



- **MAXimum simplicity.** Set up in less than five minutes. Fully secure within ten minutes.

Available at:

CDW

COMPUSA

MICRO CENTER

Fry's

TigerDirect.com

DELL

newegg

USRobotics[®]

www.usr.com

Go to find.pcworld.com/49933

Burn DVDs and Convert Video More Easily

DVD RECORDER

IF YOU WANT to convert video from VHS tapes to DVD discs, you have two basic choices: Use a dedicated set-top DVD recorder that connects to your VCR to convert video in real time; or rely on a DVD burner, video inputs, and software on your PC. Sony's \$300 **DVDirect VRD-MC1** aims to give you the best of both worlds.

I examined a preproduction version of this intriguing

DVDirect VRD-MC1

Sony

Preproduction unit, not rated

External drive works well independently of a PC to transfer video and digital images to DVD.

List: \$300

find.pcworld.com/50710

third-generation product. At its heart lies a 16X double- and dual-layer-capable DVD burner that functions either as an external drive (when linked to a PC via USB 2.0) or as a converter that records video to a DVD (when linked to a VCR, cable box, TV, or camcorder via its composite video, S-Video, or DV input).

One of the flashiest additions to this version is a 2-inch color LCD screen on the unit's top surface. The LCD is especially convenient for previewing the start or end of videos you're recording (particularly since the VRD-MC1 doesn't have a video output for playing back on your TV) and for viewing digital images. It's easy to transfer the latter via the unit's integrated me-



SONY'S DVDirect.

dia card slots. The VRD-MC1 acts a conduit for your images so you can send them from the flash card to a photo slideshow DVD or to a PictBridge-compatible printer connected to the unit via USB.

Other changes: The unit is oriented horizontally, and this time around Sony placed the video inputs along the left

side of the front panel; this simplifies access to cables but could look messy if you keep them plugged in all the time.

Rare is the device versatile enough to serve both your PC and your living-room setup, but the DVDirect VRD-MC1 promises to straddle both universes effortlessly.

—Melissa J. Perenson

ASK OUR EXPERTS

Tweaking Text on LCDs

I WANT TO BUY a 19-inch LCD monitor, but the text looks too small. Can I lower the resolution in order to increase the size of the on-screen text, without losing sharpness?

Doug Cragoe, North Hollywood, California



Associate Editor Laura Blackwell responds:

A 19-inch LCD screen looks sharpest at its native resolution of 1280 by 1024 pixels; the bigger text that you obtain by switching to a lower resolution will look fuzzy. To improve text readability, you can go to the Appearance tab of XP's Display control panel. There, you can increase the font size for Windows. You can also enable XP's font-smoothing technology, by clicking the *Effects* button and then choosing *Clear Type* in the second drop-down menu. Clear Type works best at an LCD's native resolution, but some users report improved legibility at lower resolutions, as well.

Need information or advice about a buying decision? Drop us a line at askourexperts@pcworld.com.

Expense-Report Help

SCANNER

FILING EXPENSE REPORTS isn't fun. NeatReceipts' \$200 **Scanalizer** lets you digitize the process by scanning your receipts, though I spent some time correcting its errors.

I looked at a shipping version of the small, portable scanner. Its scan results open in the included software, where you can edit such information as date, amount,

and vendor. The application provides a place to organize your expense reports, too.

The software also lets you map expense reports to an existing Excel spreadsheet, or move them directly to QuickBooks. But you will probably have to enter or correct bits of the information yourself. For example, the software entered as total amounts a hotel bill's food expenses and a coffee shop receipt's sales tax.

If you routinely file encyclopedic expense reports, this drawback will probably seem like a minor price to pay for the ability to organize expense reports and store digital images of receipts.

—Eric Butterfield

Scanalizer

NeatReceipts

PCW Rating **B+** Very Good

Scanner digitizes the expense process, though inaccurate entries make it far from painless. Street: \$200

find.pcworld.com/50568

Small Workgroup Office ●

● Branch Office

● Corporate Office

Road-Warrior Office ●

● Home Office

**Take cost out of your business and increase productivity.
No matter where you do business.**

The Brother Advantage

- Comprehensive selection
- Increased productivity
- Lower acquisition costs
- Reduced consumable costs
- 24/7/365 support and service
- Free evaluation program



Mobile Printing Solutions



Labeling Solutions



Desktop Laser Solutions



Color Laser Solutions



Network Printer Solutions



Multi-Function Solutions



Fax Solutions

Brother Printer, Fax and Multi-Function Center® models — designed to increase productivity while decreasing overhead.

Considering that over 94% of Fortune 1000 company employees work outside corporate headquarters*, equipping them with a cost-effective solution is, to say the least, a major challenge.

That's why Brother's Commercial Division is committed to providing superior and reliable imaging solutions that increase productivity while reducing costs. This enables businesses like yours to effectively address critical organizational goals and challenges.

But it is our product reliability, coupled with a responsive nationwide support and service network, that has companies like yours putting Brother at the top of their requisition lists.

Brother's Commercial Division welcomes the opportunity to put our resources to work for you. Contact us today so we can show you how we can positively impact your bottom line while enhancing your performance.

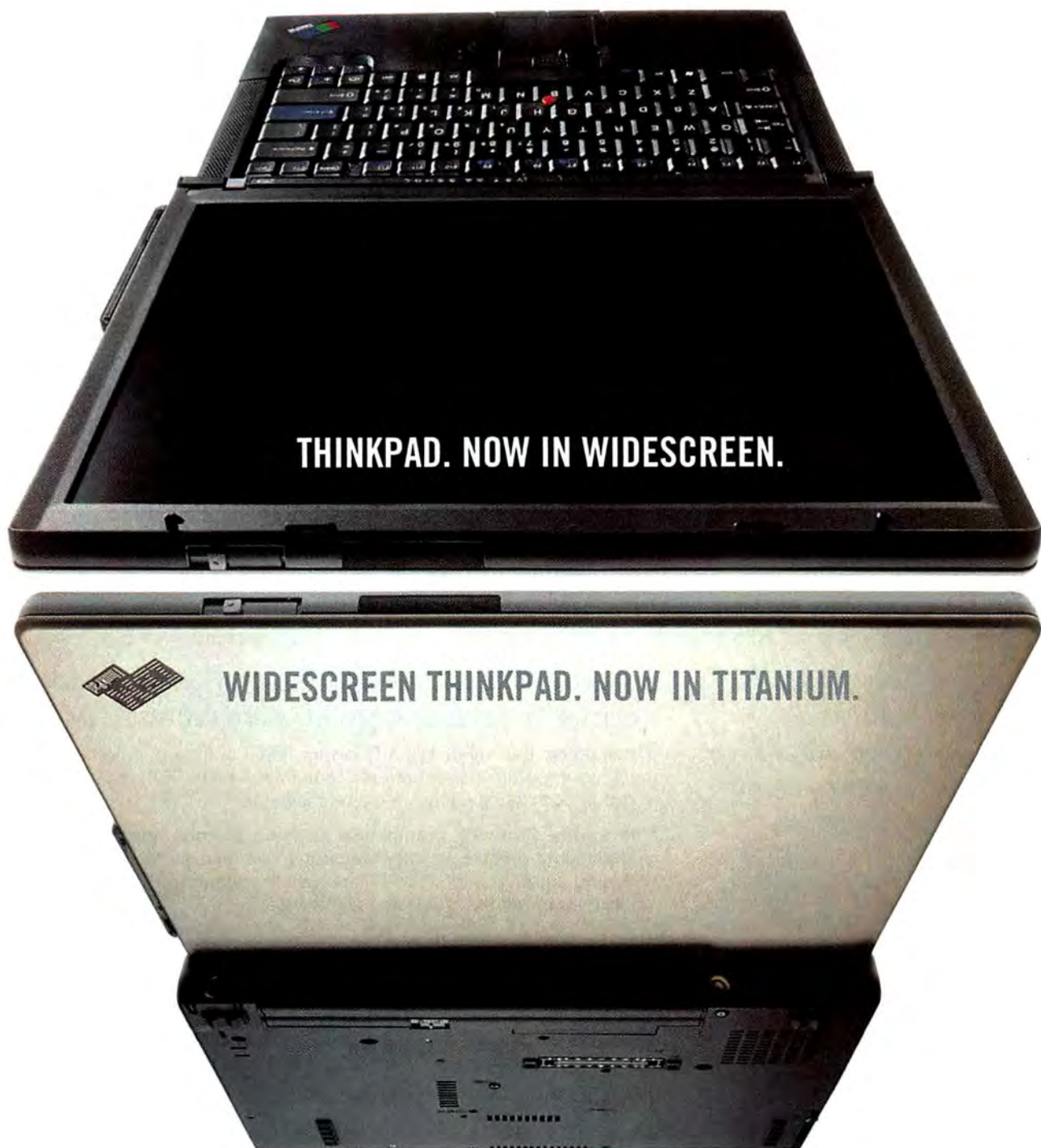
For more information, call 1-866-455-7713.

*Purchase Influence in Larger American Businesses (Erdos & Morgan, 2001).

At your side.™
brother®

© 2005 Brother International Corporation, Bridgewater, NJ • Brother Industries Ltd., Nagoya, Japan
For more information visit our Web site at www.brother.com

Lenovo recommends Windows® XP Professional.



Availability: All offers subject to availability. Lenovo reserves the right to alter product offerings and specifications at any time, without notice. Lenovo is not responsible for photographic or typographic errors. ***Pricing:** Prices do not include tax or shipping and handling, or recycling fees and are subject to change without notice. Reseller prices may vary. **Warranty:** For a copy of applicable product warranties, write to: Warranty Information, P.O. Box 12195, RTP, NC 27709, Attn: Dept ZPWA/B676. Lenovo makes no representation or warranty regarding third-party products or services. **Footnotes:** (1) **Mobile Processors:** Power management reduces processor speed when in battery mode. (2) **Wireless:** based on IEEE 802.11a, 802.11b and 802.11g respectively. An adapter with 11a/b, 11b/g or 11a/b/g can communicate on either/any of these listed formats respectively; the actual connection will be based on the access point to which it connects. (3) **Included software:** may differ from its retail version (if available), and may not include user manuals or all program functionality. License agreements may apply. (4) **Memory:** For PCs without a separate video card, memory supports both system and video. Accessible system memory is up to 64MB less than the amount stated, depending on video mode. (5) **Hard drive:** GB = billion bytes. Accessible capacity is less; up to 4GB is service partition. (7) **Thinness:** may vary at certain points on the system. (8) **Travel Weight:** includes battery and optional travel bezel instead of standard optical drive in Ultrabay bay, if applicable; weight may vary due to vendor components, manufacturing process and options. (9) **Internet access required, not included.** (10) **Client Security Solution:** preloaded on selected models; requires software download. (11) **Limited warranty:** Support unrelated to a warranty issue may be subject to additional charges. (12) **Certain IBM® and ThinkPad® logo products:** are not manufactured, warranted or supported by IBM or Lenovo; IBM and Lenovo logos and trademarks used under license. Contact Lenovo for details. (13) **Activating Verizon Wireless Service:** Lenovo customers will be contacted



INTRODUCING THE WIDESCREEN TITANIUM THINKPAD Z60.

The world's first widescreen ThinkPad notebook is also the world's first titanium ThinkPad. Whether you choose titanium or classic black ThinkPad Z60t, you get a screen that lets you view 25% more data than a standard 14" XGA screen, security features you'd expect from ThinkPad and the wireless power of Intel® Centrino™ with mobile technology (select models). And select 14" and 15.4" models come with integrated Verizon Wireless BroadbandAccess,¹³ so you'll be

able to go online anywhere within the Verizon Wireless BroadbandAccess Coverage Area.¹⁵ Yet our 14" Z60t is still the thinnest⁷ and lightest⁸ widescreen notebook offered by the top 10 notebook vendors.¹⁴ The Z60 ThinkPad notebooks, like all ThinkPad notebooks, are now a product of Lenovo, a new global company uniting Lenovo and the former IBM PC Division under the Lenovo name. ThinkPad service and support continues to be available from IBM in many countries.

ThinkPad Z60m

DISTINCTIVE INNOVATIONS

ThinkVantage Rescue and Recovery™ – one-button recovery and restore solution

SYSTEM FEATURES

Intel® Centrino™ Mobile Technology
Intel® Pentium® M Processor 740 (1.73GHz)
Intel® PRO/Wireless 9215ABG (802.11a/b/g)

Microsoft® Windows® XP Home¹

15.4" SXGA TFT Display

256MB DDR2 SDRAM⁴, 40GB Hard Drive⁵

Ultrabay Enhanced CD-RW/DVD Drive

THINK EXPRESS MODEL

\$1049* (P/N 2529F5U)

ThinkPad Carrying Case Expander¹²

\$59 (P/N 73P3597)

ThinkPad Women's Executive Red Leather Tote¹²

\$134 (P/N 22P8858)

ThinkPad Z60t with Fingerprint Reader

DISTINCTIVE INNOVATIONS

ThinkVantage Client Security Solution 6.0¹¹ – Strong security as a standard feature

SYSTEM FEATURES

Intel® Pentium® M Processor 740 (1.73GHz)
Microsoft® Windows® XP Professional
ThinkPad ABG WiFi wireless

14.1" Wide XGA TFT Display

512MB DDR2 SDRAM, 40GB Hard Drive

Ultrabay Slim CD-RW/DVD Drive

THINK EXPRESS MODEL

\$1599 (P/N 2511E4U)

Portable 80GB USB 2.0 Hard Drive with Rescue and Recovery

ThinkPlus Portable 80GB USB 2.0 Hard Drive with Rescue and Recovery

\$259 (P/N 40Y8726)

ThinkPad R50e

SYSTEM FEATURES

Intel® Celeron® M Processor 360 (1.40GHz)

Microsoft® Windows® XP Home Edition¹

14.1" XGA TFT Display (1024x768)

Intel Pro Wireless 2200 DDR SDRAM

256MB DDR SDRAM⁴, 40GB Hard Drive⁵

CD-ROM

1-yr limited warranty¹¹

THINK EXPRESS MODEL

\$699* (P/N 1842T4U)

ThinkPad 72W Slim AC/DC Combo Adapter

\$99 (P/N 73P4485)

ThinkPlus USB Fingerprint Reader

Integrated fingerprint swipe sensor puts your passwords at the tip of your fingers.

\$69 (P/N 73P4774)

ThinkCentre E50 Tower

SYSTEM FEATURES

Intel® Pentium® 4 Processor 516 (2.93GHz)

Microsoft® Windows® XP Professional

256MB memory

40GB 7200 rpm Hard Disk Drive, CD-ROM Drive

6 USB 2.0 Ports (2 frontside)

1-yr limited warranty with onsite service¹¹

THINK EXPRESS MODEL

\$559 (P/N 921521U)

15" ThinkVision L151p Monitor

With an ultra-thin frame design, this monitor is ideal for use in multi-monitor environments.

\$279 (P/N 9205H82)

Lexmark Z735 InkJet Printer

USB 2.0 w/Cable offers 4800 x 1200 dots per inch (dpi) print resolution.

\$49.99 (P/N 40Y8446)

With the Think Express Program, ThinkPad notebooks are preconfigured with your business, and your budget, in mind.

To shop or locate your local reseller

Call 1 866-426-3143

Go to lenovo.com/wide/m437

lenovo™

after purchase to activate service, requires separate agreement with Verizon Wireless and is subject to the Customer Agreement, Calling Plan and credit approval; service and airline charges will apply. Activation fee/line: \$35. \$175 early termination fee. Verizon Wireless, not Lenovo, is solely responsible for service. Service not available in all areas; purchaser is responsible for verifying that service is available for the intended location before purchasing a computer equipped with Verizon Wireless BroadbandAccess. For complete details, visit <http://www.verizonwireless.com/b2c/mobileoptions/broadband/serviceavailability.jsp?open=22b> (14) Based on manufacturer's published figures or CNET.com and results for the top 10 vendors in second quarter 2005 sales for all notebooks including standard and widescreen as reported by IDC. (15) Verizon Wireless Service Speed: BroadbandAccess speed averages 400-700 Kbps based on Verizon Wireless network tests with 5 MB FTP data files, without compression. Speed declines with distance from cell site and is limited to 1.54 Mbps at certain cell sites with backhaul limitations. Number of users on the Verizon Wireless data network may also affect maximum possible speed. Average upload speeds expected to be between 60-80 Kbps. Actual speeds and coverage may vary. **Trademarks:** The following are trademarks of Lenovo: ThinkPad, ThinkCentre and UltraConnect. IBM and the IBM logo are registered trademarks of IBM and are used under license. Microsoft and Windows are registered trademarks of Microsoft Corporation. Intel, Intel logo, Intel Inside, Intel Inside logo, Intel Centrino, Intel Centrino logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. Other company, product and service names may be trademarks or service marks of other companies. ©2005 Lenovo. All rights reserved.

Visit www.lenovo.com/safecomputing periodically for the latest information on safe and effective computing.

Microsoft Loads Works Suite With Useful Apps

PRODUCTIVITY SOFTWARE

READING THE LIST of applications in Microsoft's \$100 **Works Suite 2006** brought to mind a line made famous by late-night TV commercials: "But wait, there's more!"

I checked out a shipping version of Microsoft's home-user-centric suite, which has the same four apps that the existing \$50 Works 8 bundle contains (a plain-jane word processor, Excel-compatible spreadsheet, a basic database, and a calendar program), plus a few additional applications I found particularly useful.

Works Suite 2006's "extra" apps include Word 2002, the Digital Image Standard 2006 image editor, Encarta Encyclopedia Standard 2006, the much-improved Microsoft Money 2006 Standard, and

GOTCHA!

Don't Pay for Free Apps

WHEN IS A SIX-DOLLAR piece of software too expensive? When it's supposed to be available for nothing.

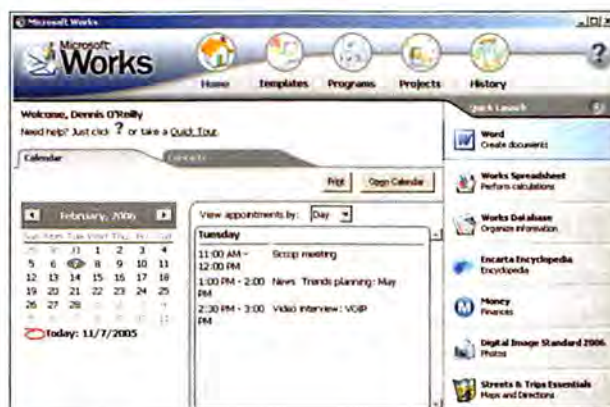
Online vendors are selling CDs of open-source software, which, by definition, is freely available for download. Store-



fronts on eBay sell the GIMP image editor, Audacity music editor, and OpenOffice.org word processor. Though the prices they charge are low—well under \$10—these vendors neither disclose that the software is open-source nor introduce major modifications to justify costs beyond those of CD-ROM creation and shipping. "I do not know of anyone selling GIMP who actually provides significant added value," says Manish Singh of Gimp.org.

To avoid paying for repackaged free software, visit *PC World's Downloads* (find.pcworld.com/50660), which identifies the software prices set by the original developers.

—Narasu Rebbapragada



SEE YOUR DAY at a glance on the Works Suite 2006 welcome screen.

Streets & Trips Essentials 2006. These four apps cost well over \$100 separately, so from the start it's clear that this suite is a good deal.

The core Works 8 apps appear to be identical to the versions in previous releases. However, the suite's inclusion of Word 2002 makes the

Works word processor superfluous (in features it's similar to Windows' free WordPad app). The best aspect of the Works spreadsheet is its ability to open and save files in Excel's .xls file format. You won't find Excel's support for formulas and sorting/formatting options, though. Like the other Works apps, the database uses its own proprietary file format; it lacks Access's relational capabilities. The Works calendar is a breeze to use, and its ongoing support for the iCalendar standard simplifies sharing your calendars via the Internet.

BEYOND BASIC APPS

THE NEW DIGITAL Image Standard 2006 image editor is a welcome addition to the Works lineup. This program replaces Microsoft's lame PictureIt imaging app with a modern tool for enhancing, combining, and presenting still images. You can use its Digital Image Library to manage (but not edit) video files and assign ratings, keywords, and labels to your pictures.

In addition to offering basic mapping features, Streets &

Trips Essentials 2006 can serve as an in-car navigation system if you have a notebook with a GPS receiver (though this version lacks the turn-by-turn voice instructions of the stand-alone release). And in lieu of a GPS signal, the program's Locate Me feature can use a Wi-Fi finder to pinpoint your current location.

Encarta Encyclopedia Standard 2006 is the only app here to receive a design makeover since the previous edition appeared. It has a cleaner interface with fewer items on each page and a more prominent search box. Online updates are free (through October 2006), and the company says that it adds new content roughly every 10 days.

Finally, enhancements to Money Standard 2006 include the ability to pay bills online from multiple bank accounts, and a feature called Spending Trackers that alerts you when you're approaching budget limits in various categories. The 2006 release has fewer noteworthy new features than the 2005 version, but it's still well worth the upgrade.

Home PC users looking for a low-cost alternative to Microsoft Office will find Works Suite 2006 a capable option, and its extras would make it a bargain at twice the price.

—Dennis O'Reilly

Works Suite 2006

Microsoft

PCW Rating **79 Good**

This suite delivers all the apps most home users will ever need, at a price that's tough to beat.

List: \$100

find.pcworld.com/50684

Add Two Displays to Your Notebook PC

NOTEBOOK ADD-ON

I'M SO USED to working on dual displays with my office desktop PC that I long for the extra screen real estate when I switch over to my notebook at home. Unfortunately, most notebooks can support only a single external monitor. But thanks to Matrox's new **DualHead2Go**, using my notebook

DualHead2Go

Matrox

PCW Rating **81** Very Good

Small device lets you easily drive two displays from a notebook.

Street: \$155

find.pcworld.com/50672

with two displays is no longer just a productivity dream.

I tested a shipping version of the 3-by-3.5-inch device, which is designed to trick a notebook's graphics chip into thinking that it's connected to a single external monitor, when in fact it's connected to two. An included cable links the DualHead2Go to the VGA port on your laptop, and then you attach your two displays to the device's two VGA outputs. Plug in the unit's AC power adapter and the hardware is ready to go.

Next you install the included software on your laptop



MATROX'S DUALHEAD2GO lets you double your screen space.

(Matrox's Web site offers a preapproved list of laptops), then you follow a quick setup routine to configure the displays so images will stretch across the two screens. I ran into a small setup glitch (the included quick setup guide didn't warn me to check the box in the display settings to extend my Windows desktop onto the second monitor); but after I ironed out that minor wrinkle, setup was painless.

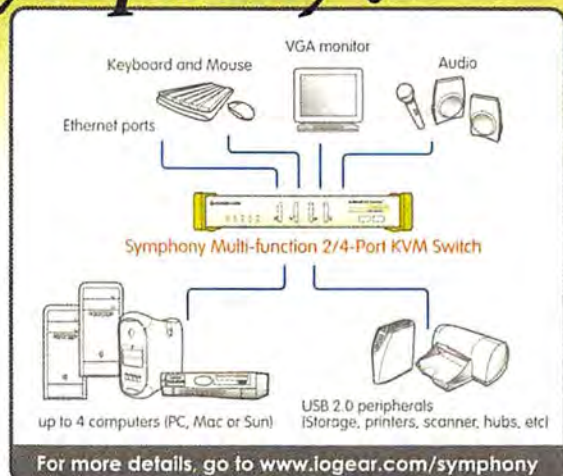
Images on the connected displays looked vivid and exceptionally sharp.

The DualHead2Go's flexibility and its fairly straightforward setup make the product a great choice for people who rely on a notebook as their main computer but who want the option of using multiple displays. And for \$155, it's a pretty good deal.

—Kalpana Ettenson

Why play solo when you can take a quartet and turn it into a Symphony?

IOGEAR's new Symphony KVM is a masterpiece in one movement. Connect up to four PCs and/or Macs and control them all from a single VGA video monitor, and USB keyboard and mouse. Plug in your peripherals to the USB 2.0 hub and transfer your data at super high speed. With a built-in Ethernet switch, you can easily network and share the Internet among your computers. Now that's innovative technology that's going to rock your world.



Visit us at CES, Booth #31823, South Hall

IOGEAR INC.

Toll Free: 866-946-4327 • <http://www.iogear.com> • E-mail: sales@iogear.com

Go to find.pcworld.com/49937



PHOTO PRINTERS

Inkjets Get Bigger LCDs, More Photo Features

TEST CENTER EYE-CATCHING color LCD screens have become increasingly common on photo printers. Our Best Buy, the \$199 Canon Pixma iP6600D, has the largest such screen we've seen on an inkjet; the 3.5-inch swiveling display seems enormous compared with the more common 2.5-inch size. The additional on-screen real estate makes adjusting images and navigating menus easier.

The large LCD isn't the only extra the iP6600D offers. Like most other models on the chart, it has removable-media slots that handle multiple card formats, and it supports PictBridge for printing directly from a digital camera via a USB cable. The iP6600D also



THE LCD ON CANON'S

Pixma iP6600D is the largest we've seen on an inkjet printer.

includes a duplexer for making two-sided prints on either regular or glossy paper—a feature that not long ago would have increased the printer's price significantly. Another plus is the unit's two full-size paper trays, which allow you to keep two paper types loaded.

By contrast, the second tray on the HP Photosmart 8250 holds only 4-by-6-inch photo paper. The HP Photosmart 8050 comes with a cassette that holds 4-by-6-inch photo paper, but you must empty the main tray before inserting it. The Epson Stylus Photo R340 has just one paper tray.

Photo printers are getting

faster, too. The iP6600D printed photos almost three times faster than the average speed managed by the models we tested a year ago, and HP's Photosmart 8250 was even quicker. The iP6600D took 45 seconds to print our 5-by-7-inch test photo, while the 8250 took just 29 seconds. The Epson Stylus Photo R340 was the slowest on the chart, requiring 82 seconds to print.

For pure speed, the HP Photosmart 8250 remains your best bet. Besides printing photos lightning-fast, it delivered impressive print times on text and color graphics. However, its print quality fell short of the other printers'. Its photos looked too dark overall, and some colors seemed oversaturated. Color graphics had a very cloudy appearance.

The photo print quality of Epson's Stylus Photo R340 and \$99 Stylus Photo R220 (which missed the chart) matched that of our Best Buy, but subpar prints of text and graphics on plain paper hurt their overall score, as did the vendor's lack of toll-free tech support. In contrast, HP offers 24-hour daily toll-free phone support; Canon limits support to 16 hours on weekdays and to 10 hours on Saturdays.

—Eric Butterfield

ONLINE

FOR MORE information about the photo printers reviewed in this chart, including details on how we tested them, browse to find.pcworld.com/50584.

	PHOTO PRINTER	PCW Rating	Performance	Features and specifications
1	Canon Pixma iP6600D Best \$199 find.pcworld.com/50532	86 Very Good	<ul style="list-style-type: none"> Text quality: Good Graphics/photo quality: Fair/Superior Tested speeds (ppm): 3.2 text/1.5 graphics 	<ul style="list-style-type: none"> 18 ppm text 17 ppm graphics 9600-by-2400-dpi maximum resolution
	▶ Bottom line: A large color LCD and two-sided printing make the well-designed iP6600D attractive, and it prints high-quality photos quickly.			
2	HP Photosmart 8250 \$200 find.pcworld.com/50540	85 Very Good	<ul style="list-style-type: none"> Text quality: Good Graphics/photo quality: Poor/Good Tested speeds (ppm): 5.7 text/2.5 graphics 	<ul style="list-style-type: none"> 32 ppm text 31 ppm graphics 4800-by-1200-dpi maximum resolution
	▶ Bottom line: Very fast at printing photos, the 8250 offers extensive software, but photo print quality was lower than on the other models.			
3	HP Photosmart 8050 \$149 find.pcworld.com/50538	83 Very Good	<ul style="list-style-type: none"> Text quality: Very Good Graphics/photo quality: Good/Very Good Tested speeds (ppm): 5.7 text/2.1 graphics 	<ul style="list-style-type: none"> 30 ppm text 24 ppm graphics 4800-by-1200-dpi maximum resolution
	▶ Bottom line: Includes impressive software and plenty of buttons. It employs multi-ink cartridges, however, and the LCD is small.			
4	Canon Pixma iP5200R \$229 find.pcworld.com/50530	83 Very Good	<ul style="list-style-type: none"> Text quality: Very Good Graphics/photo quality: Good/Superior Tested speeds (ppm): 8.4 text/2.9 graphics 	<ul style="list-style-type: none"> 30 ppm text 24 ppm graphics 9600-by-2400-dpi maximum resolution
	▶ Bottom line: Very good print quality and fast printing make the iP5200R versatile. It has Wi-Fi, though no media card slots or LCD.			
5	Epson Stylus Photo R340 \$199 find.pcworld.com/50536	81 Very Good	<ul style="list-style-type: none"> Text quality: Fair Graphics/photo quality: Fair/Superior Tested speeds (ppm): 2.0 text/1.6 graphics 	<ul style="list-style-type: none"> 15 ppm text 15 ppm graphics 5760-by-1440-dpi maximum resolution
	▶ Bottom line: The R340 prints top-notch photos, but slow print speeds and middling print quality on plain paper limit its versatility.			

CHART NOTES: Ratings and prices as of 12/28/05. Data based on tests designed and conducted by the PC World Test Center. All rights reserved.



Choose The Right Tool For The Job

The software for all your digital media needs!

Announcing Nero 7 Ultra Edition – The Ultimate Audio, Video, Photo, Data and TV Solution which meets all of your digital media needs. Nero 7 Ultra Edition is the only tool you need to complete the job right.

Whether you want to create audio playlists of your MP3s or entertaining slide-shows of your photos, edit your home videos, burn a backup of your DVDs*, convert your audio & video into state-of-the-art MPEG-4 (Nero Digital™) files, share your content on your consumer electronic devices or manage your media files with a click of your remote control, Nero 7 Ultra Edition is truly the only partner you need for today's digital home.



CREATE



EDIT



BURN



SHARE



ENJOY

Available at participating
retailers, including:



COMPUSA
AMERICA'S ALIVE TECHNOLOGY



Office
DEPOT

amazon.com

* Does not copy DVD with copy protection.

Go to find.pcworld.com/50196

www.nero.com

Device Elegantly Shares Music Through the Air

DIGITAL AUDIO

IF YOU'RE TIRED of having gigabytes of digital tunes languishing on a desktop PC far from where you listen to music on your stereo, check out Slim Devices' top-notch new \$300 **Squeezebox Wireless Network Music Player**.

Functionally identical to its predecessor, the Squeezebox2, the new version sports a fresh look. With its snazzy, upright design and improved display, the new Squeezebox sits in your entertainment center, or wherever else your sound system lives. To get it up and running, you simply install the free Slim Server software on your Linux-, OS X-, or Windows-based computer, and configure it using the

Web browser of your choice.

In my tests of a shipping 802.11b/g wireless unit, the device performed flawlessly (there's also a \$250 ethernet-only version). The screen is easy to read, and the unit responds nimbly to its simple, well-designed remote.

The device supports a dozen file formats, but (not unexpectedly) it chokes on files with proprietary DRM, such as those sold at the iTunes Music Store. The Squeezebox can tune in to thousands of commercial-free Internet radio stations and can download headlines from RSS feeds and scroll them across its multiple-line display.

I've had a first-generation Squeezebox for nearly two years, and it has become one of my favorite toys. The new Squeezebox is a fine evolution of a product that was so good in its 1.0 incarnation, I really can't understand why it hasn't been more widely copied by competitors.

—Matthew Newton



THE NEW SQUEEZEBOX
has an elegant design and sharp display.

Squeezebox Wireless Network Music Player

Slim Devices

PCW Rating **90** Superior

The smartest way to play your computer-based music anywhere in the house.

Street: \$300

find.pcworld.com/50686

PHOTOGRAPHS: MARC SIMON

WACOM

NEW! Wacom Graphire4

Have fun with your digital photos!

- Quickly and easily edit your digital photos with pressure-sensitive pen control
- Draw, paint, and create fun artwork for scrapbooks
- Comfortably jot notes, annotate documents, and communicate more personally
- Patented cordless, battery-free pen and mouse
- Includes Adobe Photoshop Elements 3 and more

Visit: www.WorldPhotoFun.com Call: 1.800.922.2589

From '99

graphire4

Intuos*
For the serious photographer, designer, and artist
Intuos3 starts at \$219

Cintiq*
Work directly on screen
Cintiq 21UX - \$2499



Watch for the Penabled logo to ensure you're getting the natural feel and superior performance of Wacom's patented cordless and battery-free pen technology.
©2006 Wacom Technology Corporation. Wacom, Graphire, Intuos, Cintiq, and Penabled are trademarks of Wacom Company Ltd. All rights reserved. All other trademarks are property of their respective owners.
All prices are U.S. estimated street prices. ExpressKey is a registered trademark of Ginsan Industries, Inc. and is used with permission.

Ovation Spruces Up PowerPoint Shows

PRESENTATION SOFTWARE

REGARDLESS OF YOUR line of work, someday you'll have to create a Microsoft PowerPoint presentation. Not everyone likes them, but everyone uses them, and Serious Magic's \$100 **Ovation** software can help make your presentations more visually interesting.

I tested a free beta version of the software (the final product will sell for \$100). To work with Ovation, you must use PowerPoint 2002 or later to create your presentations. First, from within Ovation's clean interface, you import your presentation. Using the Choose Look tab you can select from more than 100 preset combinations of backgrounds, colors, and text. You can add new still and motion graphics, too—a good way to spice up a boring slide.

I found some of Ovation's niftiest features under the program's Present tab, which lets you view a presenter-only

screen while the application displays the standard presentation to your audience. Here you can add a teleprompter-like index card for notes and preview your next slide for seamless segues.

A few aspects of Ovation's interface frustrated me. For example, I would have liked more template customization options and an easier way to insert images. Still, overall, my gripes are pretty minor. Mostly I found myself appreciating how visually interesting and polished the program made my existing PowerPoint presentations look.

—Melissa J. Perenson

Ovation

Serious Magic

Preproduction unit, not rated

This convenient, easy-to-use tool helps you make your PowerPoint presentations more interesting.

Street: Free beta; \$100 for final product

find.pcworld.com/50712

QUICK TAKE

Sony's Touch-Screen Camera

A BIG LCD ON a small camera often means fewer control buttons. But the LCD on Sony's new \$499 Cyber-shot DSC-N1 is a touch screen. This 8-megapixel camera's bright, 3-inch LCD lets you access features such as exposure, resolution, flash, and macro modes. Despite a few deficiencies—including

the absence of an optical viewfinder, and the display's susceptibility to fingerprint smudging—the DSC-N1 will appeal to casual shooters. find.pcworld.com/50664

—Grace Aquino



SUPERCHARGE YOUR SEARCH: USE PC WORLD'S FIND-IT SERVICE

The perfect little addition to your small network

The new Maxtor Shared Storage Drive is simply the easiest way to share up to 300GBs of music and work files across your small office or home network. You can share printers and drives, too. Our easy-to-use software automates setup and lets you set access privileges to keep folders private. And our exclusive Drag and Sort™ technology instantly organizes all files. Meet the ideal playmate for your small network at maxtor.com/share

Go to find.pcworld.com/46843

Available at Best Buy, CompUSA, Fry's, Microcenter, Office Depot, and Staples and online at CircuitCity.com, CompUSA.com, Frys.com, Microcenter.com, and TigerDirect.com

Maxtor

What do you want?

ADVANCED CAMERA

PCW Rating

1 Canon PowerShot G6
Best BUY \$579
find.pcworld.com/44872

86
Very Good

Bottom line: The chunky G6 won best in show by performing well in our

2 Olympus C-7070 Wide Zoom
Best BUY \$450
find.pcworld.com/48091

86
Very Good

Find quality information quickly and browse more efficiently with PC World's innovative Find-It service.

HOW IT WORKS

Click the [USE FIND.PC.WORLD.COM](http://USE.FIND.PC.WORLD.COM) button, located on every PCWorld.com page, and enter the five-digit Find-It number, or enter a Find-It URL (for example, find.pcworld.com/46300) in your browser.

PRODUCT INFORMATION

Find-It URLs are also specific to each ad, for a fast and easy way to get to the product information you want.

Don't waste your valuable time searching for the information you want. Use PC World's Find-It service.

PC WORLD

TECHNOLOGY ADVICE YOU CAN TRUST®

INSTANT MESSAGING SOFTWARE

Instant Messengers Grow Up and Go to Work

NO LONGER JUST a toy for teens, instant messaging has evolved into a powerful tool for work. We tested seven free IM software applications—newcomer Google Talk, universal IM clients Qnext and Trillian, and the Big Four of AOL Instant Messenger, ICQ, MSN Messenger, and Yahoo Messenger—to see how well they performed various business tasks. All conveyed text ably, and all promised Voice-over-IP telephony. Many had more exotic features as well.

Of the five programs that made our chart, Microsoft's MSN Messenger led the pack. We found this application's video smooth, though a little pale; its voice transmission was clear and noise-free. It

also permitted faster navigation than similarly full-featured programs did, thanks to an array of clear, identifiable icons.

Yahoo Messenger with Voice offers both a panoply of features and oodles of customization options. On the other hand, it also installs a Yahoo toolbar and other potentially unwelcome baggage by default. You may find its profusion of windows and cartoonish build-your-own-portrait avatars unduly distracting.

Google Talk takes the opposite approach. This public beta software, available to Gmail users only, provides just text messaging and VoIP telephony.



MSN MESSENGER delivers first-rate video quality and plenty of customization options.

We liked the clean interface and the snap-together contact and message windows, but felt no affection for the background buzz that marred our voice conversation.

The Qnext universal IM software can transfer messages over the AIM, ICQ, MSN, and Yahoo networks. Subscribers share photos and stream music in user-defined areas called Zones. This app employs 192-bit encryption on all peer-to-peer communications. It also provides remote-PC access and an on-the-fly spelling checker.

Cerulean Studios' free universal messenger, Trillian Basic, promises

connections to the Big Four, too. Its Wikipedia lookup function adds instant erudition to any conversation. Unfortunately, VoIP worked poorly.

AOL's ICQ provides spam control and AOL interoperability. Its VoIP sounded tinny, though, and video frequently acquired a blocky appearance. Worse, the program's many windows, inscrutable icons, and aggressive animated ads clutter the interface. These flaws kept it off the chart.

Because AOL will cease supporting AIM 5.9 by the end of 2006, we tested an AIM Triton beta as well. At test time, however, Triton appeared incomplete. AOL requested that the product not be ranked.

—Laura Blackwell

ONLINE

FOR ADDITIONAL information about the software applications reviewed in this article, including details on how we tested them, go to find.pcworld.com/50914.

	MESSAGING SOFTWARE	PCW Rating	Performance	Features and specifications
1	MSN Messenger 7.5 Editor's Free PICK find.pcworld.com/50526	89 Very Good	<ul style="list-style-type: none"> • Startup time: 7.5 seconds • Voice quality: Superior • Video quality: Very Good 	<ul style="list-style-type: none"> • Interoperability: None • E-mail integration: Hotmail • Security features: Security and privacy settings • Voice and video messaging
▶ Bottom line: Always-intelligible audio sets this easy-to-use IM client above the rest. You can check Hotmail from it, too.				
2	Qnext 2.1.0.46 Beta Free find.pcworld.com/50524	87 Very Good	<ul style="list-style-type: none"> • Startup time: 16 seconds • Voice quality: Good • Video quality: Good 	<ul style="list-style-type: none"> • Interoperability: AIM, ICQ, IRC, MSN, Yahoo • E-mail integration: None • Security features: Settings copied from networks • Voice and video messaging
▶ Bottom line: This universal messenger connects to major networks, and peer-to-peer Zones let Qnext subscribers share content.				
3	Google Talk Beta Free find.pcworld.com/50522	83 Very Good	<ul style="list-style-type: none"> • Startup time: 5 seconds • Voice quality: Good • Video quality: Not applicable 	<ul style="list-style-type: none"> • Interoperability: Jabber/XMPP • E-mail integration: Gmail • Security features: Gmail address required • Voice messaging
▶ Bottom line: Simple design and speedy startup make this basic client easy to use. Works with Jabber/XMPP-based clients.				
4	Yahoo Messenger With Voice, version 7.0.043 Free find.pcworld.com/50514	82 Very Good	<ul style="list-style-type: none"> • Startup time: 8 seconds • Voice quality: Fair • Video quality: Good 	<ul style="list-style-type: none"> • Interoperability: None • E-mail integration: Yahoo • Security features: Privacy alerts • Voice and video messaging
▶ Bottom line: Features and customization options abound in this fast-loading client, as do program windows and bundled software.				
5	Trillian Basic 3.1, build 121 Free find.pcworld.com/50516	75 Good	<ul style="list-style-type: none"> • Startup time: 14 seconds • Voice quality: Poor • Video quality: Good 	<ul style="list-style-type: none"> • Interoperability: AIM, ICQ, IRC, MSN, Yahoo • E-mail integration: AOL, Hotmail, Yahoo • Security features: Settings copied from networks • Voice messaging
▶ Bottom line: Tabbed interface lets you track different conversations on several networks. Wikipedia lookup adds context.				

CHART NOTES: Ratings are as of 12/28/05. Versions are those most recently available as of 11/10/05.

IT ALERT:

Need scalable storage solutions today?

You can make IT happen with Insight.

Access to certified systems engineers

Leading technology products

Leasing programs
to fit your budget

Insight

IT For The Way You Work™

www.INSIGHT.com/PCWorld

Real Insight. Real Solutions. Real Affordable.

800.998.8054



BELKIN® SMB CAT5 KVM Switch
#F1DP108A

- 8-port, 1U rack-mountable
- Supports PS/2 and USB platforms
- Daisy-chain up to 16 switches
- 5-year warranty



Symantec™

Upgrade now to the **NEW Backup Exec™** version 10d with Continuous Protection and eliminate your backup window!



APC® Smart-UPS RM 1500VA
#SUA1500RM2U

- 7.4-minute average run time (full load)
- Automatic Voltage Regulation (AVR)
- Built-in SmartSlot

Wireless Nikon P1 Fails to Connect

DIGITAL CAMERA

AFTER TESTING THE \$549 Nikon Coolpix P1—the second wireless-capable digital camera that we've seen—I'm rethinking my hostility toward wires. Though it works okay as a camera, the Coolpix P1 was extremely frustrating to operate as a wireless device.

Nikon's wireless setup util-

ity is straightforward: You set up a profile (including a WEP key) on your PC, and then upload the profile to the camera via a USB connection.

In principle that method is great, but I tried it with two different shipping versions of the Coolpix P1, four different computers, and two separate network routers—and never managed to get a successful connection. The Nikon tech support rep whom I talked to (at great length) on the phone even told me, "Nobody gets it right their first time."

A colleague finally succeeded in connecting it wire-



NIKON'S WIRELESS Coolpix P1.

lessly to his laptop, but we concluded that doing so isn't worth the trouble, since the Coolpix P1 can transfer images only to a computer or wireless printer connected to the same network as the P1.

The 8-megapixel Coolpix earned a Very Good score for image quality in our lab tests, with high marks for sharpness but only middling scores

for color reproduction. You do get lots of controls, including aperture-priority mode, but no shutter-priority or full-manual mode.

I could grow to like the P1 if it ditched the wireless and dropped the price. But as it is, I'll stick to moving images the old-fashioned way.

—Alan Stafford

Coolpix P1

Nikon

PCW Rating **69 Fair**

WiFi—even when it works—doesn't add much to this camera.

Street: \$549

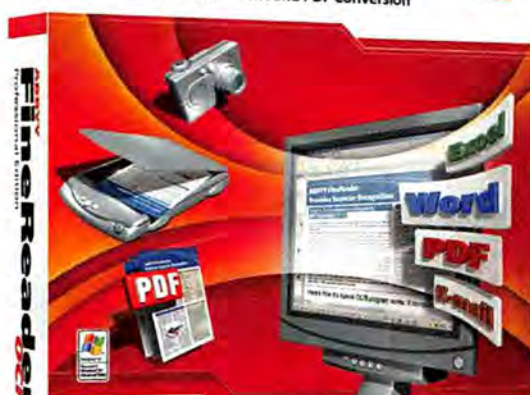
find.pcworld.com/50544

PHOTOGRAPH: MARC SIMON

Award-Winning OCR and PDF Conversion

The Intelligent OCR

World Leader in Document and PDF Conversion



ABBY

FineReader 8.0

Professional Edition

The New ABBY FineReader 8.0

- Turn Paper Documents to Word, Searchable PDF, E-mail and more
- Open and Convert PDFs to Editable Documents
- Faster PDF Conversion – up to 2X Faster
- Extremely Accurate with Impeccable Layout Retention
- Up to 30% Increased Accuracy on Faxes and Low Resolution Images
- Digital Camera OCR – Capture Documents on-the-go
- Instant OCR with Screenshot Reader

“ If you are looking for a fast, reliable optical character recognition application that can convert a range of paper documents into editable and searchable text, Abby's ... FineReader 8.0 professional Edition won't let you down ”

PCW Rating **93 Superior**

PC World, January 2006



www.FineReader8.com

ABBY USA Software House, Inc. 47221 Fremont Blvd, Fremont, CA 94538
510-226-6717 www.ABBY.com sales@abbyusa.com



ABBY - Defining Recognition

Go to find.pcworld.com/50210

Flexibility to power the enterprise.



From mail servers to databases, ZT X9000 series servers powered by the 64-bit Intel® Xeon™ Processor can run the full range of 32-bit applications and offer extended flexibility for your 64-bit needs. So you can create powerful, all-purpose IT infrastructure that enhances business agility – and the bottom line.



ZT Optimum 1U Server X9535

- Intel® Xeon™ Processor 3.20 GHz (2MB L2 Cache, 3.20 GHz, 64bit, 800MHz FSB)
- Intel® E7320 Chipset Server Board
- 1GB ECC Registered DDR 333 SDRAM (Up to 16GB)
- 4 x Seagate® 250GB SATA Hard Drive (Total 1TB Storage)
- 4 x 1" Hot-swap SATA Drive Bays
- 4 Channel High Performance SATA Controller (RAID 0, 1, 5, 10, JBOD Support)
- Slim CD-ROM & Slim Floppy Drive
- Integrated 2-port SATA Controller (RAID 0, 1 Support)
- Integrated Marvell 4-port SATA Controller (RAID 0, 1, JBOD Support)
- 2 x Intel® 10/100/1000 Gigabit Network Controller
- 1U Rackmount Chassis w/ 500W Cold-swap Power Supply
- Super Doctor III Server Management Software
- 3-Year Limited Warranty

\$2,599

ZT Optimum 2U SAS Server X9543

- Dual Intel® Xeon™ Processors 3 GHz (2MB L2 Cache, 3 GHz, 64bit, 800MHz FSB)
- Intel® E7520 Chipset Server Board
- 1GB ECC Registered DDR 333MHz SDRAM (Up to 16GB)
- 1 x Seagate® 36GB 15,000rpm SAS Hard Drive (0/5)
- 3 x Seagate® 73GB 15,000rpm SAS Hard Drive (Raid 5)
- 6 x 1" Hot-swap SAS Drive Bays
- 16x DVD-RW & Floppy Drive
- 64bit High Performance SAS RAID Controller
- 2 x Intel® 82541GI Single Port Gigabit Controller
- 2U Rackmount Chassis w/ 550W Power Supply
- Super Doctor III Server Management Software
- 3-Year Limited Warranty

\$3,999

ZT Optimum 4U SAS Server X9545

- Intel® Xeon™ Processor 3 GHz (2MB L2 Cache, 3 GHz, 64bit, 800MHz FSB)
- Intel® E7520 Chipset Server Board
- 1GB ECC Registered DDR2 400MHz SDRAM (Up to 16GB)
- 2 x Seagate® 73GB 15,000rpm SAS Hard Drive (Raid 1 for 0/5)
- 3 x Seagate® 250GB 7,200rpm SATA Hard Drive (Raid 5 for Data)
- 8 x 1" Hot-swap SAS / ESATA Drive Bays
- 64bit High Performance SAS / ESATA RAID Controller
- 16x DVD-RW & Floppy Drive
- 2 x Intel® 82541PI Single Port Gigabit Controller
- 4U Rackmount Chassis w/ 650W Redundant-Cooling Power Supply
- Super Doctor III Server Management Software
- 3-Year Limited Warranty

\$3,499

Free 3-5 DAY SHIPPING !

With purchased of select business servers.
For a limited time only. \$19 handling charge applied.
Call or go online to eligible servers

Go to
Call

ztgroup.com/go/pcworld
866-ZTGROUP (866-984-7687)

Promote code: PW0206



Purchaser is responsible for all freight costs on all returns of merchandise. Full credit will not be given for incomplete or damaged returns. Absolutely no refunds for merchandise returned after 30 days. All prices and configurations are subject to change without notice and obligation. Opened software is non-refundable. All returns have to be accompanied with an RMA number and must be in re-sellable condition including all original packaging. System's picture may include some equipments and/or accessories, which are not standard features. Not responsible for errors in typography and/or photography. All rights reserved. All brands and product names, trademarks or registered trademarks are property of their respective companies. Intel, Intel logo, Intel Inside, Intel Inside logo, Intel Centrino, Intel Centrino logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium, Pentium, and Pentium III Xeon are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

Go to find.pcworld.com/50205

Apple Adds More Fun to the iMac

DESKTOP

APPLE HAS LOWERED the price, bumped up the speed, and enhanced the features of its sleek-looking 20-inch iMac

G5. The result is an all-in-one desktop computer that works better with media and costs less than its predecessor; but like that unit, it falls short of being a full-fledged media PC because it doesn't have a built-in TV tuner.

I tested a shipping version of the updated, 20-inch iMac. Equipped with a 2.1-GHz processor (the prior model had a 2.0-GHz CPU), 512MB of DDR2 RAM, a 250GB hard drive, and a DVD+RW double-layer drive, the \$1699 system delivered crisp performance, and the 20-inch wide-screen display looked very sharp. Audio from the built-in speakers, on

the other hand, was average.

Aside from having a slightly thinner build, this iMac differs from its predecessor in three significant ways.

First, Apple added an iSight Webcam—third-eye style—at the front of the iMac. In my tests, the camera provided reasonably smooth videoconferencing capabilities.

Second, Apple introduced a Photo Booth app that lets you use the camera to take photos of yourself (complete with a screen-based fill flash) to use in things like e-mail notes and instant messaging.

Finally, Apple bundled a new iPod Shuffle-size infrared remote control that works

with the new Front Row entertainment software. To activate Front Row, you hit the Menu button on the remote; this brings up a screen with four icons (Videos, Music, Photos, and DVD).

Despite my disappointment over the lack of a TV tuner, I think the 20-inch iMac is a cool desktop with a nice set of features, an attractive design, and a reasonable price.

—Narasu Rebbapragada



APPLE'S LATEST iMac includes a multimedia remote control.

iMac G5

Apple

PCW Rating **77** Good

This beautiful 20-inch wide-screen all-in-one combines entertaining multimedia features and a good price.

Street: \$1699

find.pcworld.com/50690

When it Comes to Backing Up We're Out in Front

Most companies spend their time trying to think of ways to get ahead. At Apricorn, we spend our time thinking of better ways to back up. Since 1983, Apricorn has been a pioneer in personal storage for the mobile computing world. In fact, some of the world's top computer manufacturers have sold Apricorn storage devices under their brand names.

Our innovative engineers design all of our solutions with the user's convenience in mind. Whether it is designing the EZ Bus Mini with a convenient integrated USB cable, or including an award winning software bundle to backup, encrypt or synchronize your data, Apricorn has the solution to your storage needs. Check out our full line of innovative storage products online at www.apricorn.com



EZ Bus Desktop
Up to 400GB



EZ Bus
Up to 120GB



EZ Bus Mini
Up to 60GB



MicroKey
Up to 8GB



www.apricorn.com/pcworld 800-720-0912

When you need just one.

This could be label Nirvana. The new, stylish and quick, **Smart Label Printer**, from **Seiko Instruments**. Stop wasting time trying to hand feed label sheets to your standard printer. Pick up the new Smart Label Printer and you'll have everything you need to print labels easily, one at a time. Just like you want them, when you want them. No ink, toner, or complicated software to mess with. Plug the SLP into your PC, connect to the built-in USB or Serial port and you're ready to print.

With three great models to choose from, you're sure to find the Smart Label Printer that's just right for you.

Call **800-688-0817** or see the new Smart Label Printers online at www.siibusinessproducts.com.

SII 

Seiko Instruments USA Inc.

SII 

Smart Label Printer
420



© 2005 Seiko Instruments USA Inc. All rights reserved. "Smart Label Printer" is a registered trademark of Seiko Instruments USA. "SII" is a registered trademark of Seiko Instruments Inc. All other brands and trademarks are the property of their respective companies.

Go to find.pcworld.com/49936

More Reviews at PCWorld.com

SHORT LIST: BLOGS

Blogs That Show and Tell



THERE IS NO greater waste of bandwidth than a boring blog. The best way to keep your blog audience's attention is by adding sound, photos, and video. Here's how to get started.

—Dennis O'Reilly, Senior Associate Editor



WEB SITE

Audioblog.com, street: \$5 per month
find.pcworld.com/50642

This low-cost service lets you quickly record audio and video podcasts, which you can then publish to a blog or RSS feed.



WEB SITE

Yahoo! 360° beta, street: free but registration required
find.pcworld.com/50646

This Yahoo service lets you create blogs with music, photos, and some Yahoo content. You control who views your blog.



PHOTO SOFTWARE

Picasa 2, street: free
find.pcworld.com/50650

A photo organizer and editor, Google Picasa also includes a Blog This button that lets you post your pics right to your blog.

SHORT LIST: STORAGE

My Three Drives

THESE THREE DEVICES provide fast full system backups, a spacious centralized home for shared files, and off-site protection for irreplaceable data in case of flood or fire.

— Rex Farrance, Senior Technical Editor



EXTERNAL HARD DRIVE

CMS 400GB Velocity Automatic Backup System,
 street: \$299 find.pcworld.com/50960



This external SATA speedster is a steal at \$299 and has all you need to automatically back up your whole system.

NETWORK HARD DRIVE

Western Digital NetCenter, street: \$330
find.pcworld.com/50962



This networked drive makes up to 320GB of photos, music, and references—and even a printer—available to any PC.



ONLINE BACKUP SERVICE

Acpana's Data Deposit Box, street: \$0.01 per MB
find.pcworld.com/50652



This application/service combo automates offsite backups of specified data, allowing you to pay only for what you use.

ONLINE EXTRAS

PCs, Phones, and More

POINT YOUR BROWSER TOWARD PC World's Web site for the latest reviews, including looks at these notable products.

Dell Dimension XPS 600

Street: \$5024

find.pcworld.com/50486

Powerful, stylish, and expensive system comes loaded with storage, a TV tuner, and dual graphics boards; however, it won't suit the hard-core gamer since it's not easily expandable.



BullGuard Internet Security

Street: \$60 (1GB online storage)

find.pcworld.com/50656



BullGuard takes the best antivirus engine it can find (right now, that's BitDefender), wraps it in an easy-to-use interface, adds ample online file storage, and provides 24/7 e-mail and chat support.

LG VX9800

Street: \$300 (with two-year Verizon contract)

find.pcworld.com/50654

Keyboard-equipped phone supports Verizon's fast EvDO data network and has a camera.



BEHIND THE RATINGS



ONLINE REVIEWS REINVENTED: Our online product reviews now feature dynamic PCW Ratings that reflect technology changes, features, and price updates. If a product is still under consideration for review, its rating and ranking may move up or down. We've also added deeper Test Reports and powerful new tools that allow you to customize our charts to your tastes. And try out our newest feature: Complete Product Listings. Unlike our Ranked Charts, which are a snapshot of today's best products, our Complete Product Listings contain all the products we've recently reviewed. Even better, you can now use robust sorting and filtering tools to create the chart you want. Check out our revamped reviews at find.pcworld.com/50858.



Best Buy awards go to hardware, software, and services in our ranked charts and other product comparisons that deliver outstanding quality and value.



TEST Center The PC World Test Center formally tests all products designated with this icon. For more on how we test specific products, visit find.pcworld.com/49974.

Fast. Mobile. Drop Dead Cool.

Alienware recommends
Microsoft® Windows® XP

AREA-51® m5700

Microsoft® Windows® XP Professional with Service Pack 2
Up to Intel® Pentium® M 780 (2.26 GHz, 2 MB Cache, 533 MHz)
NVIDIA® GeForce™ Go 6800 with 256 MB
Up to 2 GB Dual Channel DDR2 S0-DIMM at 533 MHz
Up to 240 GB (120 GB x2) 5400 RPM Hard Drive
17" Wide Screen LCD with ClearView® Technology
Up to 8x Dual Layer DVD ± RW Optical Drive

Starting at \$1,099 (After \$100 Rebate)



AREA-51 m7700

AREA-51 m5700

AREA-51 m5500

SENTIA m3200

SENTIA™ m3200

Microsoft® Windows® XP Professional with Service Pack 2
Up to Intel® Pentium® M 760 (2.0 GHz, 2 MB Cache, 533 MHz)
Intel Graphics Media Accelerator (900)
Up to 1 GB Dual Channel DDR2 S0-DIMM at 533 MHz
Up to 120 GB 5400 RPM Hard Drive
12.1" Wide Screen LCD with ClearView® Technology
Up to 8x Dual Layer DVD ± RW Optical Drive

Starting at \$899 (After \$100 Rebate)

ALIENWARE
HIGH-PERFORMANCE SYSTEMS

(254-3692)

www.alienware.com/pcworld

1.800.ALIENWARE



Intel, Intel Inside, Intel Inside logo, Intel Centrino and Intel Centrino logo are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. Alienware, Alien head logo, Alienware High Performance logo, Area-51, Sentia, are trademarks, and/or registered trademarks of Alienware Corporation. All other trademarks are property of their respective owners. Alienware can not be held responsible for errors in photography or typography. Prices, configurations, and availability may change without notice. Taxes and shipping charges not shown.

INSTANT SAVINGS. LASTING SUPPORT.

With HP, up to three years of superior, round-the-clock
service and support come standard.¹³



HP recommends Windows® XP Professional.

HP COMPAQ BUSINESS DESKTOP dc7600

\$839

Lease for as low as
\$23 per month for
51 months¹

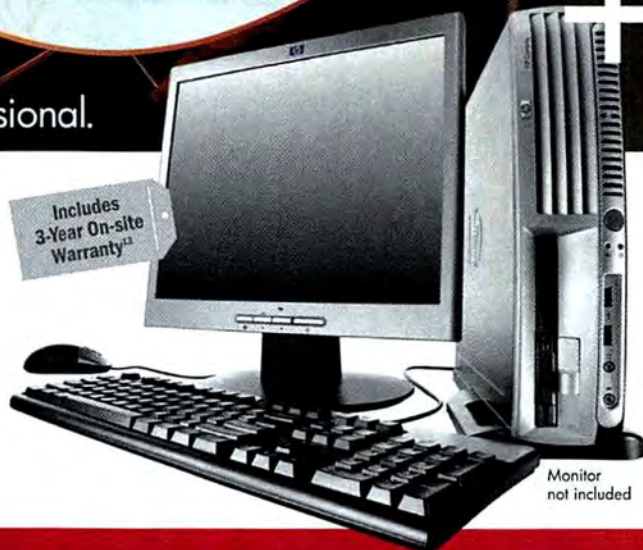
\$159 Instant Savings
(\$998 - \$159 Instant Savings = \$839)²

- Intel® Pentium® 4 Processor 630⁴ with HT Technology (2MB L2 Cache, 3GHz, 800MHz FSB)⁵
- Microsoft® Windows® XP Professional
- 512MB 533MHz DDR2
- 80GB SATA 3.0Gb/s S.M.A.R.T. III Hard Drive⁷
- MultiBay 24X CD-ROM Drive¹¹
- Integrated Broadcom NIC
- ADD2 DVI adapter
- Three-year on-site limited warranty¹³

GET EVEN MORE:

- 9 x 5, 4-hour Response On-Site Coverage, 3 Years, Add \$159 (CPU only)¹³
- L1506 15" TFT Flat Panel Display, Add \$219

Includes
3-Year On-site
Warranty¹³



Monitor
not included

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. Reseller prices may vary. Photography may not accurately represent exact configurations priced. Associated values represent HP published list price. 1. Lease products are available through Hewlett-Packard Financial Services Company (HPFSC) or one of its affiliates to qualified commercial customers in the U.S. and are subject to credit approval and execution of standard HPFSC documentation. Offer valid on all transactions greater than \$349 through 2/28/06. Other fees and restrictions may apply; please visit www.hp.com/go/HPFinancialServices. HPFSC reserves the right to change or cancel this program at any time without notice. 2. Instant savings and mail-in rebate offers are valid through 2/28/06 on qualifying HP Compaq dc7600 desktops, HP ProLiant ML310 G3 servers, HP Compaq tc4200 tablet PCs, HP Officejet Pro K550 printers and HP nx4300 workstations from HP Direct and participating HP resellers. 3. Compared to color laser and inkjet printers under \$500. Based on fastest rated speeds as published by manufacturers as of 5/05. Test methods vary. 4. Intel's numbering is not a measurement of higher performance. 5. The Hyper-Threading feature is designed to improve performance of multi-threaded software products; please contact your software provider to determine software compatibility. Not all customers or software applications will benefit from the use of Hyper-Threading. Go to <http://intel.com/info/hyperthreading> for more information. 6. Wireless access point is required and is not included. Wireless Internet use requires separately purchased Internet service contract. Availability of public wireless access points limited. 7. For hard drives, GB=billion bytes. 8. 24X DVD/CD-RW Combo Drive data transfer rates may vary as follows: for recording to CD-R media, for writing to CD-RW media, for reading CD media, max transfer rate may be up to 3600 Kbps; for reading DVD media, may be up to 10,800 Kbps. Actual transfer rates may vary depending on media quality. 9. Wireless performance is dependent upon physical environment and distance from the access point. 10. 48X, 32X CD-RW Drive data transfer rates may vary as follows: for recording to CD-R media, the max transfer rate may be up to 7200 Kbps (use 48X discs for best performance); for writing to CD-RW media, the max transfer rate may be up to 4800 Kbps (use 32X high-speed media discs for best performance); for reading CD media, the max transfer rate may be up to 7200 Kbps. Actual transfer rates may vary depending on media quality. 11. One-year limited warranty for parts, labor and next-business-day support. 12. Three-year limited warranty for parts, labor and next-business-day support. For on-site coverage, terms and conditions apply. For more details, go to <http://www.hp.com/hps/barepack>. Microsoft and Windows are registered trademarks of Microsoft Corporation in the United States and/or other countries. Intel, Intel Logo, Intel Inside, Intel Inside Logo, Intel Centrino, Intel Centrino Logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. ©2005 Hewlett-Packard Development Company, L.P.

HP delivers great prices backed up by incredible service and support. Like all our featured desktops and workstations, the HP Compaq Business Desktop dc7600, powered by the Intel® Pentium® 4 Processor with HT Technology, is backed by our three-year, next-business-day, on-site support.¹³ Which means if an issue can't be resolved over the phone, we'll send a replacement part or schedule an on-site visit for the next business day. So you can keep your costs down without worrying about downtime. Yet another reason to consider the HP Smart Office Portfolio.



\$999

Lease for as low as \$27 per month for 51 months¹

HP COMPAQ NOTEBOOK nx6110

\$225 Instant Savings

(\$1,224 - \$225 Instant Savings = \$999)²

- Intel® Centrino® Mobile Technology
- Intel® Pentium® M Processor 740⁴ (2MB L2 Cache, 1.73GHz, 533MHz FSB)
- Intel® PRO Wireless 2200BG⁶
- Microsoft® Windows® XP Professional
- 15" XGA Display
- 512MB DDR 333MHz (2 DIMM)
- 40GB Hard Drive⁷
- 24X DVD/CD-RW Combo Drive⁸

GET EVEN MORE:

- Next-Business-Day On-site Coverage, 3 Years, Add \$199¹³
- HP Common Travel Battery, Add \$129



\$1,099

Lease for as low as \$30 per month for 51 months¹

HP WORKSTATION xw4300 \$410 Instant Savings

(\$1,509 - \$410 Instant Savings = \$1,099)²

- Intel® Pentium® 4 Processor 640⁴ with HT Technology⁶ (2MB L2 Cache, 3.20GHz, 800MHz)
- Microsoft® Windows® XP Professional
- 1GB 533MHz DDR2 EEC⁷
- 80GB SATA 3.0Gb/s S.M.A.R.T. III Hard Drive⁸
- 48X/32X CD-RW/DVD Combo Drive¹¹
- NVIDIA® Quadro NVS 285 128MB PCIe graphics
- Three-year on-site limited warranty¹³

GET EVEN MORE:

- 9 x 5 4-hour response, 3 Years, add \$199 (CPU only)¹³
- L1755 17" Flat Panel Display, add \$319



\$1,349

Lease for as low as \$36 per month for 51 months¹

HP COMPAQ NOTEBOOK nx9600

\$256 Instant Savings

(\$1,605 - \$256 Instant Savings = \$1,349)²

- Intel® Pentium® 4 Processor 630⁴ with HT Technology (1MB L2 Cache, 3GHz, 800MHz FSB)
- Microsoft® Windows® XP Professional
- Broadcom Wireless 802.11b/g⁶
- 17" WXGA+WVA Display
- 512MB DDR2 400MHz (1 DIMM)
- 80GB Hard Drive⁷

GET EVEN MORE:

- Next-Business-Day On-site Coverage, 3 Years, Add \$199¹³
- Universal Roller Case, Add \$99



\$718

Lease for as low as \$20 per month for 51 months¹

HP PROLIANT ML310 G3 SERVER

\$100 Instant Savings

(\$818 - \$100 Instant Savings = \$718)²

- Intel® Celeron® D Processor (256KB L2 Cache 2.66GHz, 533MHz FSB)
- 512MB PC2 4200 DDR II SDRAM
- 80GB SATA Hard drive⁷
- Integrated 4-port SATA controller with RAID 0,1
- Integrated Lights-Out (iLo) Standard Management (embedded), HP Systems Insight Manager[™] and SmartStart[™]
- One-year next-business-day on-site limited warranty¹²

GET EVEN MORE:

- Three-year on-site limited warranty, Add \$199¹³
- DAT 40 USB external tape drive, add \$699



\$1,549

Lease for as low as \$42 per month for 51 months¹

HP COMPAQ tc4200 TABLET PC

\$184 Instant Savings

(\$1,733 - \$184 Instant Savings = \$1,549)²

- Intel® Centrino® Mobile Technology
- Intel® Pentium® M Processor 740⁴ (2MB L2 Cache, 1.73GHz, 533 MHz FSB)
- Intel® PRO Wireless 2200BG⁶
- Microsoft® Windows® XP Professional
- 12.1" XGA Display
- 512MB DDR2 400MHz (1 DIMM)
- 40GB Hard Drive⁷

GET EVEN MORE:

- Next-Business-Day On-site Coverage, 3 Years, Add \$149¹³
- HP Docking Station, add \$149



\$199

HP OFFICEJET PRO K550 PRINTER

- World's fastest desktop color printer for business³
- Laser-quality speeds—up to 12 ppm black, up to 10 ppm color

SMART ADVICE > SMART TECHNOLOGY > SMART SERVICES

Try it FREE for 30 days.

SMART DESKTOP MANAGEMENT SERVICE
Our integrated business protection and security solution.

Call **877-346-3998**

Click **hp.com/go/mag6**

Contact **your local reseller**



THE BIG HOSTIN

Compare 1&1 with other companies and you'll see that not all web hosts are created equal. You want **the most web for your money**, so you need a web hosting specialist. 1&1 focuses all its resources on bringing you the most complete hosting packages at some of the best prices in the industry.

It's official: the gloves are off! With **4 million customers** and more than a decade of web hosting experience, 1&1 stands head-to-head with all the industry heavyweights. **Compare for yourself and see why 1&1 is the world's #1 web host.**



HERE'S WHY 1&1 IS THE CLEAR WINNER IN WEB HOSTING:

- ✓ Named 2004 Hosting Growth Leader by Netcraft
- ✓ Over 15 years of industry experience
- ✓ Unsurpassed connectivity
- ✓ World's largest web host according to Netcraft
- ✓ Innovative web applications
- ✓ One-stop shop for all your website needs
- ✓ More than 5 million domains and 4 million customers worldwide
- ✓ 200 in-house programmers
- ✓ 24/7 toll-free phone & e-mail support

Netcraft Ltd - www.netcraft.com

1.877.GO1AND1

G SHOWDOWN

1&1 – THE BEST HOSTING PACKAGES

**FREE
DOMAINS
INCLUDED**



	1&1	YAHOO!	Go Daddy
	HOME	STARTER	DELUXE
Price per month	\$4⁹⁹	\$11⁹⁵	\$9⁹⁵
Included Domains	2	1	0
Web Space	10,000 MB	5,000 MB	10,000 MB
Monthly Transfer Volume	500 GB	200 GB	500 GB
E-mail Accounts	1,000 IMAP or POP3	200 POP3	1,000 POP3
Mailbox Size	2,000 MB	2,000 MB	10 MB
Website Builder	12 pages	✓	—
Photo Gallery	✓	✓	✓
Dynamic Web Content	✓	✓	—
Web Statistics	✓	✓	✓
Chat Channels	✓	—	✓
Database	25 MySQL (Linux)	MySQL support	25 MySQL (Linux)
Search Engine Tools	✓	Extra charge applies	Extra charge applies
PHP Support (Linux)	✓	✓	✓
Perl Support (Linux)	✓	✓	✓
Software suite (\$600 value)	✓	—	—
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

Plus \$1.99
per year with
non-domain purchase
from Go Daddy

You'll pay
from **\$29.95** per year
additional with
Go Daddy

VALUE

**1&1 delivers
the best value
for your money!**

© 2005 1&1 Internet Inc. All rights reserved. Prices based on a comparison of regular prices effective 12/01/2005. Product and program specifications, availability, and pricing subject to change without notice. Visit 1and1.com for details. Go Daddy is a registered trademark of Go Daddy Software, Inc.; Yahoo! is a registered trademark of Yahoo! Inc.

FOR MORE DETAILS VISIT **1AND1.COM**
Go to find.pcworld.com/50207

1&1

THIN AIR

INTO

Wireless solutions from Buffalo Technology set new standards for affordability, performance, and ease-of-use.

The wireless network solution that St. Joseph's Hospital of Huntingburg, Ind., needed had to meet some pretty tough requirements. The solution had to be highly secure due to the sensitive patient information it would carry. It had to be robust to handle the communications of healthcare professionals working both inside and outside the hospital. And the solution had to be affordable and easy to maintain.

The answers to this extensive wireless wish list came from Buffalo Technology (www.buffalotech.com). St. Joseph's deployed numerous Buffalo AirStation Access Points throughout the hospital; Buffalo client cards on laptops; and AirStation Indoor Omni Directional Antennas to boost signal strength.

The result, according to hospital executives, was a "cost-effective, highly secure solution that allows us to rapidly register patients, be extremely mobile, and keep patient information protected and accurate."

An Unbeatable Value Proposition

Whether you are a 300-employee organization like St. Joseph's, a small business, or even an individual consumer looking to install your first wireless network or upgrade an existing one, Buffalo Technology has world-class solutions for you.

Leveraging three decades of experience, products from Buffalo Technology offer a value proposition based on ease of use, low total cost of ownership, and superb performance.

The award-winning AirStation products favored by St. Joseph's offer customers a complete wireless LAN solution. The AirStation line includes the vaunted AirStation One-Touch Secure System (AOSS) that provides a bulwark against security breaches with just the touch of a button. As

AOSS devices are added, security is rendered at the highest possible level for all devices on the network.

For fast-growing organizations and for those seeking to equip an entire building or small campus, Buffalo Technology provides its ultra-affordable AirStation Access Points. Knowing that no two users share the same network requirements, Buffalo Technology produces routers and access points that maximize flexibility and varying frequency speeds to allow for

optimal network customization. The new AirStation Turbo G High Power Wireless Cable/DSL Smart Router is uniquely equipped with a built-in signal amplifier. This slick device produces an impressive 60% increase in wireless transmit power compared with a standard 802.11g wireless router.

Buffalo Technology AirStation Wireless Client Adapters are fully compliant with both 802.11b and 802.11g standards. The complete line of these

The AirStation Turbo G High Power Wireless Smart Router produces a true 60% increase in wireless transmit power over a standard 802.11g wireless router.



adapters includes CardBus notebook adapters, desktop PCI adapters, USB 2.0 adapters, and a plug-and-play wireless Ethernet converter that can be set up with a bare minimum of effort. The new High Power Wireless Notebook Adapter gives users a 35% increase in wireless transmit power compared with a standard 802.11g notebook adapter, and extends the range of 802.11g client devices up to a whopping 70% as well as boosts performance by up to 50%.

Bringing a Smile to Comics Company

It was many of these capabilities above that Portland, Ore.-based Dark Horse Comics sought. The company was looking for a seamless, affordable yet robust solution to its wireless needs for its 100 employees. As the company expanded into new space, Dark Horse wanted to add more IP phones, but couldn't do so without the major expense of running costly fiber lines.

Dark Horse ended up choosing a pair of AirStation 54 Mbps Wireless Broadband Routers installed in "Bridging Mode" at both its locations. With an ultra-fast and easy setup guide, Dark Horse installed the routers in 10 minutes—fully configured. Now users at the two locations communicate seamlessly and in a cost-effective way, while both IP telephone signals and computer data pass securely and without interruption across an invisible bridge.

■ To find out more about the exciting and innovative products of Buffalo Technology, visit www.buffalotech.com.



Eliminate dead spots and connect faster with the AirStation Turbo G High Power Wireless Notebook Adapter.

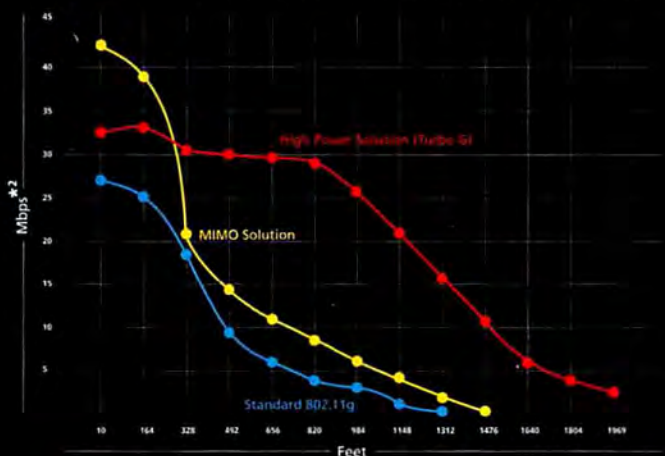
Bring Dead Spots Back to Life!

HIGH POWER

TURBO G Wireless

5^x Further & **50%** faster than Standard 802.11g. **3.5^x** Further than MIMO Solutions.*¹

Tired of hitting "dead spots" in your wireless network? Buffalo Technology's **Turbo G High Power** Wireless Solutions bring those dead spots back to life! Now you can go places you never could with standard 802.11g devices. With an effective **outdoor range** of up to **2000ft.**, connecting in the bedroom or office down the hall should be no problem.*² Whether you're upgrading your wireless LAN or just getting started, the Turbo G High Power Wireless Solutions provide the perfect answer for those who need **Speed, Performance and Value**. Bring dead spots to life while enjoying faster connections and extended range.



WHR-HP-G54
Wireless Smart Router

WLI-CB-G54HP
Wireless Notebook Adapter

WLI-TX4-G54HP
Wireless Ethernet Converter

Great for Wireless Online Gaming!

Fry's
ELECTRONICS

J&R
800 806 1115

MICRO CENTER
The Ultimate Computer Store

Buy.com

ebuyer
www.ebuyer.com

TigerDirect.com
The Best Computer Deals. Anywhere.

BUFFALOTM

Learn more www.buffalotech.com/pcworld1

© 2005 Buffalo Technology (USA), Inc. Buffalo Technology, Buffalo Technology logo and AOSS logo are registered trademarks of Buffalo Technology (USA), Inc. The names and logos of other companies mentioned herein belong to their respective owners. Products tested: High Power solution (WHR-HP-G54, WLI-CB-G54HP), MIMO Solution (WZR-G108, WLI-CB-G108), Standard 802.11g (WBR2-G54, WLI-CB-G54S).
*¹ Based on Buffalo Technology internal testing results. Products tested: High Power solution (WHR-HP-G54, WLI-CB-G54HP), MIMO Solution (WZR-G108, WLI-CB-G108), Standard 802.11g (WBR2-G54, WLI-CB-G54S).
*² Wireless networking speed and distance will vary depending on environment.

Go to find.pcworld.com/49910

New, Improved WEB

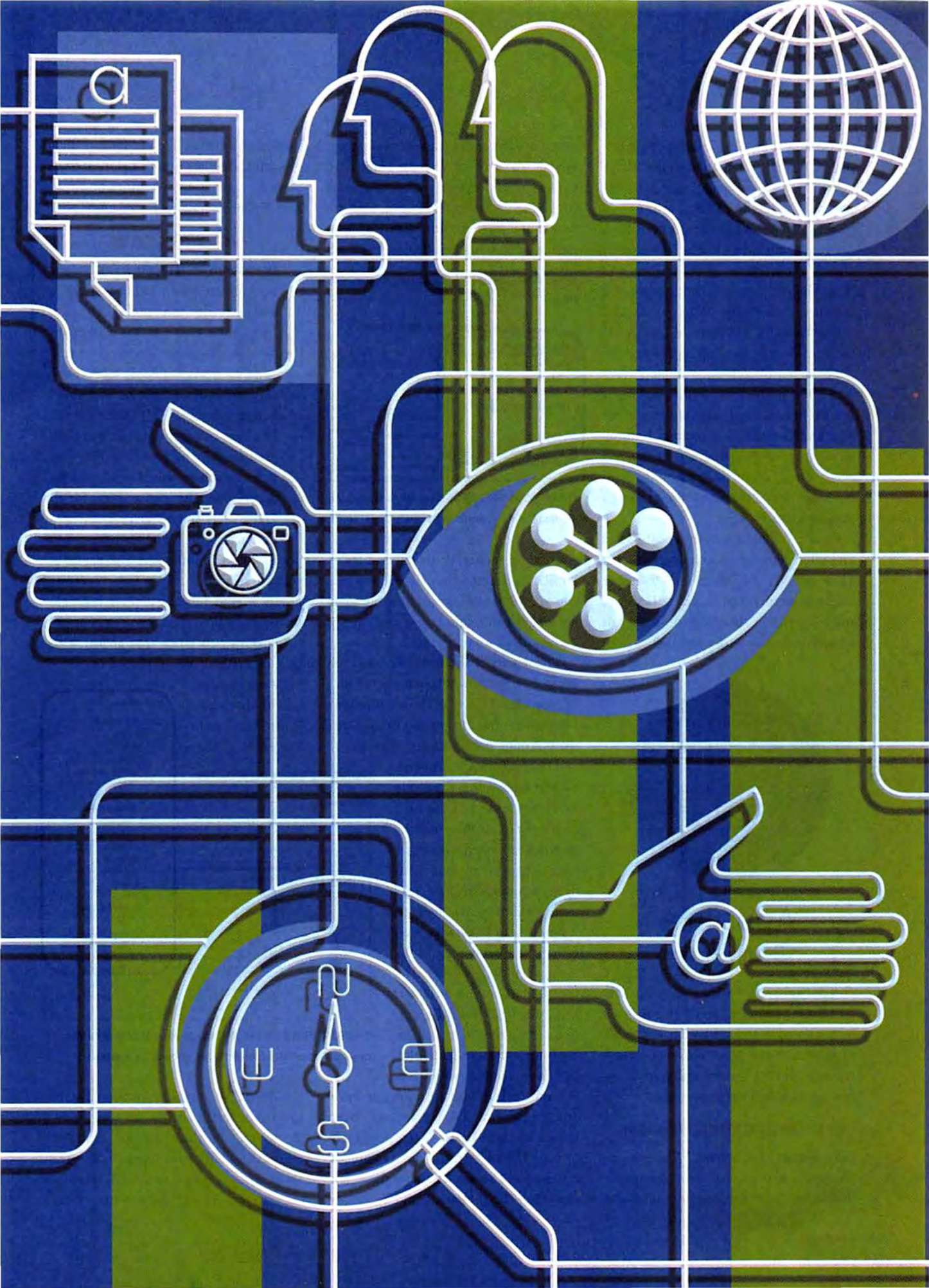
Ready for the next online revolution?
Powerful tools help you work, search, communicate,
and share data your way—usually for free.

B Y S C O T T S P A N B A U E R

LIKE A CHILD PROGRESSING INTO ADOLESCENCE, the Web has entered a new era of sophistication. We used to spend most of our time just surfing the Internet—reading and downloading whatever we could find. Nowadays we're more likely to create waves ourselves by sharing our opinions, photos, and home videos; collaborating by text, voice, and video; or adding our own data to maps that span the globe.

Applications that run in a browser are now almost as speedy as those installed on PCs, thanks to new programming tools that combine recent Web technologies, like Ajax (Asynchronous JavaScript and XML) and Ruby on Rails, with Java and other standbys. These technologies allow more processing to occur on users' local PCs, meaning fewer trips back and forth to Web servers. And browser-based programs can now interact more closely with Web sites. Google, Amazon, and other big sites let anyone create services that incorporate their data. These public application programming interfaces permit the data of Google Maps and similar mapping services, for example, to become content for "mashups"—sites like Trulia.com, which joins Google's maps with other location-based data on houses for sale in an area. ►

I L L U S T R A T I O N S B Y G L E N N M I T S U I



The shift from consumption to participation is a critical change in the Web's evolution. It's now easier than ever to post photos, documents, and other files to a blog, or to publish content as a news feed. Many sites permit us to add keywords, or "tags," to our photos, videos, links, and other shared resources. For example, you might add the tags "Barcelona" and "water balloons" to a photo of a soggy day in Spain. Tagged files can meld with similar content from other contributors. Tags also allow audiences—either public or private—to search, group, and otherwise slice and dice our contributions. Naturally, we can use the same tags to discover interesting, funny, or beautiful content we might not have unearthed using a standard search engine.

Here's a sampling of the most useful and interesting sites and services of what some call Web 2.0. All promise to deliver the best Internet experience yet. (Many of these are run by fledgling companies or by individuals, so surfer beware.)



Apps in a Browser

IF YOU'RE USED to the click-wait-click-wait browser routine, you'll be surprised by the speed of today's Web-based applications. Ajax and other technologies give browser apps the features and responsiveness of their desktop counterparts.

NEXT-GENERATION WEB MAIL

Outlook goes Live, almost: Wherever you go, there's your Outlook data. Microsoft's flagship program for e-mail, contacts, and

calendars has never traveled well...until now. For \$45 a year, you can bring all of Outlook's features with you anywhere, via your MSN or Hotmail account. Like the deskbound version, Outlook Live lets you view and manage multiple e-mail ac-



MAKE YOUR MESSAGES easier to track by assigning them keywords in Google's Gmail service.

counts, calendars, contacts, and tasks. Unlike its desktop counterpart, it limits you to 2GB of mail storage, and outgoing messages can be no larger than 20MB each. outlooklive.msn.com

Windows visits the Web: Microsoft has hopped on the New Web train in the nick of time with the beta of its free Windows Live service. You can connect to your Hotmail account, get news feeds, and store IE and Firefox bookmarks online. Features that weren't available when we looked at the beta include a Gmail-style mail service, a Web-hosted Messenger IM client, and various Windows security and performance utilities. www.live.com

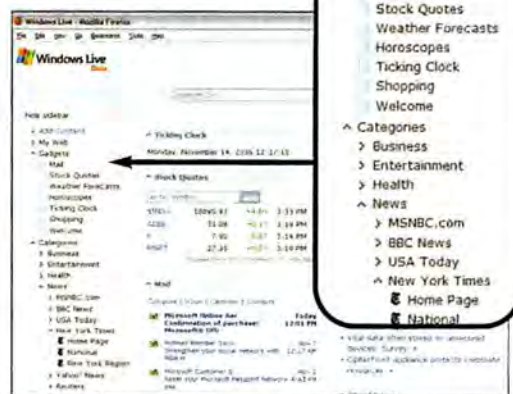
Gmail sets the pace: Web e-mail had been around for years when Google debuted its free Gmail service in 2004. What made Gmail different, and also ushered in a new Web age, was its slick, quick interface, as well as its spam filter and abundant storage, currently creeping toward 3GB per account. Need to back up some key files? Just send them to your Gmail account, where you can organize and search messages using tag-like labels. Both Hotmail and Yahoo are

working on Gmail-like versions of their offerings. (See last month's story at find.pcworld.com/50478 for more on these new Web mail services.) www.gmail.com

WEB WORK SITES

Brainstorm on JotSpot: Wikis make it easy for groups to add text, images, and even files to a single Web page. JotSpot is a wiki that lets workers in far-flung locations get on the same page, as it were. People can create, edit, and read a wiki page, all without having to know HTML. The page can be a blog, company intranet, database, group task manager, or anything else team members would need to organize online. The service is free for up to five users and 20 Web pages (registration required), and from \$9 to \$49 per month for more users and pages. A related service, JotSpot Live, permits groups to enter meeting notes in real time on the same Web page. www.jot.com

ThinkFree puts office apps online: With this Java-based, ad-supported service's browser knock-offs of Microsoft Word, Excel, and PowerPoint, you



CUSTOMIZE YOUR VIEW of the Web on Microsoft's Windows Live portal, which lets you choose its content.

can do almost anything you would want to do in the originals. The browser equivalents read and write .doc, .xls, .ppt, and other native Office file formats. The free service (registration required) lets you save up to 30MB of documents, either

THE NEW WEB STARTS HERE

IT'S EASY TO BECOME overwhelmed by the variety of features these fabulous sites offer. To cut to the chase, here are our favorites in each category.

• **Web mail:** How does Gmail do it? Volume—nearly 3GB worth. Labels let you quickly find your old messages, which you may never have to delete.

• **Web work sites:** ThinkFree Office Online puts a full-featured Microsoft Office double and 30MB of storage at your disposal wherever you roam.

• **Photo sharing:** Not only does Flickr make uploading, viewing, and sharing your digital snaps simple, but it also connects easily with blogging, mapping, and other services.

• **Bookmark sharing:** What's the buzz this morning? By sharing and tagging the highlights of your browsing at Del.icio.us, you contribute to the zeitgeist, and you make your list of favorite sites available both to yourself and to other Web denizens from any PC.

• **Video sharing:** Blip.tv does online video right, giving you tags, news-clip feeds, and storage of your clips for posterity (and for free) at the Internet Archive (archive.org).

online or to your local PC. You can post files to a blog with a single click. Best of all, ThinkFree Office Online can save files in Adobe's Portable Document Format—something Office applications can't do yet. (Note: The initial applet download can take several minutes on a broadband link, so on a dial-up line it might seem interminable. The applets open faster subsequently.) online.thinkfree.com

Share your musings with Writeboard: Behold the power of text. This free service from 37signals lets you create and store any number of text documents online. You can even invite collaborators to view and edit the files. Just give the document

a name, enter your e-mail address, add a password, and you're ready to create your first shared file. The clean interface highlights your edits, and e-mailing invitations to collaborators is quick and simple. The service also retains previous versions, so you can roll back unwanted changes. (Read about 37signals' Backpack personal organizer in the following section.)

writeboard.com

Blog in an instant with Writely: Like Writeboard, Writely

is a free Web-based word processor that supports collaboration, tracks revisions, and stores and displays your documents online. Files are limited to 500KB in size, but Writely distinguishes itself from other such services by allowing you to publish to a blog, and to upload existing documents by e-mail. www.writely.com

ONLINE ORGANIZERS

Stuff your data in your Backpack: Before, whenever you wanted to travel with a laptop, you would have to load all the files you'd need onto the machine in advance. Now you can put your to-do lists, notes, and other essential files and photos onto one clean, clear Web page. 37signals' Backpack, a Web-based personal organizer, will even send e-mail and mobile phone reminders when tasks are due. Backpack isn't just a personal organizer—you can share pages, and group items by using tags. The service lets you save up to five pages and send as many as ten reminders for free, but adding files and images to the pages costs from \$5 to \$19 a month. Paying customers receive from 25 to 1000 pages, 80MB to 500MB of storage, and 100 to 300 reminders. If Backpack is more organization than you need, its lightweight cousin, Ta-Da Lists (tadalist.com) is an alternative. backpackit.com

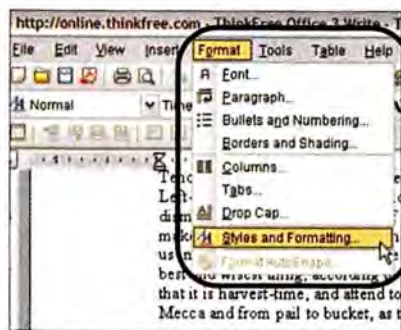
backpackit.com

Gather your team at Basecamp: Basecamp, also by 37signals, is Backpack's heavy-hitting big sibling—a full-blown

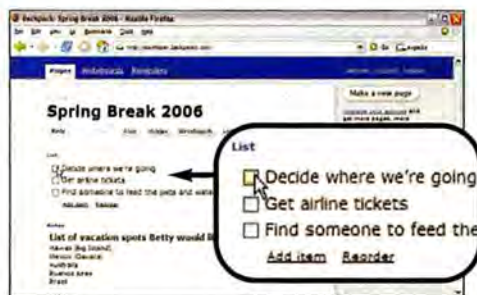
Web-based project manager that permits you to track team members' responsibilities, the time they spend on various tasks, and the group's messages related to the project. The service is free for one project, with some limitations. Fee-based plans are priced from

\$12 per month for up to three projects to \$99 a month for an unlimited number of projects. www.basecamp.com

HipCal puts your days in order: If you think online calendars are too slow and have too few of the features you need, this free calendar service may change your mind. HipCal will hook you with its snappy interface, address book, group calendaring, and content tagging. The service can even send a text message to your cell phone when an appointment draws near.



IS THAT A SITE OR an application? With the ad-supported ThinkFree service's Office doppelgangers, the best answer is "yes."



IMPROVE YOUR ORGANIZATION skills by signing up at 37signals' free Backpack list-keeping service.

Now even squares can get hip. hipcal.com

Planzo keeps you up-to-date: Rising Concepts' Planzo: The Online Planning Community has a cutesy name, but it also has some nifty features that HipCal and other online calendars lack, such as the ability to e-mail alerts for an impending appointment. The service's interface

WEB TOOLS

WIDGETS BREAK OUT OF THE BROWSER

THE TECHNOLOGIES that power the New Web are being applied outside your browser, too. Widgets are lightweight applications that sometimes run inside a browser and other times operate as separate programs. They can monitor the weather, measure battery life, reformat Web pages and search results, or do just about anything else that someone figures out how to accomplish in a scripting language. Here are three of our favorite widgets:

• **Yahoo Widgets:** Yahoo's free program, formerly Konfabulator, for Windows XP and Mac OS X runs JavaScript apps outside your browser. Its widgets float around your desktop (looking a lot like the widgets in OS X) and include a clock, weather display, to-do list, slide show of your Flickr photos, and battery and Wi-Fi signal strength monitors. The Web site offers over a thousand more, plus instructions on how to write your own. widgets.yahoo.com

• **Greasemonkey:** This free extension for Firefox runs JavaScript code (which it calls "user scripts") to change the way Web pages appear or behave. After you install the program, browse to [Userscripts.org](http://userscripts.org) to view a collection of tags (called a "cloud") of user-script topics. One of my favorites is a Greasemonkey widget that adds Google Blog-search to the Google search page. greasemonkey.mozdev.org

• **Klipfolio:** Looking much like an instant messaging client, this free widget aggregates RSS feeds and other complex information (such as the local weather). Unlike standard RSS readers, however, Klipfolio lets you search feeds and sends you alerts when your search terms appear. www.serence.com

is easy to customize, and you can sync your calendars with those of friends who have also signed up for the free service. Two other nice features let you attach files and photos to your notes, as well as create sharable to-do lists. www.planzo.com

Note to self—Remember the Milk: More than just a to-do list manager, Remember the Milk acts like a full-blown calendar, but without the row-and-column display. Separating your life into Personal, Study, and Work tasks (categories you can change), you enter task reminders as you would in any other calendar; you can even create shared calendars for your group projects. Remember the Milk stands apart from other free online calendar/scheduling services in its support for the iCalendar format for importing and exporting calendars, as well as in its ability to publish your various tasks as a news feed. www.rememberthemilk.com

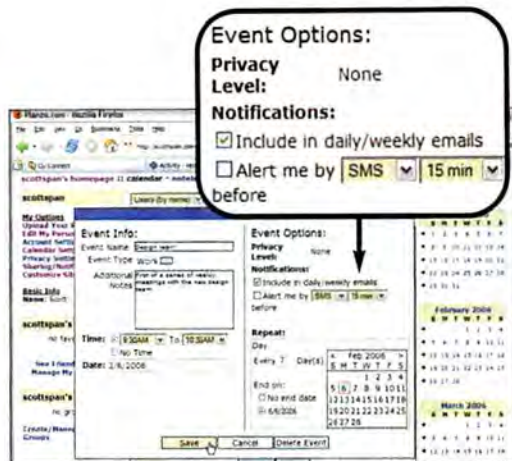


Collaboration & Community

WHETHER IT'S TO FUEL your passion for Hungarian cinema or to find new pomegranate recipes, the Web is a great place to meet kindred spirits. (Note that all of these sites require registration.)

THINKING IN GROUPS

Yahoo 360 offers the Web from A to Z: Yahoo's free personal Web site gives you unlimited online space to publish a blog



SEND APPOINTMENT REMINDERS to yourself or others via Planzo: The Online Planning Community calendar site.

and share photos, and lets you subscribe to and share RSS feeds. You can access your Yahoo Mail, Messenger, Groups, and other services as well. After uploading your content, just invite friends to view your handiwork, even if they don't have a Yahoo account. 360.yahoo.com

Form a chorus in the Opera Community: Much like Yahoo 360, this free community offers up to 300MB of online storage for photos, blog posts, and feed subscriptions, or for creating your own topic-based community. You don't even have to use the Opera browser. my.opera.com

Put your best Facebook forward: According to TechCrunch.com, 85 percent of college students in the United States have accounts with this online student directory, and 70 percent of them log in to the site daily. Facebook lets you post photos and send messages to other members, but most of its popularity is due to a single feature: You can browse mug shots of the people in, say, your 2 p.m. Social Psychology lecture, find out all about them, and maybe even ask one out on a date (or at least ask for last week's lecture notes). College alumni can join to reminisce about the good old days (you need a university e-mail address). Students at some high schools are also eligible for Facebook accounts. www.facebook.com

Get all chummy at Friendster: Like Facebook (see above) but without the student-only limitation, this free online social directory allows you to put your personal profile, blog, and photo album on the Web, and then see if anyone out there wants to be your buddy. Friendster lets

you chat with one person or a whole group. The service recently added peer-to-peer file sharing. www.friendster.com

PICTURE PLACES

Flickr makes sharing fun: Use this free Yahoo-owned service to share your digital photos with everyone else in the world, or just the people to whom you grant access. After you upload your shots to the site, you can tag them, create albums, view slide shows, and post pictures to external blogs. Moving your images to the site is easier if you download and use Flickr's handy batch-upload utility, which also adds a 'Send to Flickr' command to IE's context menu. Uploading as much as 20MB of photos per month is free; a Pro Account (\$25 per year) increases the limit to 2GB per month. flickr.com

Picaboo polishes your photos: This is a photo-sharing site with a twist. Instead of uploading individual pictures to Picaboo's server, you download the free Picaboo



SEE YOUR IMAGES—or those of others—in a slide show at the free Flickr photo-sharing site.

photo-album software, make slick-looking digital albums on your PC, and then upload a copy of each album to Picaboo's server for sharing with the people you specify. You can use one of the free service's many album wizards, or use a layout of your own devising. Picaboo makes money by selling prints of the albums (though the software allows you to print your own using standard photo sleeves and album covers), as well as individual

prints and slide-show DVDs. Photo-album prints cost \$25 for up to 20 pages, and photo DVDs cost \$10. picaboo.com



YAHOO 360 COMBINES BLOGGING, photo sharing, and other Web activities of your choosing on a single page.

BOOKMARKS TO SHARE

Del.icio.us takes the Web's pulse: Want to find out what people are interested in these days? Just look at their bookmarks. While you're at it, let them look at yours. The name of this free site—just bought by Yahoo—may be awkward, but using it is simple: Register, log in, add two buttons to your browser's Links (IE) or Bookmarks (Firefox) toolbar (the site shows you how), and click a button to bookmark the current page (you can't upload all your browser's current bookmarks in a batch). For the full New Web effect, tag your bookmarks and share them with the universe, or with a small group of friends, family, or coworkers. One of the site's new main features: You can now access your Del.icio.us bookmarks from any Web-connected computer. del.icio.us

Digg deeper for tech news: The free Digg technology news site is similar to the popular Slashdot, with one giant difference: Rather than having editors decide which stories are most important, subscribers rate articles by "digging" them, a process much like tagging. As a result, breaking news tends to appear on Digg a tad sooner than it does on Slashdot. Simply read the postings on Digg as you would on any news site (or subscribe to the service's news feed), or delve deeper into the community by registering and creating your

own news Diggs. Alternatively, you could simply bask in Digg's reflected brilliance by posting its stories to your own blog with a single click. www.digg.com

Flock makes browsing a group experience: This new free browser (based on the Mozilla Foundation's Firefox) has a decidedly social twist. It uses Del.icio.us's shared bookmarks by default, and it allows you to tag Web pages, grab news feeds, and link to major blogging services. The browser even displays photo thumbnails in its Flickr toolbar (just in case you find yourself getting too much work done). Though not yet in beta testing when we looked at it,

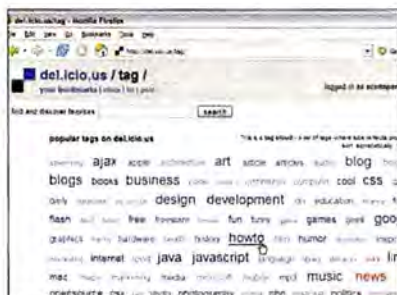
Flock may be ready for regular duty by the time you read this. www.flock.com

MESSAGING

IM VIA THE WEB

IT DIDN'T TAKE LONG for instant messaging to become indispensable for many users. But how will you connect when you're away from the IM client software on your home or work PC? The four big-name IM services now offer Web-hosted versions of their software that let you send and receive text messages from any PC with an Internet connection (see the list below). However, remembering addresses, names, and passwords for multiple IM services is a problem that cries out for a Web solution. Meebo (in alpha) answers the call with its free universal IM service that supports AIM, MSN Messenger, Yahoo Messenger, and ICQ, plus the Jabber service (which Google's Gtalk uses).

- **AIM Express:** www.aim.com
(page offers link)
- **ICQ2GO:** www.icq.com/icq2go/
- **Meebo:** www.meebo.com
- **MSN Web Messenger:**
webmessenger.msn.com
- **Yahoo Web Messenger:**
find.pcworld.com/50556



MAKING THE CONTENT connection is a breeze when you locate a term in the "clouds" at the Del.icio.us bookmark-sharing service.

For book lovers, it's a LibraryThing: This site is similar to Del.icio.us, but for the tweed set. If you love books, and love people who love books, LibraryThing is for you. Start by using the service to catalog your book collection: Tag your books by topic, share your catalog with others, and then endlessly browse the titles that they have on their shelves. The utterly book obsessed can add the LibraryThing widget to a blog to show visitors what they have been reading lately. Listing up to 200 books is free; listing any number of books beyond that costs either \$10 per year or a one-time \$25 fee. www.librarything.com

Sharing is a snap with My Web 2.0: This free personal bookmarking and tagging site from Yahoo (in beta when we looked at it) bears the familiar plain-jane look, but don't let that fool you. Unlike Del.icio.us, My Web 2.0 uploads all your browser bookmarks smoothly, and it lets you share your bookmarks via a news feed. The service also allows you to share your tags with a group of friends or associates. myweb2.search.yahoo.com

VIDEO SHARING

Check your radar for Blip.tv: The Swiss army knife of online video, Blip.tv offers free video blogging, podcasting, searching, and sharing. Create your video blog on the site, or simply post links to clips

from your own blog. Most of the site's videos are tagged, and Blip.tv generates a news feed of the latest video uploads for your convenience. Better yet, Blip.tv automatically posts videos to the Internet Archive or to your blog. It also sends tagged video links to the Del.icio.us bookmark directory (see the previous section), and thumbnail images to Flickr. blip.tv

ClipShack converts videos in a Flash: It may not offer all the bells and whistles of other video sites, but this free service makes posting your videos quick and easy. Unlike other sites, ClipShack converts your uploads to Flash animations, ensuring that most people will be able to see them without having to download a plug-in. Linking to a clip requires copying and pasting some HTML code into your



PUT YOUR BLOG IN MOTION by adding video, or simply view other people's movies, at the everything-Web-video Blip.tv site.

blog. Inveterate voyeurs can subscribe to an RSS feed of new clips. Uploads are limited to 50MB (the site plans to offer paid services with higher storage limits in the future). www.clipshack.com

Google gets the video bug: Most video-sharing sites want to be the "Flickr of video," making it easy for you to see other people's creations and for them to see yours. Not Google Video. While you can upload your own video clips to the site, don't expect them to appear online just like that—the company must decide if they meet Google Video standards first. Nevertheless, this free service knows a few neat tricks. For example, you can use keywords to search for videos, as well as

sample random clips that Google deigns to serve up (usually interesting, sometimes long). video.google.com

Ourmedia.org is your media repository: Billing itself as a global home for grassroots media, Ourmedia.org is a free video, audio, photo, and text upload site that acts as an interface to the Internet Archive (archive.org)—you have to register on both sites before you can upload. You can receive the media contributions of others via RSS, or just browse around patiently (the site is a little slow). ourmedia.org

Vimeo makes Web video easy: Vimeo looks lightweight at first, but the more you use it, the more features crop up. You can upload as much as 20MB of video per week for free in any format you like. You can also tag clips for easier searching, and post tagged links to Del.icio.us to attract viewers. Vimeo lets you post thumbnails of your clips to your Flickr account, and transmit the clips via an RSS feed. ▶

JOB SITES

THE NEW WEB AT WORK

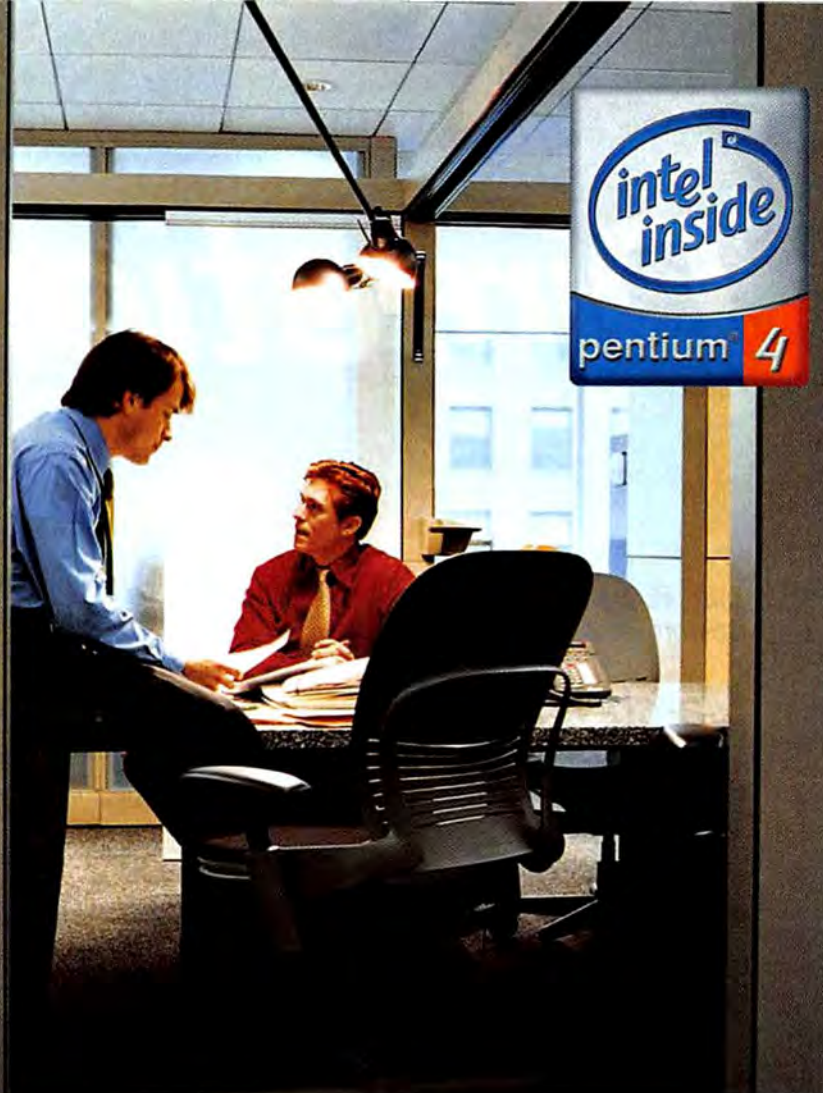
WHILE BUSINESSPEOPLE are sure to find many practical uses for the new generation of Web sites and services, two of the best newcomers are designed specifically to get you into a business. Indeed (www.indeed.com) and Simply Hired (www.simplyhired.com) each collect listings from a variety of job sites (including Career mole, Craigslist, Dice, and Monster). They allow you to filter out unwanted job categories and save the resulting search as an RSS feed or e-mail alert that keeps new postings coming to you daily. Simply Hired lets you add prospective jobs to a Google Map so you can compare commute times among your various employment prospects, for example. Indeed's Jobroll feature lets you turn a job search into an ever-updating box you can copy and paste into your blog or Web page as a service to your readers.

HP PROLIANT
ML110 G3 SERVER

SAVE
\$100

\$858

- Intel® Pentium® 4 Processor (3GHz, 800MHz) for outstanding performance
 - Optimized for SMB's running small business applications
 - 80GB SATA Hard Drive for maximum capacity¹
 - Remote management option for greater efficiency and control²
 - 1GB ECC memory: Advanced ECC memory helps protect against memory failures
 - 1-year parts, labor and next-business-day on-site support
- GET EVEN MORE
- 1-year Care Pack 24 x 7 4-hour on-site response, add \$63



OUTGROW YOUR OFFICE BEFORE YOU OUTGROW YOUR SERVER.

The HP ProLiant ML110 G3 server, powered by the Intel® Pentium® 4 Processor. Reliable. Affordable. Expandable. The future may be hard to predict, but with the ProLiant ML110, it's easy to be prepared. Designed to easily expand, this server will keep your employees connected and productive even as your business grows. Every ProLiant server undergoes rigorous testing to help insure dependability and a long life. And since it's an HP Smart Buy, it's not only affordable, it also comes ready to run with just what you need to get started. For simple backup, add the HP StorageWorks DAT 40 USB internal tape drive, offering plug-and-play functionality. The HP ProLiant ML110 and DAT 40 USB drive. Two more reliable products from the HP Smart Office Portfolio.

SMART ADVICE > SMART TECHNOLOGY > SMART SERVICES



\$599 HP STORAGEWORKS DAT 40
USB INTERNAL TAPE DRIVE

- Easily connects to the ML110 internal USB port
- No more SCSI interface costs or complications
- Same performance, capacity and reliability as DAT 40 SCSI
- Includes HP's exclusive One-Button Disaster Recovery for quick restores

Call **1-888-811-9582**

Click **hp.com/go/ML110mag8**

Contact **your local reseller**



invent

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, are good while supplies last and are available from HP Direct and participating HP resellers. All featured offers available in U.S. only. Savings based on HP published list price of configure-to-order equivalent (\$958 - \$100 instant savings = SmartBuy price \$858). Certain warranty restrictions and exclusions may apply. For complete warranty details, call 1-800-345-1518 (U.S.) 1. For hard drives, GB=1 Billion Bytes. 2. Optional Remote Insight Lights-Out Edition II (RiLOE II). Intel, Intel Inside, the Intel Inside Logo and Intel Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. © 2005 Hewlett-Packard Development Company, L.P.

IDC'S 41ST ANNUAL IT INDUSTRY BUSINESS BRIEFING

Directions06

Agenda for a Shrinking Globe: Seizing Opportunities in a Connected World

March 2, 2006

**John B. Hynes Convention Center
Boston, Massachusetts**

March 7, 2006

**San Jose Convention Center
San Jose, California**

**Featured Keynotes
will be given by:**

Robert Reich
Economist, Professor, Author and
Former Secretary of Labor

Shiv K. Bakhshi
Ph.D., Director, Wireless & Mobile
Network Infrastructure, IDC

John Gantz
Chief Research Officer and
Senior Vice President, IDC

Frank Gens
Senior Vice President, Research, IDC

Amy Konary
Program Director, Software Pricing,
Licensing, and Delivery, IDC

Join IDC's leading analysts at Directions 2006 and receive a long term outlook of the IT and telecommunications markets with particular emphasis on global opportunities. Through a compelling mix of keynotes, private one-to-one meetings with IDC analysts, topic tracks, special interest sessions, and breakfast briefings, Directions 2006 offers in-depth analysis of specific segments of the technology industry.

Tracks will include:

- » Telecom Infrastructure for a Connected World
- » Visions of Mobility in a Highly Connected World
- » Applications For The Next Generation
- » Seizing Opportunities in Services
- » Dynamic Enterprise
- » Critical Issues for Information Management
- » Consumer Trends (West Coast only)

SPECIAL OFFER
\$495 CONFERENCE RATE

Call **800.605.5849** to register and reference code "PCW" to receive this special discount.

Co-sponsored by:



NetworkWorld

PC WORLD



www.idc.com/directions06/boston
www.idc.com/directions06/sanjose

For Boston, go to find.pcworld.com/49920
For San Jose, go to find.pcworld.com/49921

Tune in, get smart, buy wise.

PC World's Digital Duo...

the hot, hip and utterly irreverent review of all things tech offers informative, trustworthy technology advice from industry experts.



With fairness and flair, the **Duo** delivers real-world scenarios and real comparisons — everything you need to know to make the right buy in today's high-speed digital marketplace.

Click Here



Cohosts **Stephen Manes**, esteemed *PC World* and *Forbes* columnist, and veteran tech editor and product diva **Angela Gunn** of *USAToday.com*, evaluate, explore and — when necessary — deplore the world of digital technology. In association with *PC World*, the Duo's product reviews are backed by a wealth of test and survey data, and a powerful online presence at PCWorld.com.



Tune in to PC World's Digital Duo every week on public TV!

Go to www.pcworld.com/digitalduo to learn more about the show, view a clip, ask a question and find out how to see it in your area.

PC World's Digital Duo is made possible with the support of:

BenQ

BenQ is an industry leader in networking life-style devices with an expertise that encompasses display, storage, imaging, input, wireless and broadband markets. Visit www.BenQ.us for more information.



CDW® is a leading provider of technology products and services for business, government and education. CDW offers top name brands such as Cisco, HP, IBM, Microsoft, Symantec, Sony and more. www.cdw.com

Go to find.pcworld.com/50206



DLP™ Technology is a digital imaging device from Texas Instruments which enables projectors and TVs to create sharp, clear images. Make sure your projector or TV includes DLP™ Technology. www.dlp.com

(Note that some of the site's content isn't suitable for children.) www.vimeo.com

Everybody's a star at YouTube: YouTube doesn't have the video sharing and sorting tools that Blip.tv and Vimeo do, but posting your clips to the free service is a breeze. Videos are limited to 100MB each, and you have to give each clip at least three tags before YouTube will accept it. Linking to clips from your blog requires copying and pasting HTML code. YouTube offers only one news feed of the site's most recently uploaded videos; and like Vimeo, some of the videos on the site are R-rated. www.youtube.com



Search & Maps

WHETHER YOU swear by Google or use an army of Web search tools and services, there's always more to discover online, and more ways to discover it. Some of the most innovative new Web services combine search results with maps to provide a fresh perspective on places a continent away, or just around the corner.

NEW-LOOK SEARCH

Odeo hooks you up with podcasts: This free service could do for podcasts what Blip.tv and other sites are doing for video. Though the site's podcast-upload capabilities were still under construction as we went to press, it nevertheless provides a great way to search for audio files on the Web without having to install iTunes on your system. Casual visitors can browse podcasts by the tags assigned to them. Registering lets you do some tagging of your own (a feature iTunes doesn't support); it also allows you to subscribe to

topic-oriented channels and to download audio to your iPod. www.odeo.com

You make the rules at Rollyo: The name is short for "roll your own search engine," which means you can create a custom collection of search engines and topics and then share the resulting "roll" with others. The free site provides logged-in users some starter search rolls of its own, as well as lists of topic-targeted rolls created by celebrities and other "high rollers." You can add your Rollyo search rolls to Firefox's search engine toolbar with a click, and post your roll to your own blog or Web site just by copying and pasting some HTML code. www.rollyo.com

Technorati keeps its ear to the Web: Google Blog Search (blogsearch.google.com) does a good job of exploring blogs, but Technorati's free blog portal takes tracking blog buzz to the next level. You don't have to register to search blogs, browse its cloud of tags or Top 100 list, or use the site's Blog Finder to locate blogs on a particular subject. But signing in lets you promote your own blog and set up watch lists of topics you want Technorati to track for you. www.technorati.com

Search the smart way with Wink: Search engines are only as good as their underlying algorithm. Finding the nuggets of gold among the results typically requires a human (you) to read through and discard the many links that are only tangentially related to whatever you're looking for.



SEARCH BLOGS OF EVERY STRIPE at the Technorati blog index, which lets you search blogs by their topic.

The free Wink search engine incorporates the human element, crawling tagged sites such as Del.icio.us, Digg, and Flickr (see previous sections) and drawing on Wink

users' tagged searches to separate wheat from chaff. Set up Rollyo-like search sets based on tags, and sync with Del.icio.us and Yahoo's My Web 2.0. www.wink.com



PUT OTHER PEOPLE'S TAGS to work for you by searching at the free Wink beta site.

MAPS AND MASHUPS

Freesound Project lets you hear the world: Close your eyes, and you're sitting at a sidewalk cafe in Oagadougou in the West African nation of Burkina Faso, or relaxing to the sound of waves lapping on Spanish Banks Beach in Vancouver, British Columbia. These and other audio field recordings (mostly of animal and environmental sounds) are linked to Google Maps on this very cool free site. find.pcworld.com/50554

Leave your mark on the planet with Google Earth: More than just a Web site, the free Google Earth is an application that runs on your PC, allowing you to "fly" over a virtual globe constructed of satellite imagery. Search for businesses and people, view 3D images of cities, and get driving directions and distances. More important, the app's public programming interface has spawned a new generation of mashup sites (several of which are described in this section) that piggyback search specifics, databases, or other "geocode" onto Google's virtual planet. Have a GPS unit? Get Google Earth Plus (\$20) to import your own map coordinates. earth.google.com

Rise above it all with Windows Live Local: This free site (formerly MSN Virtual Earth) combines Microsoft's MapPoint mapping service with its TerraServer satellite images (see below). Where- ▶

Storage Savvy.

Store

Images, Music or Videos

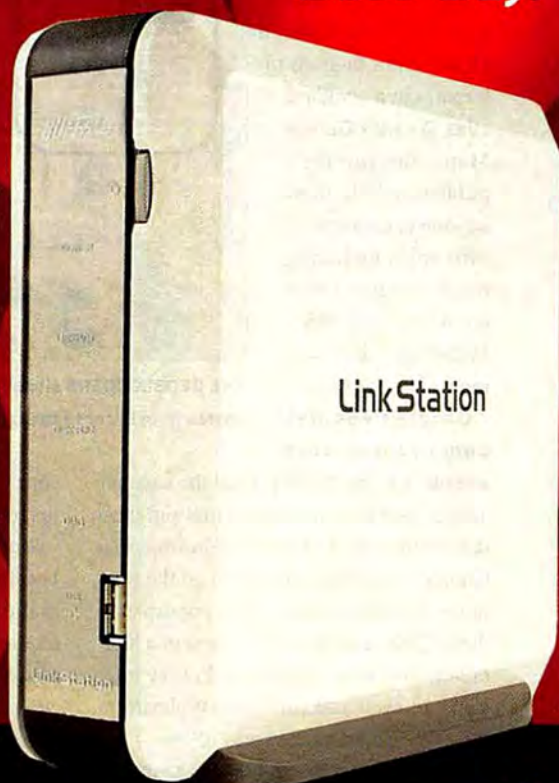
Access

Files from Multiple Computers

Share

Digital Files Easily Over Your Network

Now
Available at
Best Buy!



Media Storage for Your Network



LinkStation™
HD-H160/250LAN



Save More Than 227,000 Photos*

Store up to 62,500 Songs*

Play up to 278 Hours of Video*

Available in 160 GB and 250 GB Configurations**

Perfect for Your Home or Small Office



BUFFALO™

Learn more www.buffalotech.com/pcworld

* Values used for video, photos, and mp3s are approximates based on typical length, compression and resolution, based on 250 GB model. **Contact resellers for availability of specific models.
© 2005 Buffalo Technology (USA), Inc. Buffalo Technology, Buffalo Technology logo and AOSS logo are registered trademarks of Buffalo Technology (USA), Inc. The names and logos of other companies mentioned herein belong to their respective owners.

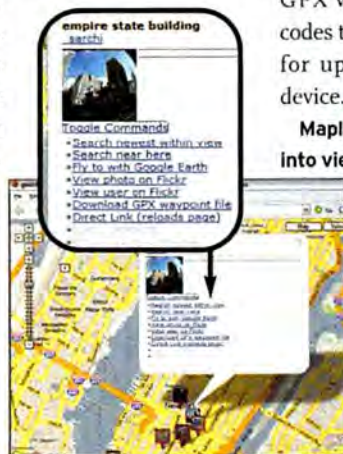
Go to find.pcworld.com/49918

as Google Earth relies on a downloadable component, Windows Live Local lets you soar over terrain in your browser. Zooming beyond the U.S. border reveals one of the site's limitations, however: Outside of this country, most images are high-altitude satellite views that aren't much clearer than their counterparts in a standard atlas. As with Google Maps, the service's published APIs allow anyone to create their own apps, including maps of eBay seller locations and MSN Messenger chat partners. local.live.com

Google Maps Web Cam Locator looks

ahead: Get a pretravel peek at the weather at your destination, or do virtual sightseeing at this site that plots Webcams on a Google Map. Click a pushpin on the map to see that camera's view in a pop-up window. Click again to see the view in a larger window, plus weather and other info. You can even add your own Webcam to the map. find.pcworld.com/50546

Put a place with that face via GeoBloggers: Ever wonder where the beautiful tropical-vacation shots you found on the Web were located? Want to show friends where you spent your summer? The free GeoBloggers site uses the geotagging of your images on Flickr (see page 85) to plot them on a Google Map.



THE GEOBLOGGERS site lets you map photos from Flickr to their location.

Visitors can fly to your photo's map point and conduct searches in the area using Google Earth. They can also jump to your Flickr page or—very cool—download a GPX waypoint file (which encodes the site's map coordinates) for upload to their own GPS device. geobloggers.com

Maplandia.com brings the world into view:

This free service puts a regional interface on Google Maps, organizing the site's maps and satellite images by continent and by country. Want to see a map of Colombia? Just two clicks, and you're there. Maplandia creates HTML links you can paste into your blog so that

your visitors can view the same map with just one click. www.maplandia.com

Trulia is a house hunter's best friend: Location, location, location. What could make a better mashup than maps and real-estate listings? This free site started small, mapping homes for sale in a few cities in the San Francisco Bay Area, but its goal is to show listings nationwide. Type a city or zip code into Trulia's search field to see listings pinpointed on a map. Using Google Maps' Hybrid setting, you can see at a glance which homes are close enough to the beach, and far enough from the freeway. www.trulia.com

Get a choice of views at Terra-

Server: Not only can you search this industrial-strength satellite-image database by city, state, and country, but you also get your choice of images from various providers, and you can purchase prints of the maps at prices ranging from \$7 to \$150. The service sells prints of satellite images from hundreds of famous locations, such as the Notre Dame Cathedral in Paris, Lambeau Field in Green Bay, Wisconsin, and other hallowed shrines. APIs let you write applications that grab images from TerraServer

(à la Google Maps). www.terra-server.com

Yahoo Maps joins the mashup: Brand new and still in beta as we went to press, Yahoo's free mapping service is a response to Google Maps and Windows Live Local, although it differs in one giant way—no satellite imagery. Nevertheless, Yahoo's public APIs let you create your own mashups (view a gallery at find.pcworld.com/50550), and its smart navigational widget makes jumping around a map easy. maps.yahoo.com/beta

Contributing Editor Scott Spanbauer writes the Internet Tips column.

HOW-TO

ROLL YOUR OWN SERVICE

YOU SAY YOU DON'T like the way that Craigslist, Flickr, or Google Maps functions? Just change how each presents its data, or combine the information on one site with that on another. ProgrammableWeb (www.programmableweb.com) lists over 200 mashups, including a Google Map of Hindu temples, a Flickr screen saver, and a matchmaking tool for the HotOrNot.com dating service that turns you into a virtual yenta.

Creating a mashup requires a solid understanding of JavaScript (Wikipedia offers a good starting point at find.pcworld.com/50558). While it's no replacement for actual programming skills, Ning (www.ning.com; still in beta as we went to press) lets you set up your own classified listing, photo sharing, review, or social-networking site without writing a line of code.

You can modify one of the thousands of existing applications on the site and have a slick program of your own devising running in minutes. Ning even hosts the site, posting ads alongside your application in exchange. If you're feeling geeky, the service lets you alter the application's underlying PHP code.



ENHANCE YOUR ONLINE house hunting at the free map-centric Trulia real-estate site.



DLP™ TECHNOLOGY. IMMERSE YOURSELF.



DLP™ technology is everywhere, and there's a reason why. With its pin-sharp, clear graphics and lifelike color, DLP™ technology delivers the best picture. From the boardroom to the classroom to the family room, a projector with DLP™ technology is an affordable investment that's reliable and versatile. Take a look at DLP™ technology. It's more than what you see on the surface.

www.dlp.com

Go to find.pcworld.com/50216

Digital Light Processing, DLP, the DLP logo and the red/black banner are trademarks of Texas Instruments. Texas Instruments is traded publicly on the NYSE® under the symbol TXN. M6031 © 2004 TI

DIGITAL LIGHT PROCESSING.™ YOU'VE GOT TO SEE IT.

 **TEXAS INSTRUMENTS**

UNLEASH

the Power

CYBERPOWER RECOMMENDS
WINDOWS® XP



All systems come with:
Microsoft® Works 8.0
Free First Year On Site Service
+ 24/7 Tech Support



 CyberPOWER Inc.

Order Toll Free 800-707-0393 www.cyberpowerpc.com

4802 Littlejohn Street, Baldwin Park, CA 91706 T: 626.813.7730 F: 626.813.3810 Technical Support: 877.876.4965 Hour: M-F 8:30am - 6:00pm Sat 9:30am - 3:00pm

AMD®, the AMD 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. Copyrights © 2005 CyberPower. All rights reserved.

GAMER ULTRA 9900 PRO



AMD
Athlon™ 64 X2
4400+ CPU \$ 1789
4200+ CPU \$ 1689
3800+ CPU \$ 1599
AMD Athlon™ 64
FX-60 CPU \$ 2415
3500+ CPU \$ 1485

NVIDIA nForce-4 SLI Chipset MB w/ Dual 16X PCI-E
Genuine Windows® XP Home Edition w/ SP2
Corsair 1024 MB PC3200 DDR400 MEMORY
250 GB Serial ATA 150 7200 RPM HD 8mb Cache
16X PCI-Express NVIDIA GeForce 6800 GS
256MB DDDR3 Powered By XMDIA
19" Viewsonic VA912P Xtreme BMS Gaming
LCD Display
LG 16X DVD-ROM & LG 16X DVD+-RW Drive
nForce-4 7.1 3-D Surround Sound
Creative Cambridge Inspire F7000 7.1 Surround
Sound System
Logitech Office 104 Keyboard
Microsoft® Optical Intelli Explorer Mouse
Aluminum CoolerMaster Praetorian 750 Midtower
Case 420W
Xtreme Liquid Cooling System
Free 802.11G Wireless PCI Network Adaptor

\$1,485

GAMER ULTRA 8000 DREAM



AMD Athlon™ 64 X2
4800+ CPU \$ 1435
4400+ CPU \$ 1129
4200+ CPU \$ 1025
3800+ CPU \$ 945
AMD Athlon™ 64
3500+ CPU \$ 825
3200+ CPU \$ 775

NVIDIA nForce-4 SLI Chipset MB w/ Dual 16X PCI-E
Genuine Windows® XP HOME Edition w/ SP 2
Corsair 1024 MB PC3200 DDR400 MEMORY
200 GB Serial ATA 150 7200 RPM HD 8mb Cache
NVIDIA GeForce 6600 256MB DDR 16X PCI-E w/ TV out
Powered By XMDIA
LG 16X DVD-ROM
LG 16X DVD+-RW Drive
nForce-4 7.1 3-D Surround Sound
600 Watts Subwoofer Speaker System
Logitech Office 104 Keyboard and Logitech Optical
Wheel mouse
Nxtt Nemesis Tower Case 425W w/ MDD
"See Through Windows"
Free 802.11G Wireless PCI Network Adaptor

\$775



- The AMD Athlon™ 64 X2 dual-core processor enables everyone to do more in less time by delivering exceptional multi-tasking capabilities and increased performance on digital media.
- Dual-core technology is like having one processor responsible for running programs in the background while a second runs the applications you want to work on. The AMD Athlon™ 64 X2 dual-core processor brings true parallel processing to the desktop and can increase computing performance by up to 80%.

GAMER ULTRA SLI PRO



NVIDIA nForce 4 SLI Chipset MB w/ Dual 16X PCI-E
Genuine Windows® XP Home Edition w/ SP2
Corsair 2048 MB PC3200 DDR400 Memory
250 GB Serial ATA 150 7200 RPM HD 8MB Cache
(2) NVIDIA GeForce 7800 GT 256MB DDR3
Powered by XMDIA. Over 80%
Performance Gain over single video card solution
LG 16X DVD+-RW Drive & 16X DVD-ROM
NVIDIA nForce-4 3D 7.1 Surround Sound
Creative Cambridge Inspire P7800 7.1 Surround Sound System
Logitech Office 104 Keyboard
Microsoft® Optical Intelli Explorer Mouse
Asus Vento 3600 Xtreme Gaming Case w/ 500 Watt Power Supply
Xtreme Liquid Cooling System
Free 802.11G Wireless PCI Network Adaptor

AMD Athlon™ 64 X2
4400+ CPU \$2119 CS1028
4200+ CPU \$1879 CS1029
3800+ CPU \$1769 CS102A
AMD Athlon™ 64
FX-60 CPU \$2589 CS1027
3500+ CPU \$1679 CS1025

\$1,679

GAMER ULTRA 9000 PRO



NVIDIA nForce 4 SLI Chipset MB w/ Dual 16X PCI-E
Genuine Windows® XP Home Edition w/ SP2
Corsair 1024 MB PC3200 DDR400 Memory
200 GB Serial ATA 150 7200 RPM HD 8MB Cache
16X PCI-Express NVIDIA GeForce 6800 XT
256MB Video Card w/ TV out & DVI
Powered By XMDIA
LG 16X DVD-ROM
LG 16X DVD+-RW Drive
NVIDIA nForce-4 3D 7.1 Surround Sound
600 Watt Subwoofer Speaker System
Logitech Deluxe 104 Keyboard and
Logitech Optical Wheel Mouse
Aluminum CoolerMaster Praetorian 730
Midtower Case 420W.
Free 802.11G Wireless PCI Network Adaptor

AMD Athlon™ 64 X2
4400+ CPU \$1249 CA1028
4200+ CPU \$1149 CA1029
3800+ CPU \$1065 CA102A
AMD Athlon™ 64
4000+ CPU \$1095 CA1023
3500+ CPU \$949 CS1025
3200+ CPU \$895 CS1027

\$895

GAMER ULTRA SLI BASIC



NVIDIA nForce 4 SLI Chipset MB w/ Dual 16X PCI-E
Genuine Windows® XP Home Edition with SP2
Corsair 512 MB PC3200 DDR400 Memory
160 GB Serial ATA 150 7200 RPM HD 8MB Cache
(2) NVIDIA GeForce 6600 256MB DDR
16X PCI-E w/ TV out. Over 80%
Performance Gain over single video card solution
LG 16X DVD+-RW Drive
NVIDIA nForce-4 3D 7.1 Surround Sound
600 Watt Subwoofer Speaker System
Logitech Office 104 Keyboard and
Logitech Optical Wheel mouse
Nxtxt Nemesis Tower Case 425W w/ MOD "See Through Windows"

AMD Athlon™ 64 X2
4600+ CPU \$1219
4400+ CPU \$1085
4200+ CPU \$985
3800+ CPU \$905
AMD Athlon™ 64
FX-60 CPU \$1689
3500+ CPU \$789
3200+ CPU \$735

\$735

GAMER ULTRA SLI ELITE



NVIDIA nForce 4 SLI Chipset MB with Dual 16X PCI-E
Genuine Windows® XP HOME Edition w/ SP2
Corsair 1024 MB PC3200 DDR400 MEMORY
200GB Serial ATA 150 7200 RPM
HD 8MB Cache
(2) NVIDIA GeForce 6800 XT 256MB DDR3
Powered By XMDIA. Over 80%
Performance Gain over single video card solution
LG 16X DVD+-RW Drive & 16X DVD-ROM
nForce-4 7.1 Surround Sound
600 Watt Subwoofer Speaker System
Logitech Office 104 Keyboard & Logitech
Optical Wheel mouse
Turbo X-Cruiser Case 420 Watt
with See Through Windows.
6 Cool Custom Colors to Choose From
Free 802.11G Wireless PCI Network Adaptor

AMD Athlon™ 64 X2
4400+ CPU \$1485 CS1021
4200+ CPU \$1359 CS1022
3800+ CPU \$1279 CS1023
AMD Athlon™ 64
4000+ CPU \$1309 CS1024
3800+ CPU \$1255 CS1025
3500+ CPU \$1165 CS1026
3200+ CPU \$999 CS1027

\$999

MEDIA CENTER PC 5000



Nvidia nForce 6100 Athlon 64 Motherboard
Genuine Windows® XP Media Center Edition 2005
Corsair 512 MB PC400 Dual Channel Memory
160GB 7200 RPM SATA 150 HD 8MB Cache
16X PCI EXPRESS NVIDIA GeForce 6100 Video Onboard
Build In TV-Tuner w/ FM Radio
LG 16X DVD+-RW Drive & 16X DVD-ROM
7.1 3D Wave Surround Sound System
600 Watts Subwoofer Speaker System
6 IN 1 Digital Media Reader
Logitech Office 104 Keyboard and
Logitech Optical Wheel mouse
Philips Remote Control
Turbo X-Opak Portable Case 400 Watt w/ See Through Windows
5 Cool Custom Colors to Choose From

AMD Athlon™ 64 X2
4400+ CPU \$1029 CM0022
4200+ CPU \$929 CM0023
3800+ CPU \$849 CM0024
AMD Athlon™ 64
FX-57 CPU \$1419 CM0021
3500+ CPU \$735 CM0026
3200+ CPU \$679 CM0027

\$719

GAMER ULTRA 7500 SE



PC World Best Buy
NVIDIA nForce-4 Chipset MB with 16X PCI Express
Genuine Windows® XP HOME Edition w/ SP2
Geil 1024 MB PC3200 DDR400 MEMORY
160 GB Serial ATA 150 7200 RPM HD 8MB Cache
NVIDIA GeForce 6600 256MB DDR with TV out Powered by XMDIA
LG 16X DVD-ROM
LG 16X DVD+-RW DRIVE
nForce-4 3D 7.1 Surround Sound
17" Super Slim LCD DISPLAY
Logitech X530 5.1 Subwoofer speakers
6 IN 1 Digital Media Reader
Logitech Office 104 Keyboard and
Logitech Optical Wheel mouse
Turbo X-Cruiser Case 420 Watt with See Through Windows

AMD Athlon™ 64 X2
4600+ CPU \$1449
4400+ CPU \$1315
4200+ CPU \$1219
3800+ CPU \$1139
AMD Athlon™ 64
FX-60 CPU \$1899
3500+ CPU \$979

\$979

Free Shipping!! All Notebooks.

GAMER XPLOER-64 9700



AMD Turion 64 Mobile Technology
-AMD PowerNow! Technology
-HyperTransport Technology
-Enhanced Virus Protection
Genuine Windows® XP Home Edition W/SP2
1024MB PC3200 DDR400 MEMORY
60 GB Ultra ATA100 Hard Drive
Mobile ATI X700 16X PCI-Express
128MB Video
15.4" WXGA Wide-Screen TFT
Display 1280x800 Pixels
8X DVD+-RW Rewritable Drive
10/100 Network Card & 56K V.92 Modem
Wireless 802.11G 54Mbps Networking
3-in-1 Built-in Media Reader
1 Firewire IEEE 1394 & 4 USB 2.0 Ports
Weight only 6.39 Lbs
1 Yr 24/7 Toll Free Support

AMD Turion™ 64 Mobile Technology
MT-40 \$1375
MT-37 \$1329
MT-34 \$1395
MT-32 \$1265
MT-30 \$1249

\$1,249

GAMER XPLOER-64 8700



AMD Turion 64 Mobile Technology
-AMD PowerNow! Technology
-HyperTransport Technology
-Enhanced Virus Protection
Genuine Windows® XP Home Edition with SP2
512MB PC3200 DDR400 MEMORY
40 GB Ultra ATA100 Hard Drive
Mobile ATI X700 16X PCI-Express
128MB Video
15.4" WXGA Wide-Screen TFT
Display 1280x800 Pixels
8X DVD+-RW Rewritable Drive
10/100 Network Card & 56K V.92 Modem
Wireless 802.11G 54Mbps Networking
3-in-1 Built-in Media Reader
1 Firewire IEEE 1394 & 4 USB 2.0 Ports
Weight only 6.39 Lbs
1 Yr 24/7 Toll Free Support

AMD Turion™ 64 Mobile Technology
MT-40 \$1289
MT-37 \$1249
MT-34 \$1209
MT-32 \$1179
MT-30 \$1165

\$1,165

GAMER XPLOER-64 8000



SIS Athlon 64 Chipset Motherboard
Genuine Windows® XP Home Edition with SP2
512 PC3200 DDR400 Memory
40 GB Ultra ATA100 Hard Drive
Mobile ATI Radeon 9700 PRO
128MB Video
15.4" WXGA Wide-Screen
TFT Display 1280x800 Pixels
8X DVD+-RW Rewritable Drive
10/100 Network Card & 56K V.92 Modem
Wireless 802.11G 54Mbps Networking
3-in-1 Built-in Media Reader
1 Firewire IEEE 1394 & 3 USB 2.0 Ports
Weight only 6.39 Lbs
Free Carrying Case
5 Custom Colors to Choose From
1 Yr 24/7 Toll Free Support

AMD Mobile Athlon™ 64
4000+ \$1275 CN8781
3700+ \$1169 CN8782
3400+ \$1119 CN8783
3200+ \$1079 CN8784
3000+ \$1039 CN8785

\$1,039

www.cyberpowerpc.com

- Provides leading-edge 32-bit performance for music, video and games and is ready for future 64-bit software
- Improves security against certain types of viruses, with Enhanced Virus Protection for Microsoft® Windows® XP SP2.
- Conserves power and operates quietly with AMD Cool n'Quiet™ technology.
- Features HyperTransport™ technology for improved multitasking performance



CyberPower PCs use genuine Microsoft® Windows® • www.microsoft.com/piracy/howtotell

www.cyberpowerpc.com

**Order Toll Free
800-707-0393**

CyberPOWER Inc.
Go to find.pcworld.com/49596



ONCE YOU KNOW, YOU NEWEGG.

2005 BizRate Circle of Excellence Gold Honoree.

AMD Sempron™ 64 3300+

Palermo 800MHz FSB
128KB L2 Cache
Socket 754 Processor

\$140.00



AMD Sempron™ 64 3400+

Palermo 800MHz FSB
256KB L2 Cache
Socket 754 Processor

\$150.00



AMD Athlon™ X2 4600+

Manchester 1GHz FSB
2 x 512KB L2 Cache Socket
939 Dual Core Processor

\$680.00



AMD Athlon™ 64 Technology

- The #1 Windows®-Compatible 64-bit PC Processor.
- Leading-edge performance and unparalleled technology with simultaneous 32-bit and 64-bit computing.
- Cool'n'Quiet™ technology conserves power while enabling a whisper-quiet computing environment.

IF YOU'RE ANYTHING LIKE US, YOU'LL APPRECIATE

Storage



\$805.00

Buffalo HD-H1.0TGL/R5 1TB
Network Attached Storage
RJ-45 10/100/1000 Mbps

Mouse



\$49.99

Logitech G5 Laser 2-Tone
6 Buttons 1x Wheel USB Laser
Mouse Model#:931376-0403

Headphones



\$39.99

Seinnheiser PC 150 3.5mm
High-power stereo headphones
Noise Cancelling Microphone

Networking



\$99.99

Netgear WPN824 802.11b/g
2.4GHz Internal Antenna up to
108Mbps 64/128-Bit WEP WPA

Storage



\$221.99

Western Digital Caviar
RE2 WD4000YR 400GB 7200
RPM ATA150 RAID - OEM

Sound Card



\$49.99

Turtle Beach CATALINA 8
(7.1) Channels 24-bit 96KHz PCI
Interface Sound Card

DVD Burner



\$79.99

Plextor Black 16X
2MB Cache IDE DVD Burner Buffer
Underrun Proof Technology

Case



\$132.98

Thermaltake Bach
Media Lab Aluminum/Steel
ATX Desktop Computer Case

©2005 Newegg Computers. All rights reserved. **Pricing and Availability:** Prices good from 12/15/05 to 2/15/06 or while supplies last. Prices, availability and terms of offers may change without notice. Taxes and shipping charges, if applicable, are not shown. Newegg is not responsible for pricing or other errors and reserves the right to cancel orders arising from such errors. All items sold as retail unless otherwise noted. OEM products may be sold without packaging, documentation or other articles.

- 98% of orders ship within 1 business day
- 275,000 product reviews from customers

- 19,000 customer testimonials
- "A" rating on ANY merchant ranking site



... Enter Promo Code PCW20206 at checkout for **FREE SHIPPING** on these items ...

AMD Athlon™ 64 3800+
Venice 1GHz FSB
512KB L2 Cache
Socket 939 Processor

\$320.00



AMD Athlon™ 64 4000+
San Diego 1GHz FSB
1MB L2 Cache
Socket 939 Processor

\$370.00



AMD

**AMD Athlon 64 X2
4800+ Toledo 1GHz
FSB 2 x 1MB L2 Cache
Socket 939 Dual Core
Processor**

Increase your performance by up to 80%
with the AMD Athlon™ 64 X2 dual core
processor. Work or play with multiple
programs without any stalling or waiting.

\$850.00

THE JAW-DROPPING SPEED OF THE ATHLON64.

Software



\$89.99

Roxio Easy Media Creator 8
Burn your video, photo, music
and data files to CD or DVD

Digital Camera



\$299.98

Canon A610 PowerShot 5.0 MP
1/1.8" CCD 4X Optical Zoom 4X
Digital Zoom TTL Autofocus

Keyboard



\$49.99

Microsoft Natural 4000
103 Normal Keys 17 Function
Keys USB Wired Ergonomics

Software



\$87.95

Microsoft Windows XP
HOME Edition With Service
Pack 2 - OEM

Cooling



\$54.99

Thermaltake CL-P0114
120mm Cooling Fan/Heatsink
Extreme Cooling

Power Supply



\$69.98

Rosewill RP550-2 ATX 2.0
550W Power Supply 115/230V
CSA, CB, TUV, FCC, UL

Motherboard



\$171.50

Asus A8N-SLI Premium
Socket 939 NVIDIA nForce4 SLI
ATX AMD Motherboard

Card Reader



\$35.98

Belkin F5U249 15-in-1 USB 2.0
Media Card Reader/Writer
Multi - Card Media Readable



NO PAYMENTS FOR 6 MONTHS WITH YOUR NEWEGG.COM PREFERRED ACCOUNT

See Newegg.com for details. Promotion expires 03/15/06

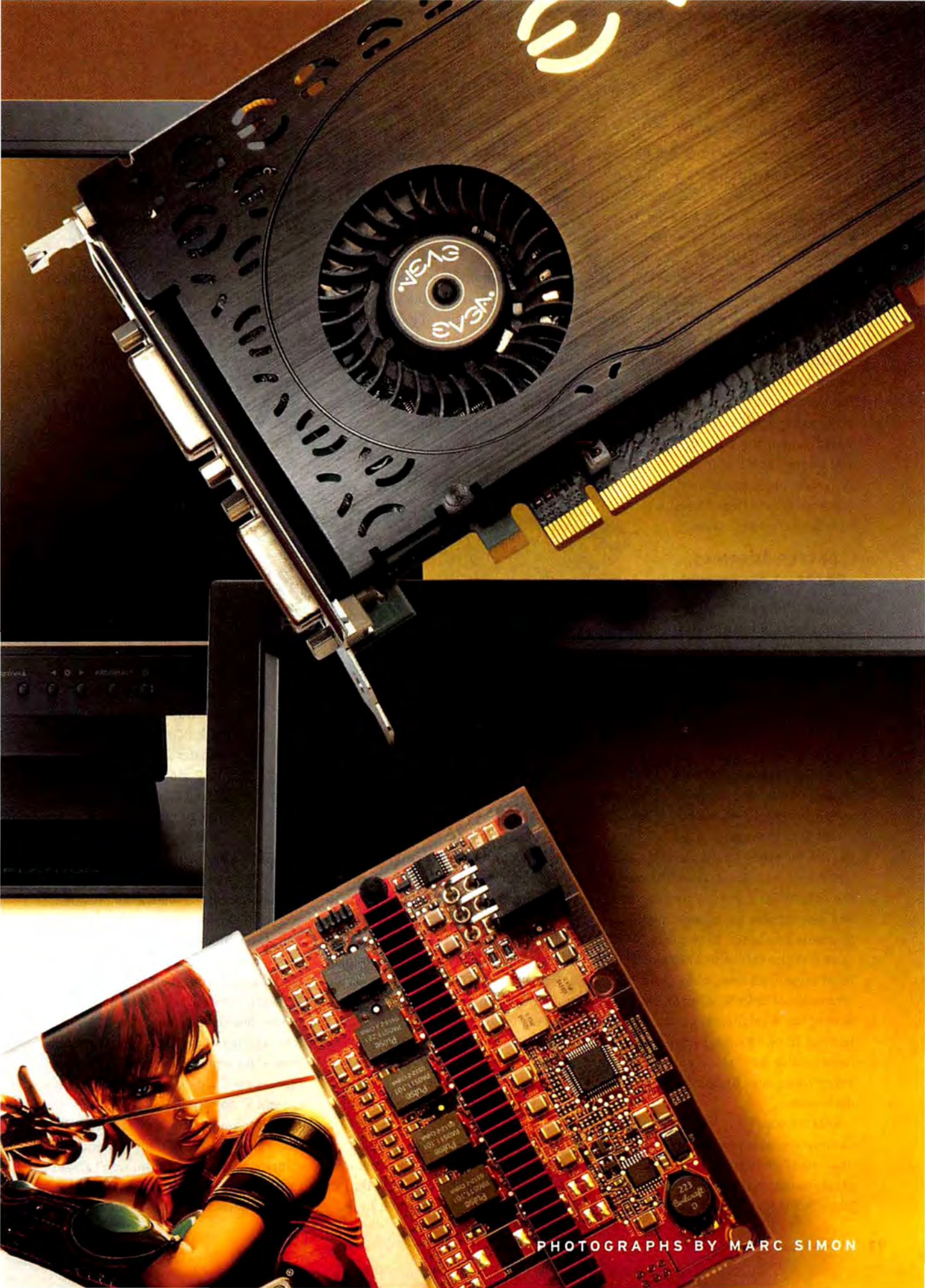
You don't have to be a gamer to benefit from a better graphics card. Our lab tests identify the best choices, from \$99 boards to sophisticated dual-card setups.

BY RICHARD BAGULEY

GRAPHICS CARDS aren't just for gamers. A good card can improve your computing experience on many different levels, providing superior image and video quality, boosting system performance, and enhancing productivity through features such as dual-monitor support. Oh, and did we mention that the right card can make high-definition content look fabulous?

Best of all, you don't have to spend a fortune to see noticeable improvements in your PC's graphics capabilities. For this roundup, the PC World Test Center benchmarked ►

Greater Graphics



PHOTOGRAPHS BY MARC SIMON

16 cards using a new suite of tests. Our mainstream-board chart topper, EVGA's e-GeForce 6800 GS, will offer most PCs a nice performance boost for \$200. If you are willing to spend more—make that a lot more—our top-ranked power card, EVGA's \$570 e-GeForce 7800 GTX KO, offers cutting-edge graphics power.

Still looking for a reason to update your PC's graphics? Consider Windows Vista. Microsoft hasn't actually set the requirements for its next version of Windows yet, but the company's initial recommendations are to have a dedicated graphics board supporting DirectX 9 and having 128MB of memory in order to run the new stylish and effects-heavy user interface called Aero Glass.

BETTER GRAPHICS, BETTER EXPERIENCE

WHILE YOU DON'T need a \$500 graphics board to run Microsoft Word smoothly, an old card or integrated graphics can affect overall system performance and even your productivity. For instance, integrated graphics draw on main system memory to do the job, which leaves your PC with fewer overall resources.

Our Dell Dimension 5150 test machine used Intel's latest integrated Graphics Media Accelerator 950, part of the Intel 945G Express chip set, yet we still saw modest performance gains by upgrading to basic, \$100 cards. XFX's value GeForce 6600 with 256MB of DDR2 RAM upped performance by about 7 percent in the Mozilla Web-browser component of our WorldBench 5 tests. The difference in our gaming tests was even more notable. See "\$100 Cards Bump Up Performance, on a Budget" on page 96 for the lowdown.

Another way that a good graphics card can improve your productivity is through dual-monitor support. Few integrated graphics chips or entry-level cards can take advantage of Windows XP's ability to

Integrated graphics draw on main system memory to do the job, leaving your PC with fewer overall resources.

spread a desktop over two monitors, which is too bad: A 2004 study by the University of Utah entitled "Productivity and Multi-Screen Computer Displays" found that people complete common business tasks in spreadsheets and word processing programs more quickly and accurately when they use dual monitors.

nologies—Avivo in ATI's newest chips, and PureVideo in nVidia's. Among other things, these technologies handle images much the way high-end DVD players do, processing images to deinterlace them (removing jittery effects you sometimes see in fast-moving video) and to scale them to fit the screen or window better.

PLAYING YOUR CARDS RIGHT

BEFORE YOU PERUSE our chart for your perfect graphics card upgrade, you should first understand some of the technologies underlying the cards and inside your PC.

All of the graphics cards we examined plug into a PCI Express (PCIe) x16 slot, which comes standard on the motherboards of most new PCs. A PCIe slot can transfer data faster than the AGP slot that is found in older PCs, and you can't use a PCIe graphics card in an AGP slot (or vice versa).

To find out which slot you have, check your PC's manuals or read our guide to the modern motherboard at find.pcworld.com/50620. Note that an older system with integrated graphics has to have at least an available AGP slot to make it worth upgrading. A newer PC with a PCIe x16 slot would be even better. Some motherboards have two PCIe x16 slots, into which you can install two cards in parallel for some serious graphics muscle (see "Two Cards or One, That Is the Question" on page 94).

Most manufacturers offer both PCIe and AGP versions of their low-end and midrange products, but you won't always find the latest chips. For instance, EVGA's fastest AGP card is the GeForce



EVGA'S top-ranked e-GeForce 6800 GS (left) and ATI's All-In-Wonder X800 XL.

Whether you're connecting to one or two monitors, another limiting factor of your old graphics setup may be the connections it has: Most systems with integrated graphics don't offer DVI connections, which allow you to use the digital interface of most LCD monitors to get the best possible image quality.

It's also worth noting that high-end video editing apps such as Pinnacle Studio and Adobe Premier Pro can leverage a dedicated graphics card's GPU and memory to improve render times on some effects. If you're interested in editing high-definition video, Pinnacle Studio 10 requires at least 256MB of video memory.

A new card can also make DVDs and videos look better through built-in tech-

6800, based on nVidia technology that's over a year old. ATI's fastest AGP card is its similarly aging X850 series.

At the heart of a graphics card is the graphics processing unit, a dedicated chip for rendering 3D graphics quickly and efficiently. While your CPU processes any

sort of information, a GPU handles just display data, turning amazingly complex mathematical models into full-motion images. ATI and nVidia make the vast majority of chips appearing on graphics cards from the lower end (ATI's Radeon X1300 and nVidia's GeForce 6200) up to

the higher end (ATI's Radeon X1800 XT and nVidia's GeForce 7800 GTX).

The difference between the two classes of graphics board lies in their capability to effectively handle the most complex 3D display work, particularly at very high resolutions. Boards that are built around ▶

FEATURES COMPARISON

TEST Center

nVidia Tops ATI in Middle to High Range

EVGA CARDS placed first overall in both categories, while ATI's noisy new X1800 XT shows promise in the power ranks.

	MAINSTREAM BOARD	PCW Rating	Performance (fps)	Features and specifications	Bottom line
1	EVGA e-GeForce 6800 GS Best \$200 BUY find.pcworld.com/50622	88 Very Good	<ul style="list-style-type: none"> Battlefield 2: 42 Half-Life 2: 57 Quake 4: 42 	<ul style="list-style-type: none"> 256MB nVidia GeForce 6800 GS DVI-out, 15-pin VGA-out, S-Video-in/out, composite-in/out, component-out 	Built around the highest performer among nVidia's mainstream Series 6 GPUs, this card works well for its price.
2	ATI All-In-Wonder X800 XL \$299 find.pcworld.com/50624	87 Very Good	<ul style="list-style-type: none"> Battlefield 2: 41 Half-Life 2: 75 Quake 4: 42 	<ul style="list-style-type: none"> 256MB ATI Radeon X800 XL DVI-out, S-Video-in/out, composite-in/out, component-out 	Solid performance scores, built-in TV-tuner, and a new lower price help this ATI-based card achieve its place on the chart.
3	BFG Technologies GeForce 6600 GT OC \$180 find.pcworld.com/50626	78 Good	<ul style="list-style-type: none"> Battlefield 2: 28 Half-Life 2: 42 Quake 4: 32 	<ul style="list-style-type: none"> 128MB nVidia GeForce 6600 GT Two DVI-out, S-Video-out, composite-out, component-out 	BFG's card offers satisfactory performance; but for a bit more money, EVGA's e-GeForce 6800 GS is significantly faster.
4	PNY GeForce 6600 GT \$165 find.pcworld.com/50628	77 Good	<ul style="list-style-type: none"> Battlefield 2: 27 Half-Life 2: 40 Quake 4: 31 	<ul style="list-style-type: none"> 128MB nVidia GeForce 6600 GT Two DVI-out, S-Video-out, composite-out, component-out 	This inexpensive card doesn't have the performance muscle of pricier models, but it is a good value for the money.
5	Aopen Aeolus 6800 GT \$249 find.pcworld.com/50630	77 Good	<ul style="list-style-type: none"> Battlefield 2: 39 Half-Life 2: 56 Quake 4: 43 	<ul style="list-style-type: none"> 256MB nVidia GeForce 6800 GT Two DVI-out, S-Video-out, composite-out 	This moderately priced card has good performance and includes two games, but some other cards offered a better deal.
POWER BOARD					
1	EVGA e-GeForce 7800 GTX KO Best \$570 BUY find.pcworld.com/50632	88 Very Good	<ul style="list-style-type: none"> Battlefield 2: 72 Half-Life 2: 104 Quake 4: 84 	<ul style="list-style-type: none"> 256MB nVidia GeForce 7800 GTX Two DVI-out, S-Video-in/out, composite-in/out, component-out 	EVGA's "hyperclocked" card is fast and quiet. A large heat sink and fan dispel heat without blocking an adjacent slot.
2	BFG Technologies GeForce 7800 GTX OC \$549 find.pcworld.com/50634	84 Very Good	<ul style="list-style-type: none"> Battlefield 2: 71 Half-Life 2: 101 Quake 4: 81 	<ul style="list-style-type: none"> 256MB nVidia GeForce 7800 GTX Two DVI-out, S-Video-in/out, composite-in/out, component-out 	This overclocked card offers impressive results, but it was a touch slower than its also-overclocked competitor from EVGA.
3	XFX GeForce 7800 GT \$380 find.pcworld.com/50638	83 Very Good	<ul style="list-style-type: none"> Battlefield 2: 64 Half-Life 2: 90 Quake 4: 69 	<ul style="list-style-type: none"> 256MB nVidia GeForce 7800 GT Two DVI-out, S-Video-in/out, composite-in/out, component-out 	Though a little slower than the GTX-based models, this 7800 GT-based card is also significantly less expensive.
4	ATI Radeon X1800 XT \$599 find.pcworld.com/50636	83 Very Good	<ul style="list-style-type: none"> Battlefield 2: 74 Half-Life 2: 107 Quake 4: 77 	<ul style="list-style-type: none"> 512MB ATI Radeon X1800 XT Two DVI-out, S-Video-in/out, composite-in/out, component-out 	ATI's flagship card topped many of our performance tests, but its fan is too noisy and it uses an adjacent expansion slot.
5	MSI GeForce 7800 GT \$360 find.pcworld.com/50640	83 Very Good	<ul style="list-style-type: none"> Battlefield 2: 62 Half-Life 2: 85 Quake 4: 65 	<ul style="list-style-type: none"> 256MB nVidia GeForce 7800 GT Two DVI-out, S-Video-in/out, composite-in/out, component-out 	MSI's 7800 GT card won't outrun a 7800 GTX board, but it provides excellent performance at a much more reasonable price.

CHART NOTES: Ratings are as of 12/28/2005. All game performance times are in frames per second; higher numbers are better. Data based on tests designed and conducted by the PC World Test Center. All rights reserved. For full information on testing procedures, please visit find.pcworld.com/50938.

more recent GPUs support new features of Microsoft's DirectX 9 software, such as Shader Model 3.0, which some games use to create more realistic images.

Like a PC, a graphics cards relies on

memory to do its job. Each card we tested features at least 128MB of graphics memory, and most offer 256MB; at the high end is a 512MB card. Generally speaking, 128MB is fine for running office applica-

tions and many games (even when you're using two monitors); but if you can afford it, a 256MB card's extra memory should help advanced and future apps run at their higher quality settings.

POWER GRAPHICS

Two Cards or One, That Is the Question

PCs FEATURING DUAL-CARD graphics capabilities like nVidia's established SLI (Scalable Link Interface) and ATI's still-evolving CrossFire let users run two graphics cards simultaneously, based on the assumption that two are always better than one. However, our tests reveal that this isn't always the case, particularly at the pricey end of the graphics card spectrum.

We tested both a mainstream and a high-end SLI graphics card combination using Alienware's Aurora 7500 SLI system (see find.pcworld.com/50542). At press time ATI CrossFire-based systems were still unavailable. For the mainstream assessment, we tested cards with nVidia's GeForce 6600 GT

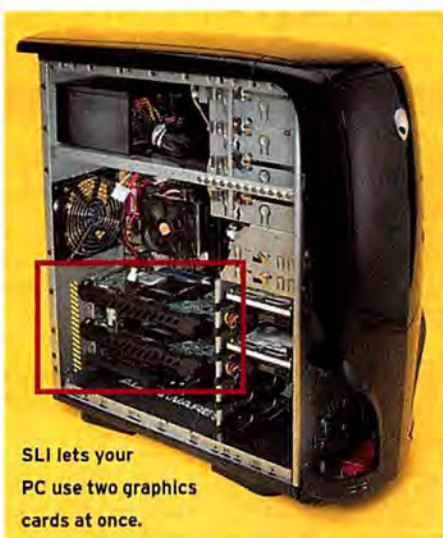
that sell for about \$165 each; for the power graphics comparison, we used GeForce 7800 GTX cards priced at about \$550 each.

At the high end, tests at a resolution of 1024 by 768 actually favored the single-card 7800 GTX over the dual-card setup in some instances. For example, in our Battlefield 2 test with antialiasing turned on, the single-card version hit 78 fps and the dual-card one reached 76 fps. However, when we turned up the resolution to 1600 by 1200, the dual-card option took over, posting 69 fps versus 58 fps with antialiasing turned on. Half-Life 2 results were similar.

In our other tests, such as Quake 4, the dual-card setup generally outperformed the single card at the lower resolutions, but often by an imperceptible few frames per second. When we turned up the resolution, the dual-card option widened the lead.

MAINSTREAM CARDS SHOW SLI ADVANTAGE

THE SINGLE-VERSUS-DUAL showdown using the mainstream 6600 GT boards produced a clearer winner: Without exception the dual-card configuration bettered the single-card option at both resolutions. However, during testing we received a \$200 card based on nVidia's new GeForce 6800 GS chip, so we threw it in the mix and found that for just \$35 more than the price of a single 6600 GT (and \$130 less than the cost of two), the 6800 GS proved a worthy challenger to the dual-card 6600 GT configuration.



SLI lets your PC use two graphics cards at once.

In Battlefield 2 at 1024 by 768 (with antialiasing turned on), the single 6600 GT card posted 40 frames per second, the dual card-6600 GT setup reached 59 fps, and the single 6800 GS card notched 60 fps. In the Quake 4 test the dual-card 6600 GT setup won out at the same resolution, reaching 111 fps compared to 67 fps for the single 6600 GT card and 84 fps for the single 6800 GS card.

So when are two cards really better than one? At the high end it makes sense to pay for two 7800 GTX cards only if you need the very best level of performance and you plan to run your monitor at 1600 by 1200 (or higher). If you're in the mainstream camp, the

recommendations are trickier. If you already own a 6600 GT, buying a second one makes sense. If you're starting from scratch, a single 6800 GS is the smarter buy.

—Tom Mainelli

TEST REPORT

SLI SHINES IN HIGH RESOLUTION

NVIDIA'S DUAL-CARD SLI setup is best at high resolutions and offers the most value using mainstream boards.

NVIDIA BOARD	Battlefield 2		Half-Life 2	
	1024 by 768	1600 by 1200	1024 by 768	1600 by 1200
7800 GTX	78	58	115	71
7800 GTX SLI	76	69	116	106
6600 GT	40	20	51	19
6600 GT SLI	59	39	82	27
6800 GS	60	34	77	40

TEST CHART NOTES: Antialiasing options used for all tests. Game performance times are in frames per second; higher numbers are better. Data based on tests designed and conducted by the PC World Test Center. All rights reserved. For full information on testing procedures, please visit find.pcworld.com/50940.

Two things to consider when comparing two seemingly identical cards are the software bundles and warranties. At press time nVidia was offering a free copy of the game Call of Duty 2 if you bought a high-end card from partners including BFG Tech, EVGA, and XFX. Sapphire also had an interesting bundle: Its ATI X1800 XL-based card had demos of four games running an hour that let you download full versions of two of the games.

ATI recently reduced the warranty on its own cards from three years to one but says manufacturers are free to extend that as they choose. The warranty on cards based on nVidia GPUs differ: AOpen offers 15 months, while others (such as BFG Tech, EVGA, and XFX) supply a lifetime warranty under which they claim they will repair or replace the card for as long as you own it. XFX even allows you to transfer the warranty if you sell the card. EVGA also offers an upgrade plan: If you buy one of its cards but decide within 90 days that you would rather have a faster one, you can trade in your old card for a credit.

Finally, be sure you know what devices you plan to connect to your board. Whether you intend to use a single analog monitor, a digital connection to dual LCDs, or even a component hookup to a TV, it's up to you to make sure your card supports it.

IN THE CHARTS

FOR THIS ROUND OF TESTS, the PC World Test Center created a new suite of benchmarks featuring the latest games. Why games? Because that's where the most sophisticated and demanding programming always happens. So even if you're not planning to use a new graphics card specifically for games, they're still the best way to test a card's chops. As such, we tested each card with a variety of

Two things to consider when comparing two seemingly identical cards are the software bundles and warranties.

games—including Battlefield 2, Doom3, Far Cry, Half-Life 2, and Quake 4—at multiple resolutions and quality settings.

We divided the tested graphics cards into two categories: mainstream (cards priced from \$150 to \$299) and power (cards priced \$300 and up). We tried to include a mix of both nVidia- and ATI-based cards,

BFG Technologies' GeForce 6600 GT OC performed reasonably well in our tests, but its 128MB of memory should be the minimum you're considering. PNY's GeForce 6600 GT has the same limitation; at \$165, though, it's the cheapest on the chart. Several ATI-based cards just missed the rankings, including Power-

Color's \$170 Radeon X800 GT and Sapphire's \$380 Radeon X1800 XL. Coming in closest was the ASUS Radeon EAX1800 XL, a \$400 power card.

EVGA earns the top spot again on the power side: Its e-GeForce 7800 GTX KO was seriously fast, yet noise remained at a minimum thanks to the large, cage-like heat sink that covers the entire card without blocking the adjacent PCI expansion slot.

By contrast, the ATI Radeon X1800 XT not



ATI'S X1800 XT (left) was speedy but noisy, placing it behind two overclocked cards—EVGA's 7800 GTX KO and BFG Technologies' 7800 GTX OC.

but despite ATI's recent launch of its new 1000-series chips, few vendors

(including ATI itself) were able to provide us with testable cards. As a result, we tested ten nVidia-based and six ATI-based boards for this month's charts.

Our top pick for mainstream users is the EVGA e-GeForce 6800 GS: It performed well in our tests, producing decent frame rates at most resolutions, and at \$200 it's great value for the money. ATI's \$299 All-In-Wonder X800 XL lands in second; it combines high-quality graphics with a TV tuner, allowing you to record TV shows and watch them on the PC. (ATI recently launched a \$499 X1800 XL-based version of the All-In-Wonder, but it wasn't available for testing.)

only blocked the next slot but was also much noisier. While at \$570 the EVGA card isn't cheap, it has performance to spare, generating good frame rates at the highest resolutions. It even produced a very playable 53.8 frames per second at 1600 by 1200 resolution in Quake 4 with antialiasing enabled, a test that made many of the other cards sputter. It had some serious competition, though, as both the BFG Technologies GeForce 7800 GTX OC and the ATI Radeon X1800 XT were as fast (or slightly faster).

Taking the third and fifth spots in the power category, respectively, are the XFX GeForce 7800 GT and MSI GeForce 7800 GT. Both use a slightly slower version of the nVidia GPU, and it shows: They produced significantly lower scores in our tests. Both, however, are also a lot ▶

cheaper than their faster cousins, and the XFX comes with one of the better software bundles in the group, including the games Far Cry and MotoGP2.

Integrated graphics have always been adequate for most business computing tasks, but they have also been incapable of

handling sophisticated 3D graphics rendering, including any kind of serious gaming. Though integrated graphics have improved recently, new software is ever more demanding, and the next-generation Windows Vista is expected to come with heavy graphics-processing require-

ments. With that in mind, even a careful and modest investment in a new graphics card could give your PC new legs. ■

Richard Baguley is a San Francisco Bay Area-based freelance writer. Tom Mainelli is a senior editor for PC World.

VALUE GRAPHICS

\$100 Cards Bump Up Performance, on a Budget

WE WANTED TO GET AN IDEA of what benefits a \$100 graphics card could give to an upgradable system with integrated graphics. So we tested a couple of these low-cost cards using a \$1394 Dell Dimension 5150 system with a 3.2-GHz processor and 512MB of RAM.

After running a series of tests using the Graphics Media Accelerator 950 chip that was integrated in the PC's Intel 945G chip set, we upgraded the system with two PCI Express graphics cards: first the \$99 XFX GeForce 6600 and then the \$102 Sapphire Radeon X1300. The GMA 950 is the fastest integrated graphics chip Intel currently offers, and the two boards we tried are among the least expensive mainstream cards available. Although the two boards include recent GPUs, they use 256MB of DDR2 (not DDR3) memory to keep the price down. Both support dual monitors.

TEST REPORT

CHEAP CARDS, MODEST GAINS

Even budget cards help boost system and gaming performance versus what you get with integrated graphics.

GRAPHICS CHIP	WorldBench 5 score	Battlefield 2	Half-Life 2	Quake 4
Intel GMA 950 (945G Express chip set)	84	n/a	11	10
XFX GeForce 6600	88	43	72	58
Sapphire Radeon X1300	86	25	46	25

TEST CENTER CHART NOTES: Antialiasing options used for all tests. Game performance times are in frames per second; higher numbers are better. Data based on tests designed and conducted by the PC World Test Center. All rights reserved. For full information on testing procedures, please visit find.pcworld.com/50940.



HEAD TO HEAD

ALTHOUGH WE again used games to put the Sapphire, XFX, and integrated graphics options through their paces, we also applied WorldBench 5, which employs a range of programs in testing (see find.pcworld.com/44262). This way, we could get a reasonable idea of the performance increase to be derived in everyday tasks.

Adding XFX's card boosted the Dell test system's WorldBench 5 score to 88, an improvement of about 5 percent over the score with the integrated graphics. The Sapphire card's gain was more modest, increasing the WorldBench 5 score to 86, a plus of about 2 percent. Though both dedi-

cated budget cards made daily tasks slightly faster, we were happily surprised at how the integrated graphics stood up in our tests.

As expected, gaming got the most gains. Our test system could not run Battlefield 2 with the integrated graphics, but it was able to achieve a very smooth 43 frames per second with the XFX and a barely playable 25 fps with the Sapphire. Half-Life 2 was also seriously improved from the unplayable 11 fps achieved with the integrated graphics, which also had problems rendering some effects.

These test results suggest that even an inexpensive graphics card can make your upgradable PC with integrated graphics faster. A new card can definitely provide you with more output options, as well, such as S-Video-out and multiple monitor connections. Gaming certainly receives the greatest benefit: Although neither card was as quick as the much more expensive models we tested, both produced improvements over the integrated graphics.

In short, we found that even an upgradable PC with newer integrated graphics could achieve modest gains with a \$100 card. Moreover, it's clear that such an addition should give an older upgradable system built with less-modern integrated graphics new power and a new lease on life.

—Richard Baguley

Acer recommends Windows® XP Professional.

acer

January/February 2006

Acer®, like Ferrari, is the technology driver of tomorrow. Both produce desirable, eye-catching and devastatingly fast products that embody the passion, spirit and experience of years leading the competition. The magnificent carbon fiber casing of the **Ferrari 4000** conceals the very latest 64Bit technology, full wireless connectivity and widescreen monitor. Powerful, dark and purposeful, the **Ferrari 4000** has the presence of a true champion.

NEW **Ferrari 4000** NOTEBOOK TECHNOLOGY DRIVER

- AMD Turion™ 64 Mobile Technology ML-37
 - AMD PowerNow!™ Technology
 - HyperTransport™ Technology
 - Enhanced Virus Protection Technology¹
- Microsoft® Windows® XP Professional
- 1GB DDR333 SDRAM
- 100GB² hard drive, 5400RPM
- Integrated DVD-Super Multi double-layer drive
- 5-in-1 card reader for optional MultiMediaCard™, Secure Digital card, Memory Stick®, Memory Stick PRO™ or xD-Picture Card™
- 15.4" WSXGA+ (1680 x 1050) TFT display
- ATI® MOBILITY™ RADEON® X700 graphics, 128MB DDR
- 802.11b/g WLAN, Bluetooth®, gigabit LAN, V.92 modem
- One-year limited warranty³

Ferrari
OFFICIAL LICENSED PRODUCT



Ferrari 4005WLMi

\$2,199

(LX.FR406.035)

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

acer



acer

Acer® Flat Panels: Displaying Quality & Value

Acer AL2416Wd

- 24" wide-screen TFT LCD
- 1920 x 1200 native resolution
- 1000:1 contrast ratio
- 178° horizontal viewing angle
- 178° vertical viewing angle
- VGA, DVI-D signal connectors
- 500 cd/m² brightness
- 6ms response time
- Internal power adapter
- Silver color



24" WIDE-SCREEN

Acer AL2416Wd

\$919

(ET.L6102.018)

Ferrari F-20

- 20" wide-screen TFT LCD, Acer CrystalBrite Technology
- 1680 x 1050 native resolution
- 800:1 contrast ratio
- 176° horizontal viewing angle
- 176° vertical viewing angle
- Two 5.0W integrated speakers
- VGA, DVI-D signal connectors
- 300 cd/m² brightness
- 8ms gray-to-gray response time
- External power adapter
- Gloss black/red color



HI-TECH PASSION

Ferrari F-20

\$599

(ET.L380B.063)

Acer® TravelMate™ 4400

Powerful Business Asset



The Acer TravelMate 4400 features everything you need to perform at your best in today's business environment, including advanced graphics capabilities, wide-screen display and wireless connectivity. Moreover, because this notebook is powered by AMD Turion™ 64 Mobile Technology, you'll experience leading-edge 32-bit performance and seamless 32- to 64-bit migration. For added convenience get the ezDock Docking Station, your one-step connection to desktop peripherals.

15.4" WIDE-SCREEN



Acer TravelMate 4402WLMi

\$1,199

AMD Turion™ 64 Mobile Technology ML-30
Microsoft® Windows® XP Professional
(LX.T7806.023)

- AMD Turion™ 64 Mobile Technology ML-30
 - AMD PowerNow!™ Technology
 - HyperTransport™ Technology
 - Enhanced Virus Protection Technology¹
- Microsoft® Windows® XP Professional
- 512MB DDR333 SDRAM
- 100GB² hard drive
- Integrated DVD-Super Multi double-layer drive
- 6-in-1 card reader for optional SmartMedia™ card, MultiMediaCard™, Secure Digital card, Memory Stick®, Memory Stick PRO™ or xD Picture Card™
- 15.4" WXGA (1280 x 800) TFT display
- ATI® MOBILITY™ RADEON® X700 graphics, 64MB DDR
- 802.11b/g WLAN, gigabit LAN, V.92 modem
- One-year limited warranty³

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

Acer® ezDock

Manage and organize peripheral connections with ease. Add or remove devices instantly, without turning off your notebook. The one-plug Acer ezDock features 21 interface ports and two card slots for desktop-like expansion possibilities, as well as PCI Express™ technology and a Kensington® lock slot.



Acer ezDock Docking Station

\$299

(LC.D0103.004)

Compatible with the TravelMate 8100, 4650,
4400, 3000, C310, C200; Ferrari 4000



acer



Compare LCD Prices/Features & You'll Choose Acer®



Acer AL2032W A
\$539
(ET.L380B.065)

Acer AL2032W A

- 20" wide-screen TFT LCD
- 1680 x 1050 native resolution
- 800:1 contrast ratio
- 176° horizontal viewing angle
- 176° vertical viewing angle
- Two 5.0W integrated speakers
- VGA, DVI-D signal connectors
- 300 cd/m² brightness
- 8ms response time
- External power adapter
- Gloss-black color

8MS RESPONSE TIME



Acer AL1951B
\$379
(ET.L4108.028)

Acer AL1951B

- 19" TFT LCD
- 1280 x 1024 native resolution
- 700:1 contrast ratio
- 150° horizontal viewing angle
- 135° vertical viewing angle
- Two 1.5W integrated speakers
- VGA, DVI-D signal connectors
- 400 cd/m² brightness
- 6ms response time
- External power adapter
- Silver/black color

6MS RESPONSE TIME



Acer AL1922r
\$349
(ET.L2508.091)

Acer AL1922r

- 19" TFT LCD with height adjustment & rotation
- 1280 x 1024 native resolution
- 700:1 contrast ratio
- 150° horizontal viewing angle
- 135° vertical viewing angle
- Two 1.0W integrated speakers
- VGA, DVI-D signal connectors
- 300 cd/m² brightness
- 8ms response time
- Internal power adapter
- Silver/black color

ADJUST HEIGHT & ROTATE



Acer AL1916W
\$279
(ET.L5209.005)

Acer AL1916W

- 19" wide-screen TFT LCD
- 1440 x 900 native resolution
- 500:1 contrast ratio
- 150° horizontal viewing angle
- 130° vertical viewing angle
- VGA signal connector
- 300 cd/m² brightness
- 8ms response time
- Internal power adapter
- Black color

19" WIDE-SCREEN



Acer AL1717 Bbmd
\$249
(ET.1717B.MD8)

Acer AL1717 Bbmd

- 17" 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-D signal connectors
- 300 cd/m² brightness
- 8ms response time
- Internal power adapter
- Black color

8MS RESPONSE TIME



Acer AL1716 Bbd
\$239
(ET.1716B.0D8)

Acer AL1716 Bbd

- 17" TFT LCD
- 1280 x 1024 native resolution
- 700:1 contrast ratio
- 150° horizontal viewing angle
- 135° vertical viewing angle
- VGA, DVI-D signal connectors
- 300 cd/m² brightness
- 8ms response time
- Internal power adapter
- Black color

\$20 PRICE CUT!

Acer recommends Windows® XP Professional.

Acer® Aspire™ T135

All-Around Budget Performer

9-IN-1 CARD READER

The Acer Aspire T135 boasts an impressive feature set in a stylish chassis at a price that won't break your budget. Ample power means you can efficiently perform everyday tasks. Expansion slots make the system easy to upgrade, while the eight USB 2.0 ports (two front, two internal, four back) give you the ability to connect to the latest peripherals. All in all, a sound investment for home, school or office needs.

- AMD Sempron™ Processor 3100+
- 3DNow!™ Professional Technology
- HyperTransport™ Technology
- Enhanced Virus Protection Technology¹
- Microsoft® Windows® XP Home Edition
- 512MB DDR SDRAM
- 80GB² hard drive
- DVD-Dual drive (DVD±RW)
- 9-in-1 card reader for optional MultiMediaCard™, Secure Digital card, SmartMedia™ card, Memory Stick®, Memory Stick PRO™, CompactFlash® I/II card, Microdrive® or xD-Picture Card™
- Integrated UniChrome™ Pro graphics
- 10/100 LAN
- One-year limited warranty³



Monitor sold separately.

Acer Aspire T135-U-S3100

\$399

AMD Sempron™ Processor 3100+
Microsoft® Windows® XP Home Edition



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

acer



Acer® Projectors with DLP™ Technology

Digital Light Processing™ from Texas Instruments is an all-digital display technology for projectors and other products that delivers the best picture in terms of clarity, brilliance and color.



- 2600 ANSI lumens
- XGA (1024 x 768) native resolution
- 2000:1 contrast ratio
- 16.7 million displayable colors
- PC and Mac compatible

Acer PD525

\$889

(EYJ1501.W04)

PD525



- 2000 ANSI lumens
- SVGA (800 x 600) native resolution
- 2000:1 contrast ratio
- 16.7 million displayable colors
- PC and Mac compatible

Acer PD100

\$779

(EYJ2101.006)

PD100

Projector Accessories

Acer projectors come with these accessories: remote control (batteries included) with laser pointer; carrying case; lens cap; CD-ROM user's guide; quick-start instructions; AC power cord; VGA (D-sub) to component/HDTV adapter; VGA (15-pin D-sub), composite video (RCA), S-video, USB and audio (mini-to-mini phone jack) cables.

For permanent placement of a projector in a conference room or classroom, you'll want an easy-to-install Ceiling Mount. Also, consider keeping a Replacement Lamp on hand for your Acer projector.

Replacement Lamp

\$299

(ECJ1001.001)

- Expected life in hours: 2,000 standard mode, 3,000 economy mode
- Designed for Acer PD525 and PD116P

Replacement Lamp

\$199

(ECJ2101.001)

- Expected life in hours: 2,000 standard mode, 3,000 economy mode
- Designed for Acer PD100

Ceiling Mount

\$79

(EZ.PCM03.007)

- 6.6 pounds
- Designed for Acer PD525, PD116P and PD100

Acer recommends Windows® XP Professional.

Acer® Aspire™ 5000

Power for Productivity



For your home or for your office the full-featured Acer Aspire 5000 notebook provides the must-have computing features, including a versatile DVD-Dual drive (DVD+/-RW) and wireless connectivity. You can also expect desktop-caliber performance from this multimedia powerhouse thanks to AMD Turion™ 64 Mobile Technology.

- AMD Turion™ 64 Mobile Technology
 - AMD PowerNow!™ Technology
 - HyperTransport™ Technology
 - Enhanced Virus Protection Technology¹
- Microsoft® Windows® XP Professional
- 512MB DDR333 SDRAM
- 80GB² hard drive
- Integrated DVD-Dual drive (DVD+/-RW)
- 15.0" XGA (1024 x 768) TFT display
- SiSM760GX chipset with integrated Mirage™2 graphics
- 802.11b/g WLAN, 10/100 LAN, V.92 modem
- One-year limited warranty³

Acer Aspire 5002LMi

\$899

AMD Turion™ 64 Mobile Technology ML-30
Microsoft® Windows® XP Professional
(LX.A5106.001)

\$100 PRICE CUT!

**Made for mobility with
AMD64 performance**



Acer Notebook Service Upgrades Protect Your Valuable Investment

Quality is built into every notebook Acer makes, and each comes with a one-year standard limited warranty.¹ 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 to and 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 warranty¹ 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.

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

The Acer logo, featuring the word "acer" in a lowercase, italicized, sans-serif font.

acer

Acer® Aspire™ 3000

Entertainment Starts Here



COMBO DRIVE

- Mobile AMD Sempron™ Processor 3000+
 - AMD PowerNow!™ Technology
 - HyperTransport™ Technology
 - Enhanced Virus Protection Technology¹
- Microsoft® Windows® XP Home Edition
- 256MB DDR333 SDRAM
- 40GB² hard drive
- Integrated CD-RW/DVD-ROM combo drive
- 15.0" XGA (1024 x 768) TFT display
- SiSM760GX chipset with integrated Mirage™ 2 graphics
- 802.11b/g WLAN, 10/100 LAN, V.92 modem
- One-year limited warranty³



Acer Aspire 3003LCi

\$619

Mobile AMD Sempron™ Processor 3000+
Microsoft® Windows® XP Home Edition
(LX.A5505.604)



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

¹ Enhanced Virus Protection (EVP) is enabled by Microsoft® Windows® XP Service Pack 2. By default, EVP will protect the user's Windows operating system only. Users must enable the protection of their applications and associated files to be protected from memory buffer overrun attacks. AMD and Microsoft strongly recommend that users use third-party anti-virus software as part of their security strategy.

² 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.

³ 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.

© 2005 Acer America Corporation. Information and prices are subject to change without notice. Pricing is effective from January 1, 2006 through February 15, 2006. Product images are representations of some of the models available and may vary from the model you purchase. Acer, the Acer logo and TravelMate are registered trademarks of Acer Inc. Aspire is a trademark of Acer America Corporation. Microsoft and Windows 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 Athlon Logo, AMD PowerNow!, AMD Sempron, AMD Sempron Logo, HyperTransport, and combinations thereof, are trademarks of Advanced Micro Devices, Inc.

acer



**COUNTERFEIT HARDWARE IS MAKING ITS WAY
TO ONLINE MERCHANTS AND TO STORES NEAR YOU.
AND POOR PERFORMANCE ISN'T THE ONLY RISK:
BOGUS PARTS CAN BE HAZARDOUS TO YOUR HEALTH.**

BY TOM SPRING ♦ PHOTOGRAPH BY RICK RIZNER

KRIS MUNFORD HAD JUST STARTED her shift as a 911 dispatcher for the Ogden, Utah, police department last February, when she felt a burning sensation from something in her fleece-jacket pocket. As she stood up, her Motorola V300 cell phone burned a hole through the pocket and fell

to the floor, where it exploded on impact. She suffered minor burns. Though her phone was genuine, its battery was a fake.

WireFly.com, where Munford bought the battery, "looked reputable," she says. "I checked several other sites, and the prices were comparable. So I went with it." The site is an authorized Motorola reseller. WireFly spokesperson Tripp Donnelly says that company officials had no idea they had ever sold counterfeit goods. According to Donnelly, WireFly obtained the phone directly from T-Mobile.

Though unable to confirm that WireFly got the handset from it, T-Mobile issued the following statement: "This was an isolated incident, and T-Mobile has cooperated with the manufacturer to help determine the cause." T-Mobile also supplied

Munford with another wireless phone.

Bogus cell phone batteries, shoddily made and potentially unsafe, are a specialty of counterfeiters. "It's one thing to buy a fake \$30 Louis Vuitton bag on Canal Street in New York City. It's an entirely different matter when you buy a fake cell phone battery and it blows up," says Arch Ahern, Motorola's senior counsel for trademark and marketing. He says Motorola works with authorities around the world to seize millions of dollars' worth of counterfeit Motorola batteries each year. (See "Countering the Counterfeiters," below, for tips on avoiding fake goods.)

Besides endangering users, counterfeit products may perform poorly, corrupt a computer's data, or just plain not work.

And batteries aren't the only tech item

that counterfeiters love. In October 2004, U.S. Customs and Border Protection officials in Anchorage, Alaska, seized 20,000 suspected fake Memorex USB memory key thumb drives from Asia. And last year, Miami officials seized 900 allegedly phony laptops valued at \$700,000.

"Maybe it's a laptop, an MP3 player, or a component like a DVD drive—anything in the digital world can be counterfeited," says Therese Randazzo, a U.S. Customs Service counterfeiting expert. Fake software is rampant, too: As much as a third of the money spent on packaged software globally may go for counterfeits, say analysts. For more on this issue, see "Pirates Menace the Software Seas" on page 110.

TEST BUYS

TO DISCOVER HOW prevalent counterfeit high-tech parts have become in the United States, *PC World* purchased seven hard drives, seven memory modules, and ten cell phone batteries online, using pricing search engines to find low prices. We then

SHOPPING TIPS

Countering the Counterfeiters

ROCK-BOTTOM PRICES on brand-name technology gear may net you no real bargains. Unless you're careful you might get stuck with an unreliable product. Distinguishing the knockoffs from the genuine article is tricky, but here are some shopping tips, along with a few indicators that should raise red flags when you're hunting for good deals.

1 Be careful where you buy: To find a trusted reseller online or at a brick-and-mortar location near you, visit the product manufacturer's Web site.

There, in many cases, you can find a complete list of authorized, legitimate dealers.

2 Avoid too-good-to-be-true pricing: Before you buy, find out the price that major sellers or the manufacturer charges for the product. Pricing can be competitive online, but there are limits. For example, *PC World* bought the counterfeit Nokia battery for less than half what the real one cost at authorized dealers. Such deep discounts are unlikely to be legitimate. Also, some dealers do a bait

and switch: You think you're purchasing one set of parts—say, Micron memory—but the dealer sends you an obscure or less-costly (to the retailer) brand instead.

3 Pay attention to performance problems: Counterfeit computer memory can lead to PC system freezes or crashes. Fake inkjet cartridges may produce substandard printouts, have a shorter-than-expected life span, and leak all over the inside of your printer. A bogus cell phone battery may overheat, yield reduced airtime, or even explode. Make sure the product meets your PC's required specs before you buy, and keep track of your device's performance before and after

the new purchase; if it isn't performing properly, demand your money back.

4 Check with vendors: Visit the vendor's Web site to see if it has an authentication program through which you can check serial numbers and the like to verify your product's legitimacy. For example, Nokia batteries have a holographic logo and a hidden serial number that customers can uncover and then look up online or via text message; Kingston offers a similar online verification method, where you type in the serial number of a suspect memory module to investigate it.

5 Beware of auctions: Many auction sites offer very competitive prices, but some may sell fake merchandise. Check seller ratings carefully, and consult with the Better Business Bureau to research sellers that operate storefronts at auction sites like eBay. —Tom Spring

asked vendors to authenticate the gear. Of the two dozen products we bought, four (all cell phone batteries) were counterfeit. We also received at least one old or refurbished product masquerading as new, got one broken drive, and in a few cases ordered a specific brand but received a cheaper brand in its place. Worse, our reporter had his credit card number stolen and misused multiple times during the course of researching this story. Ulti-

stresses that AA Wireless inspects items it buys from distributors before selling them.

Kyocera also confirmed that a battery we sent for testing was counterfeit; we agreed not to reveal the source of that battery due to an ongoing investigation.

SIZING UP THE DAMAGE

UP TO 10 PERCENT of all high-tech products sold worldwide are phony, according to the Alliance for Gray Market and Coun-

UP TO 10 PERCENT OF HIGH-TECH PRODUCTS SOLD ARE PHONY.

mately, only 15 of the 24 items we bought turned out to be exactly as advertised.

One fake, labeled as a Nokia BL-5C battery, came from a Web site called Genuine Cellular Accessories, which is based in Niland, California. Store manager George Heras says he had no inkling the battery he bought from a California distributor was phony. He declines to name the distributor. "We are careful who we buy [parts] from, but generally we look for the most competitive prices," he says.

Nokia includes a holographic seal of authenticity on its batteries, along with a blacked-out area users can scratch off to reveal a serial number they can check online. Our unit had such a seal, but when we scratched off the covering to verify its number, nothing was underneath. Nokia confirmed that the battery was a counterfeit. The company also identified a second battery we purchased as counterfeit; that one's source is still under investigation.

Motorola verified that a battery bearing its logo, which we bought from SimonCells.com, a Brooklyn, New York-based site, was fake, too. SimonCells.com's Sam Neuman says he did not know the battery was phony. He says he got it from Los Angeles-based distributor AA Wireless.

AA Wireless says it has no idea where this battery came from. "They make counterfeits so good these days, you really can't tell what is fake or real anymore," says AA Wireless vice president Frank Nozar. He

counterfeit Abatement (AGMA), a trade association composed of high-tech firms. Printers, laptops, cell phones, and components such as memory chips and integrated circuits are the types of hardware most frequently counterfeited. Such knockoffs cost manufacturers \$100 billion annually in lost sales, according to the AGMA.

A look at recent U.S. Customs and Border Protection seizures gives some idea of the problem's scope in the United States: Three of the top ten items that Customs agents seized in 2004 were consumer electronics, batteries, and computer hardware, according to U.S. Customs statistics. Although some of those seizures resulted from import

law violations, the majority involve counterfeit goods, according to Customs agents.

U.S. Customs' Randazzo says the value of seized tech goods more than doubled between 2004 and 2005. The fakes ranged from PC components (such as hard drives and keyboards) to entire systems. Also on the rise: seizures of networking hardware.

In fiscal year 2004, at the port of Anchorage, items that violated intellectual-property rights accounted for 80 percent of all goods seized, says Lance Robinson, assistant area port director of trade operation; high-tech gear made up 20 percent of that contraband. That figure puts counterfeit gear on a par with the volume of illicit drugs Anchorage Customs hauled in during the same period.

In certain parts of the world—including some Asian nations—finding real brand-name goods is harder than locating bogus ones, says Jorge Barahona, a private investigator hired by U.S. tech firms to protect their brands outside the United States.

PHONY LABELS

IN MANY CASES the counterfeiters don't make the phony hardware themselves. Instead, they take a legitimate but inexpensive hard drive or memory module from an undistinguished maker, slap on the label of a better-known firm, and charge a premium rate. Woody Taylor, ►



NOKIA INCLUDES a hologram and a hidden number to help authenticate batteries; the unit on the left lacks a number and is a fake.

CUSTOMS OFFICERS

Cummings (left) and Donate stand in front of some of the 900 allegedly counterfeit laptops seized last year in Miami and valued at \$700,000.



who uncovers counterfeits for Seagate, says hard drives made by little-known companies and rebranded as Seagate models make up the bulk of the hundreds of phony Seagate drives he sees each year.

According to numerous experts, counterfeits may also come from manufacturers that have a legitimate contract with a brand-name company but make products containing unauthorized or substandard parts. For example, Kyocera Wireless asserts that it had this problem with Texas-based Hecmma, a company Kyocera hired to make some of its cell phone batteries. Kyocera subsequently filed suit against Hecmma in the U.S. District Court of the Southern District of California, claiming that batteries made by Hecmma were defective and prone to overheating, and that Hecmma sold excess substandard batteries bearing the Kyocera name to distributors after Kyocera stopped its order.

In its own court filing, Hecmma strong-

ly denies these charges, arguing that it is the assembler—not the manufacturer—of the batteries, and that problems with components are thus beyond its control.

FREWAY TO FAKES

METHODS of distributing and selling counterfeits vary as much as methods of making them do. Counterfeits are most prevalent online, say experts, but you can get stuck with bogus gear at retailers, too. The major pathways are via national and regional distributors; in many cases these firms are unwitting participants. Parts manufacturers use intermediaries to get their products into stores. A maker may sell a huge lot of CD drives to a national distributor, which resells portions of the shipment to regional distributors, which in turn sell to local stores or Web sites.

"Counterfeiting is getting progressively worse," says Dan DiMase, president of SemiXchange, a Rhode Island distributor

of computer and electronic parts. "Ten years ago, all we were concerned about was whether the item was new or used. Now we go to great lengths to make sure what we buy from suppliers isn't fake."

Despite such checks, distributors and retailers may sell counterfeit goods unknowingly. Independent computer-parts distributor Resilien maintains it was unaware that HP memory modules it was selling were counterfeit until the company slapped it with a lawsuit last April.

"We bought the memory modules from a trusted European distributor," says Michael Walsh, Resilien's director of operations. HP had traced the memory back to Resilien after an end user installed the memory module in a computer server and the server malfunctioned. The court case between HP and Resilien was settled in October 2005, with Resilien agreeing to pay undisclosed damages to HP.

Europe is but one potential source of pirated goods. A report by the U.S. Patent and Trademark Office says that 66 percent of the counterfeit goods seized at U.S. borders in 2004 came from mainland China, up from 16 percent five years earlier. U.S. Customs says substantial quantities of seized goods in recent months have come from Russia, Malaysia, and Latin America—where anticounterfeiting enforcement is not a high priority.

Nearly every company representative interviewed for this story said that China holds the key to solving the problem. Lots of legitimate—and phony—gear is made there, as China has become a center for low-cost labor and global distribution. But the Chinese government has done little to stop counterfeiters, critics charge.

Siva Yam, president of the U.S. China Chamber of Commerce, says China could do a much better job of combating fakes. The UCCC is an independent U.S.-based nonprofit funded in part by U.S. companies doing business in China and in part by Chinese companies doing business in the United States. In Yam's view, though China bears much of the responsibility for piracy, so do foreign buyers who reward that piracy with their dollars. ▶

VersaLASERTM

The Multi-MaterialTM Computer Peripheral!



VersaLaser can transform images or drawings on your computer screen into real items made out of an amazing variety of materials... wood, plastic, fabric, paper, glass, leather, stone, ceramic, rubber... and it's as easy to use as your printer. We invite you to discover the endless possibilities for cutting, marking and etching with a VersaLaser at www.VersaLaser.com.



UNIVERSAL
LASER SYSTEMS INC.

16008 North 81st Street • Scottsdale, AZ 85260
877-866-9802 or 480-315-3600 • Fax: 480-483-5620

Manufactured and protected under one or more of U.S. Patents 5,051,558; 5,661,746; 5,754,575; 5,867,517; 5,881,087; 5,894,493; 5,901,167; 5,982,803; 6,181,719; 6,313,433; 6,342,687; 6,423,925; 6,424,670. Other U.S. and International patents pending.

Go to find.pcworld.com/50190

Chinese government officials did not respond to our requests for comment on the counterfeiting situation in their country.

CONSUMERS STUCK

REGARDLESS OF WHERE a fake comes from, you probably won't know it's bogus until you try to get the nominal maker to service it. In one case, customers bought what they thought was high-performance PC RAM from OCZ Technology several years ago; it turned out to be an inferior phony product bearing the OCZ label.

According to Alex Mei, vice president of marketing for OCZ, the counterfeit memory led to freezes, crashes, or PCs that wouldn't start. OCZ traced the illegitimate memory to an online store and demanded that the store stop selling the fakes.

Though OCZ had no legal obligation to do so, it sent replacement RAM to many of the victims who had complained about

the bogus modules; the complaints were dealt with case-by-case, Mei says.

OCZ's generous response is the exception, not the rule: Consumers have no legal recourse with the legitimate brand-name manufacturer; instead, they must try to get their money back from the store

when you try to return a suspect product.

Vendors such as HP, Kingston, and Motorola say they usually learn about counterfeiting problems as a result of consumer complaints like the ones OCZ received. Given the international scope of the problem, that's unlikely to change.

CONSUMERS GENERALLY CAN'T TELL WHEN A PRODUCT IS A FAKE.

where they purchased the phony goods.

Many vendors state that the company's warranty doesn't cover bogus goods; others deal with each return separately. If you innocently obtain a fake copy of Windows, you may qualify for a legitimate replacement from Microsoft: Visit www.microsoft.com/genuine to find out more or to file a report if a seller is unhelpful

Good bargains do exist: Most of the low-cost merchandise *PC World* bought for this story worked and was genuine. But your best safeguard against phony hardware is to shop skeptically. ■

Tom Spring is a senior reporter for PC World. Laurianne McLaughlin is a freelance writer based in the Boston area.

CONSUMER ALERT

Pirates Menace the Software Seas

PIRATES AREN'T just raking in the dough from hardware sales—illegitimate software provides a large chunk of income as well. Global spending on counterfeit, packaged PC software in 2004 was about \$31 billion, according to a May 2005 global software piracy study conducted by research firm IDC and the Business Software Alliance. IDC estimates that in 2004, 35 percent of the software installed on PCs worldwide was pirated. Microsoft estimates that more than 192,000 copies of pirated Microsoft software, valued at \$134 million, have been seized in the United States alone in the past 12 months.

PC PROBLEMS

SUCH BOGUS products can leave users with nasty surprises: Besides missing out on updates, tech support, and upgrade discounts, users may run into problems with corrupted data or malfunctioning systems. Pirated software may contain viruses too, says Samantha Kandah, group manager

for anti-piracy at Adobe Systems. And buying such products may subject users to financial fraud: Kurt Kolb, Microsoft vice president of system builder and license compliance, notes that credit cards used to buy pirated Microsoft goods have in some cases been reused for online theft.

BOGUS BARGAINS

MOST U.S. CONSUMERS receive a plethora of counterfeit software offers daily via e-mail spam. The vast majority of consumers shy away from spam offers, says John Wolfe, investigations manager for the Business Software Alliance, but many buy dubious items from online auctions and never realize they're getting fakes. Worse, online storefronts hawking pirated software now look so professional that it's tough for buyers to tell real from fake, he says. Nearly 40 percent of software sold online may be counterfeits or illegally made copies, according to the BSA.

For Adobe products, a discount of more

than 20 percent off the manufacturer's standard retail price (not counting Adobe rebates) is a likely sign of fraud, according to the company's Kandah.

You may even find illegitimate software at a retail store, says Wolfe. "The big counterfeit operations want to get it into the legitimate distribution channels," he observes. Unfortunately, consumers usually won't know a product is fake until they open the box—and perhaps not even then. If you see a paper label on the software CD, you can be fairly sure it's bogus: Today's original discs have the writing imprinted on them, Wolfe explains. Otherwise, it may be difficult to tell.

Be suspicious of any software marketed as a "backup copy" or as a compilation disc of multiple programs. After buying, make sure to seek mention of proof of authenticity, such as licensing and warranty documentation. (You can download more safe-shopping tips at find.pcworld.com/50678.) —Laurianne McLaughlin

ASUS[®]
USA.ASUS.COM

Put Something Sexy on Your Lap



The sleek and sexy ASUS W5Ae creates a scene everywhere you go. One you can capture with its built-in webcam while viewing on its 12.1" widescreen. Intel® Centrino™ Mobile Technology enables the W5Ae to deliver superior performance, battery life, and wireless communication in a slim, light design.

TigerDirect.com
www.tigerdirect.com
800.800.8300

NewEgg.com
www.newegg.com
800.390.1119

See more resellers at: usa.asus.com/mobile



ASUS recommends Microsoft® Windows® XP

© Copyright 2006 ASUS Computer International. All rights reserved. ASUS is a registered trademark of ASUSTek Computer Inc. Intel, Intel Inside, the Intel Inside logo, Intel Centrino, the Intel Centrino 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.

RESTAURANT PRO EXPRESS™

Point of Sale System for Restaurants

More Profit! • More Sales! • More Customers!

*Save Time, Reduce Theft, Speed Checkout, Increase Accuracy,
Reduce Costs, Make Better Business Decisions by Computerizing your Restaurant*

The #1 Rated Restaurant Point of Sale

- Fine Dining, Table Service
- Quick Service, Fast Food
- Delivery, Takeout, Drive-Thru
- Cafeterias, Hotels, Gift Shops & Retail Stores
- Rated #1 for Ease of Use
- Rated #1 for Restaurant Features
- Single or multi-user
- One restaurant or multiple restaurants
- Credit card authorization in 2-3 seconds
- Gift Cards & Loyalty Cards
- Track your inventory and customers
- Detailed Sales Reports
- Rated #1 in Customer Service
- FAST and EASY order-taking

**Systems
start at
\$795**



Cash Drawers \$189
MMF, Indiana, APG, Logic Controls



Pole Displays \$289
Logic Controls



Gift Cards and Loyalty Cards



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



All-In-One Terminals \$1899
Posiflex, IBM



Receipt Printers \$299
Epson, Star, Ithaca, Citizen



Table-Side Ordering- \$499
Symbol, HP Palm



Restaurant Pro Express software for Windows \$ 795

Replace your Cash Register with Restaurant Pro Express in any type of restaurant. With over 1,000 of the most desired restaurant point of sale features, Restaurant Pro Express will help you compete in a difficult restaurant environment by controlling your costs, reducing errors, increasing efficiency, increasing your profits and increasing your sales. Restaurant Pro Express provides faster checkout, table seating, split checks, tip tracking, unlimited menu items and modifiers, and THE FASTEST, MOST EFFICIENT WAY TO SERVICE YOUR CUSTOMERS.

Specializing in Point of Sale since 1985

DEALERS WANTED!

Join our dealer program. It's FREE.
It's the fastest way to make
money...AND we make it EASY.

For More Info Call Toll Free!
1-800-722-6374

FREE DEMO!!

1-800-PC-AMERICA
WWW.PCAMERICA.COM



CALL TOLL FREE: 1-800-722-6374 • PH: 845-920-0800 • FX: 845-920-0880
PC AMERICA, 1 Blue Hill Plaza, Second Floor, Box 1546, Pearl River, NY 10965



23 THINGS TO DO WITH A THUMB DRIVE

Put your USB drive to work as a portable desktop, PC recovery kit, entertainment platform, and more.

BY CHRISTOPHER NULL

Once known as simple little gizmos that were basically just modern replacements for floppy disks, USB flash drives have suddenly grown up. You can now replicate your desktop environment, encrypt files on the fly, and even rescue your PC with one of these formerly modest devices. Here are some of the coolest things you can do today with the innocuous-looking thumb drive on your desk, as well as details about some particularly useful new drives.

PHOTOGRAPH BY JOHN KUCZALA

Your Desktop in Your Pocket

» CAN'T INSTALL FIREFOX at work? Do you pine for your programs, set up your own way, at an Internet café? Try these options for taking the look and feel of your desktop with you.

Software gurus have reworked versions of assorted applications so that they run directly off your thumb drive. Our three

POCKET GAMING WITHOUT A PSP

KILL TIME (and maybe a few deserving alien spaceships) at grandma's house with a ready-to-go gaming thumb drive loaded with MAME. The program brings back the arcade and console hits of yesteryear by running ROM files, the individual pieces of code at the heart of all those games, and works great on thumb drives. Simply download the application from www.mame.net and unpack it on your flash drive.

Note: Legally, you must own the original game to download any of the more than 5800 ROM files available. Visit www.mameromlinks.com to start.

favorites—John Haller's portable editions of the Firefox browser, Thunderbird e-mail program, and OpenOffice suite—are at find.pcworld.com/50608.

Migo software synchronizes files, Outlook data, Internet Explorer favorites, and other desktop elements between different PCs. You can install it on any thumb drive (\$30 for the personal version, \$50 for the professional edition; www.migosoftware.com), or buy a preloaded Migo-branded drive (\$100 for 1GB).

If you don't mind buying new hardware, U3-ready drives let you run specially written applications straight from the drive. Preferences, data files, and the like all stay on the portable device, so you don't leave any traces on the computer.

Most U3 (www.u3.com) units come preloaded with various applications. You can run them or download new ones (which can cost up to \$45 each) from the U3 Launchpad, which resembles Windows' Start menu and appears in the system tray when you connect the device.

We tested several U3 thumb drives



RUN U3 PROGRAMS and download more from the Start menu-like U3 Launchpad.

and found them very capable—and similar. The SanDisk U3 Cruzer Micro 1GB (\$100; www.sandisk.com) and the Memorex U3 Smart Mini TravelDrive 1GB (\$90; memorex.com) came out ahead, mostly for their software. The TravelDrive includes Thunderbird, McAfee AntiVirus, and Migo. The Cruzer Micro has good free and trial apps. For more about U3 go to find.pcworld.com/50716.

Safe From Prying Eyes

» THE ENCRYPTION and biometric safeguards on these security-first drives offer some peace of mind when you need to carry sensitive data on an easy-to-misplace thumb drive.

Built-in tools on drives like the Lexar JumpDrive Secure II 1GB (\$100; www.

[lexar.com](http://www.lexar.com)) and the Kingston DataTraveler Elite 1GB (\$100; www.kingston.com) let you defend individual files with 256-bit AES encryption. You can also create a partition on the drive that encrypts any file dropped into it



THE SANDISK Cruzer Profile's fingerprint scanner.

and that appears on screen under a different drive letter. And you can password-protect any U3 drive to achieve a base level of protection.

When security really matters, check out a thumb drive with a built-in fingerprint scanner. It works much like any biometric device, locking out access until you swipe the appropriate digit against it. We looked at two models, the SanDisk Cruzer Profile 256MB (\$100; www.sandisk.com) and the Sony MicroVault with Fingerprint Access 256MB (\$90; www.sony.com). We slightly preferred the SanDisk because the Sony requires an extra cable and software installation.

ITTY-BITTY LINUX

A BOOTABLE LINUX thumb drive allows you to tinker with the popular open-source operating system without having to risk modifying your hard drive.

The easiest option is to buy a drive with Linux already installed. The most established version is Damn Small Linux, which comes preinstalled on a 256MB drive for \$60 (find.pcworld.com/50616). If you want to try installing the OS yourself, download Damn Small Linux from the same Web site, or check out Puppy Linux (www.goosee.com/puppy). Both OS versions include a bevy of productivity applications—and both, of course, are free.

Create a Cleaning Kit for Spyware-Infected PCs

» ONE OF THE HANDIEST uses for a thumb drive is as an emergency security kit with applications for reviving compromised computers. This is especially important if you have to disconnect the machine from the Internet and can't download the required software, or if you need to pay a house call to a beleaguered friend with a virus-laden PC.

To make a good Windows security kit, pack a drive with a range of applications from the following essential categories.

TREK WITH BOOKS, NOT A BACKACHE

IF YOU GET ANXIOUS without anything to read on hand, load up your thumb drive with some of the thousands of free e-books (in text format) available from Project Gutenberg at www.gutenberg.org. Or to help a student get in the reading habit, try SanDisk's Cruzer Freedom 256MB (\$40; www.sandisk.com), which is preloaded with e-book software. You can download the Merriam-Webster dictionary, one SparkNotes study guide, and a 30-day trial version of graphing calculator software for free; hundreds of e-books are also available. Additionally, students can access, through the drive's interface, the Scholastic.com Homework Hub, where teachers can upload lesson plans and assignments. Even if you aren't a student, the device makes the job of carrying dozens of books around a whole lot lighter.

Antivirus tool: A clear necessity. AntiVir PersonalEdition Classic (free; www.free-av.com) is a good budget choice that runs off a thumb drive. Keep an installation file handy to load on the



STUDENT TOOLS and books line the SanDisk Cruzer Freedom's virtual shelves.

PC after it's cleaned, too. Users with U3 drives can also download the McAfee VirusScan and Avast scanners.

Spyware scanners: The more the merrier—no single utility finds everything. Three good ones are Spybot Search & Destroy (free; www.safer-networking.org), Ad-Aware SE (free; www.lavasoftusa.com), and PestPatrol 2005 (free trial; www.pestpatrol.com). Unfortunately, none of them will run directly from the thumb drive, so grab their installer files for quick installation on a PC.

Disk wiper: If worse comes to worst and you have to give up on an infected machine, a secure disk shredder is good to have on hand. A number of wiping applications run from thumb drives, including Eraser (\$18 for the full version; www.heidi.ie).

Whether you run security apps from a thumb drive or from a PC, the same caveat applies: They're not much good if you don't keep them current. Run your antivirus program's update function from a clean PC just before using your kit, and download updated antispyware installer files once a month or so.

When Speed Is King, Flash Flies

» A NUMBER OF THUMB drives claim nothing more than raw speed, a trick they achieve with newer flash memory and special circuitry.

We put three high-speed models to the test to see how well they stack up to their claims: the polished Lexar JumpDrive Lightning 1GB (\$130; www.lexar.com), the rubberized Corsair Flash Voyager 1GB (\$70; www.corsairmemory.com), and the flip-top Memina Rocket 1GB (\$85; www.memina.com).

Sure enough, all three drives had considerably better throughput than any plain thumb drive. At about 9.5MB per

second on reads and 5.5 MBps on writes, these high-performance units had two to three times the speed of a current standard drive and they blazed past older hardware. However, like most USB 2.0 products, none sustained anything approaching the theoretical maximum throughput of up to 30 MBps on reads.

Although the makers claim various theoretical maximum transfer speeds, the three drives performed nearly identically in our tests, which used a variety of small files. So shop around for the best price and a design that works for you. ▶



SIMILAR PERFORMANCE, different looks: These thumb drives were all two to three times faster than older models.

Revive Your Crashed PC

» IF THE UNTHINKABLE happens and your PC goes south, your modest little thumb drive can come to the rescue—if you've spent some time customizing it as a recovery drive.

Recovery thumb drives are most useful if you make them bootable so that they can help if your system won't start. The task isn't quite as simple as formatting a floppy disk in Windows, but enterprising users should have little trouble.

You need two things: a utility that can create a master boot record (MBR), and a floppy or CD that is already bootable. Both are readily available online, including downloadable MBR creators (try MKBT, find.pcworld.com/50606) and bootable drive images (take your pick at bootdisk.com). As well, you need to set your PC's BIOS to boot from a USB drive

before other drives, something that older systems in particular might not support. See find.pcworld.com/50610 for extensive step-by-step instructions on creating a bootable thumb drive.

Once your drive is bootable, load it with applications that repair common system errors and pin down elusive hardware problems. Free or shareware programs are more likely to run straight from the drive. Essential tools include disk- and RAM-testing apps such as Memtest86 (memtest86.com), registry tune-up tools like Registry Mechanic (pctools.com), and backup and recovery programs such as DriveImage XML (runtime.org). Partition management tools like Disk Director (acronis.com) and file undelete tools such as Undelete (executive.com) can also turn around a potentially very bad day. You can

find plenty more at The 46 Best-ever Freeware Utilities page (find.pcworld.com/50612) and at Ultimate Boot CD (www.ultimatebootcd.com). ■

Christopher Null is a technology journalist and the former editor in chief of Mobile magazine.

FREE, EASY FILE SYNCING

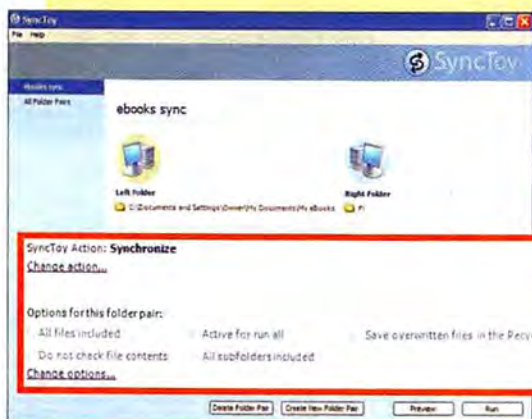
TRANSPORTING FILES is a thumb drive's most basic function. But if you keep versions of a document on a PC and on the drive, you're eventually going to run into trouble when they get out of sync and you overwrite something new with something old.

The good news is that two free Microsoft tools mitigate this problem. The first is a utility you've probably been ignoring for years: Windows Briefcase. Well, it's still there, and it actually works very simply. In Windows Explorer, select your drive and click **File•New•Briefcase**. Then copy files from your hard drive into the new Briefcase folder.

To keep files in the Briefcase synchronized with the source files on the PC, select the Briefcase and choose **Briefcase•Update All**. A dialog box will show what needs to be updated and offer options.

Microsoft has quietly released another, more powerful tool called SyncToy, a sort of Briefcase on steroids. SyncToy lets you specify (on a folder-by-folder basis) whether updates go both ways or only one way, and it handles renamed files. SyncToy may be overkill for casual users, but for those with complicated synchronization needs, the utility

is a fantastic add-on. Get more details and download it at find.pcworld.com/50614.



BRIEFCASE ON STERIODS: Microsoft's SyncToy, a free download, offers sophisticated options for synchronizing files between your PC and a thumb drive.



TUNES ON WHEELS

A THUMB DRIVE is great for carting music around, and if you're in your car, you can play the tunes right from it, too—no software required. Devices like the Thumbdrive Car FM Stereo Transmitter (\$37; find.pcworld.com/50618) play music off any thumb drive you attach. Plug the transmitter into your car's cigarette lighter and tune your radio to the unit's frequency (choose the clearest). Results vary depending on the size and location of your car's antenna, and the controls are limited to play/pause, previous and next track, and FM channel. But if you want to play MP3s on the road without having to buy an iPod plus accessories, this inexpensive little tool will do the job.

Use your connections.

Turn your hi-speed Internet into a phone line.

CONNECTING IS EASY

We will send you the equipment
you need to get started for a
one-time charge of \$39.95.

\$9.95 a month includes incoming
calls and all SunRocket-to-SunRocket calls, plus generous local
and long distance in the U.S. and to dozens of countries. Free
caller ID, call waiting, 3-way calling, and more. Even includes
all taxes. Call **1-800-786-0132** now for this special risk-free
offer or visit SunRocket.com.



HERE'S HOW

EDITED BY ERIC DAHL AND DENNIS O'REILLY



BACKUP TIPS

JON L. JACOBI

Keep Your Data Backups Safe, Simple, and Fast

SOMEDAY, YOU WILL lose an important file that you haven't backed up. Many users continue to play Russian roulette with their valuable information and digital creations, but you don't have to. These simple instructions will help you develop a backup regimen that suits your needs.

BACK UP A LITTLE OR A LOT

IN WINDOWS XP and 2000, you need to back up only your C:\Documents and Settings folder (or whichever folder you've

set as your default). For Windows 98 or Me, Lincoln Spector's October 2003 *Answer Line* column lists the folders you need to back up (browse to find.pcworld.com/50016 and scroll down to the list). Forgo a grandiose backup routine in favor of a plan that you know you will perform regularly, or one that's easy to automate via the tips in that *Answer Line* column.

Make at least one extra copy of all your business, tax, and other financial records; important text documents and e-mail

messages; and photos and video you've transferred from your digital cameras.

A complete system backup, such as a disk image, will help you recover quickly from a drive failure or other catastrophe, but it adds the expense of a second hard drive (or potentially extensive disc swapping if you use your optical drive). The best time to create a drive image is immediately after you reinstall Windows and get your applications running again. An image containing a patched copy of Windows and all your favorite programs configured the way you want them is a very useful thing to have at hand.

Nevertheless, you may get by just fine with backing up only your data files and folders. Though it takes time, you can reinstall operating systems and applications from their original discs, and Windows may even run better after you reload it; see last March's "Windows Rejuvenated" feature (find.pcworld.com/50018) for more on reinstalling Windows.

PARTITION FOR SAFETY

BY DEFAULT, WINDOWS and most of your applications dump the files you create into your My Documents folder. My Documents separates photos, music, video, and other types of files and keeps them all in one spot for easy copying, but unfortunately it resides in the Windows boot partition—the most vulnerable and crowded place on your hard drive.

Creating a new partition for your data makes backup easier and safer because you avoid overwriting the files when you reinstall Windows. Here's one possible approach: Use your C: drive for your operating system; then create a new partition (named your D: drive) for your applications, another partition (your E: drive) for

118 BACKUP TIPS

Match your backup medium and method to your needs; play it safe by moving your default data folders.

122 WINDOWS TIPS

The fastest ways to create multiple folders at once; customize the Open With options on your right-click menu.

124 INTERNET TIPS

A basic understanding of the technologies behind the Internet's acronyms can help you stay safe online.

125 HARDWARE TIPS

Check your PC's health with our favorite free diagnostic utilities; expand your graphics options.

126 ANSWER LINE

Find the cause of an overactive hard drive; the usefulness of screen savers on modern monitors; the safe approach to data-archive storage.

122



your business and/or financial data, and yet another partition (your F: drive) for image, sound, and video files.

Symantec's \$70 Partition Magic 8 (find.pcworld.com/50019) and Acronis's \$50 Disk Director Suite (find.pcworld.com/50020) make it simple to create new hard-drive partitions and resize existing ones.

If you want to continue using the My Documents folder as your primary file repository, you can relocate the folder outside your Windows partition: Open Windows Explorer, right-click *My Documents*, select *Properties*, and choose the *Move* button under the *Target* tab; then navigate to and select the folder outside your Windows partition where you want to relocate *My Documents*, and click *OK* as often as necessary (see **FIGURE 1**). To change the folder where Outlook Express stores your e-mail, open the program, click *Tools*•*Options*•*Maintenance*•*Store Folder*•*Change*, navigate to the folder you want to keep your e-mail in, and click *OK* until all the dialog boxes are closed.



FIGURE 1: PLAY IT SAFE BY relocating your My Documents folder outside your Windows partition.

FIND THE RIGHT MEDIUM

THE ESSENTIAL elements of backing up are multiple copies and multiple sites—the first because any media can go bad, and the second because you don't want to lose your backup along with your PC. So back up to several sets of CDs, DVDs, or other media, and let the size of the job determine which media you choose. For example, if your files total 2GB and you want three separate copies, you won't fit each copy on a single CD, and they would take forever to upload to a Web server; instead, use a DVD burner, an external hard drive, or both. But if you need to back up only 200MB of data and you can live with two copies, the CD/online route may be better.

For most people, DVD is the backup medium of choice. Prices of recordable DVD drives are coming down, and DVDs store several times more data than CDs do. Furthermore, writable DVD discs are cheap and readily removable for safe off-site storage. Using DVDs may entail swapping discs a few times, so you'll have to hang around while backing up (at least initially). But the price of DVD backups is only about 10 to 20 cents per gigabyte. For archiving unchanging data that you'll keep a long time, use DVD±R write-once media (they're more reliable than RW).

If you're looking for faster backups that don't require you

to remain nearby to swap discs, try an external hard drive such as Western Digital's Media Center, which costs about \$230 for the 250GB model (find.pcworld.com/50022).



FIGURE 2: REMOVABLE HARD drives, such as Western Digital's Media Center, make backups safe and easy.

or Maxtor's OneTouch, priced at about \$270 for the 300GB model (find.pcworld.com/50023). Beware, however: A single hard drive is far too fragile and unreliable for you to count on it as your sole backup medium.

Online services such as XDrive (www.xdrive.com) and Ibackup (www.ibackup.com) are expensive—prices start at \$10 a month, though free trials are available—and interminably slow without a broadband Internet connection. Still, they're suitable for backing up a modest amount of critical data, and online is by far the safest place to store your files within easy reach. Read "Online Backup Services Come of Age" (find.pcworld.com/50380) for more about online storage.

A handy small-scale backup tool is a flash-based USB thumb drive such as Verbatim's Store 'n' Go, which costs ▶

about \$70 for a 1GB model (find.pcworld.com/50024; see **FIGURE 3**). The drive fits in your pocket and can safeguard small amounts of vital data on the road. Just be sure to encrypt that data to keep it from prying eyes in case you lose the unit. (See page 113 for more on thumb drives.)

The chart below provides a rundown of your various backup-media options.

WINNING BACKUP STRATEGIES

THE FIRST BACKUP you make is arguably the most important because it serves as the baseline for all subsequent backups. Visit find.pcworld.com/50026 for info on, and links to, backup utilities.

Run your backup software, and select the partitions (for an image backup) or files and folders (for a file-level backup) that you want to safeguard. Don't overlook items such as your e-mail, address book, and calendar. If you aren't sure where these items—and other program data—are stored on your system, open the relevant application and look for file-storage settings among its options.

Password-protect and encrypt your data if you want it to remain private. Give each

backup a descriptive name, such as 'Backup of Richelle's first birthday video 06 05 2005. bak'. Use the utility's comments feature to list the date and time of the backup, and anything else that will help you discern its contents in the future. Save space by compressing the backup, unless you plan to restore the files using only Windows Explorer.

Use the application's verify function to confirm that it copied all the data correctly—enough things can go wrong later without your starting off with a bad backup. Make at least two copies. (Copying the first DVD or CD onto a second disc may be faster than running the backup twice.)

Once you've made your full baseline backup, you can drastically reduce your time and space requirements by continuing with either differential backups, which include all data that has changed since the baseline backup, or incremental backups, which include only data that has changed since the last backup of any type

(full, differential, or incremental). Incremental backups are quick and require relatively little storage space, but re-creating files from such backups involves restoring each of these backups in order. Finally, while you should never overwrite your original baseline, you can and should overwrite differential and incremental backups after making new full backups that contain the same data. ■

Jon L. Jacobi is a freelance writer based in Northern California.



FIGURE 3: BRING YOUR BACKUPS with you on a USB thumb drive such as the Verbatim 1GB Store 'n' Go.

DATA SECURITY

Choose Your Backup Medium

BACKING UP YOUR DATA to a DVD or CD is fast and inexpensive. You'll fit more data on an external hard drive, however, and online backups give you access to your data from anywhere. Here are the pros and cons of various types of PC backup media.

STORAGE TYPE	Upside	Downside	Speed ¹	Cost per backup	Recommended use	Tip
CD/DVD	Compact and stable; media is readily available, inexpensive, and easy to transport for off-site storage.	Middling capacity may mean no untended full backups; media is sensitive to heat and direct sunlight.	3 MBps to 12 MBps, plus time for disc swaps	About 10 to 20 cents per gigabyte	Daily backup of up to 4.7GB (DVD) or 700MB (CD)	For everyday backup, rewritable media is cheaper per use; for archiving, use write-once discs.
External hard drive	Extremely fast; superhigh capacity for untended, automated backups; can be unplugged and stored off-site.	Susceptible to shock (don't knock it over!) and heat; expensive.	10 MBps to 30 MBps	About \$1 per gigabyte	Daily unattended backup for home or small office	Drives with cooling fans help you avoid losing data due to overheating.
USB pocket drive	Easy to transport; fast; removable for transportation and off-site storage.	Capacity is extremely low.	1 MBps (USB 1.1) to 12 MBps (USB 2.0)	\$30 to \$100 per gigabyte	Mobile backup and file transfer	Use straight, uncompressed file copies so you can restore the files using Windows Explorer.
Online	Very safe; good security; easily automated; simple file sharing.	Pricy and slow, especially without a broadband Internet connection.	Depends on speed of upstream connection	\$2 to \$10 per gigabyte, per month	Off-site backup of small amounts of vital data; mobile backup; file sharing	Get a fast upstream broadband connection and store only critical data online.
Tape	Capacious media with inexpensive cost per gigabyte; removable for off-site storage.	Drives are expensive and relatively slow; media is sensitive to magnetic fields; not supported by mainstream imaging programs.	1 MBps to 10 MBps	25 to 50 cents per gigabyte	Unattended overnight, weekly backup for SOHO and small businesses	This is the best option for set-it-and-forget-it removable-media overnight backups.

FOOTNOTE: ¹ These are rough, real-world numbers. Your mileage may vary.



Buy a Superfast Wireless Network... Get the Backyard Free!



WRT54GX2
Wireless-G
Broadband Router
with SRX200

The affordable Linksys SRX200 Wireless-G Gateway with Speed and Range Expansion can double the coverage of a typical Wireless-G network and reduce dead spots, with speeds up to 6X faster. Surf the web, share files, work and play in places that you never thought were possible. Get a wireless network that goes the distance!

- MIMO technology works with all standard 802.11b and 802.11g products
- Improves range up to 2X and performance up to 6X over standard Wireless-G
- Enhanced security

Linksys. Nobody makes networking easier!

Visit www.linksys.com today for
product details, or call our Advice Line at:
1-800-737-7201



Office DEPOT



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. Copyright © 2005 Cisco Systems, Inc. All rights reserved.

CISCO SYSTEMS



WINDOWS TIPS

SCOTT DUNN

A SHORTCUT MAKES
MULTIPLE FOLDERSCHANGE YOUR
'OPEN WITH' LISTSPIFF UP YOUR
COMMAND PROMPT

The Quickest Way to Make Several Folders at Once

LAST JUNE I EXPLAINED how to place a shortcut in your right-click menu that creates a new folder (find.pcworld.com/49946). It's a handy technique, but it works only one folder at a time—a limitation that also applies to the BxNewFolder freeware (find.pcworld.com/48104) I described in last August's column.

Creating several folders at once—including subfolders within those new folders—requires only a very simple three-line batch file and (sometimes) a quick fix of a Windows bug. To create the batch file, open Notepad or your favorite text editor, and on the first line, type `@echo off`. Press `<Enter>`, and on the sec-

ond line, type `set /p name="Type folder name(s): "`. (Be sure to use straight "type-writer" quotes. If you're using Notepad, you should get straight quotation marks automatically.) When you run the batch file, this line prompts you to type one or more names for your new folders and stores them in the variable 'name'. Press `<Enter>` again, and on the third and final line of the batch file, type `md %1\%name%`, and press `<Enter>` one more time. This line will create the new folder (via the 'md' or 'make directory' command) in the current folder (%1\ using the items that you entered and stored inside the variable (%name%). Choose `File>Save`, navigate to a folder in which you store your batch files (such as 'c:\batch'), type a name like `make_dir.cmd`, and click `Save`.

To add your batch file to the right-click menu for folders, open a folder or Explorer window (pressing `<Windows>-E` is one way) and choose `Tools>Folder Options>File Types`. Scroll through the list of registered file types and select `File Folder`. Click `Advanced` to open the Edit File Type dialog box, and choose the `New` button. For 'Action', type the command name that will appear on your context menu, such as `Make Many Folders`. For 'Application used to perform action,' type the complete file path and name of your batch file fol-

lowed by a space and "%1"—for example, `e:\apps\batch\make_dir.cmd "%1"` (your path and file name may differ). Click `OK` twice and `Close` to return to Explorer.

Unfortunately, if you make a mistake while entering text in the New Action dialog box, you have to use the Registry Editor to fix it. To be safe, create a backup of your Registry first (see find.pcworld.com/49950 for instructions). With your Registry backed up, choose `Start>Run`, type `regedit`, and press `<Enter>`. In the tree pane on the left, navigate to and double-click `HKEY_CLASSES_ROOT\Directory\shell`. Select the folder with the name of the command you just added (for example, 'Make Many Folders'), double-click the (Default) icon in the right pane to open the command line in the Edit String

dialog box, and make any corrections. To delete your custom command altogether, close the dialog box, right-click the folder in the left pane, choose `Delete`, and click `Yes` to confirm the change. For more details, go to find.pcworld.com/49952 and scroll down to "Resort to Regedit" in my December 2004 column.

Windows Bug Alert! When you create this shortcut in Windows XP (and any other time you open the Edit File Type dialog box in that OS), a bug is likely to change

what happens when you double-click a folder. The problem is easy to fix, but it requires editing the Windows Registry. Browse to find.pcworld.com/49948 for instructions from last August's column.

Now when you want to make one or more folders (including folders nested within folders), right-click any folder and choose `Make Many Folders` (or whatever you named your command; see **FIGURE 1**). A command-prompt window will appear asking for the names of your new folders. Type each name separated by a space. If you want your folder names to include spaces, put the names in quotation marks. To make a folder within a folder, type a backward slash (\) between the

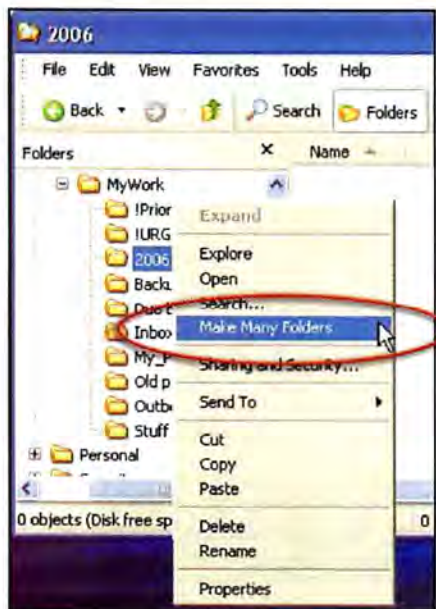


FIGURE 1: GET NEW FOLDERS on demand by adding this command to your context menu.

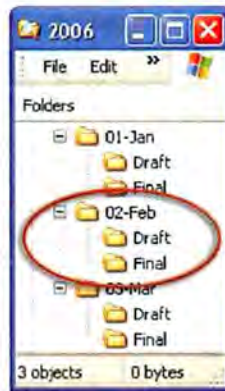


FIGURE 2: TWO CLICKS and a little typing is all it takes to make several folders at one time.

folder name and the name of its nested folder. When you're done, press **<Enter>** to create all the folders. For example, type **01-Jan\Draft 01-Jan\Final 02-Feb\Draft 02-Feb\Final 03-Mar\Draft 03-Mar\Final** and press **<Enter>** to create the folders that are shown in **FIGURE 2**. Select the parent folder and press ***** on the numeric keypad to quickly expand all the branches in the tree pane as shown in the figure.

FOLDER FODDER

READER ERIC KING, who contacted me via e-mail, describes an alternative way to create multiple folders. Right-click in the folder in which you want the new folders to appear and type **W, F**. Repeat the steps, and Windows will name the folders in numbered order, so there's no need to name each folder as you make it (see **FIGURE 3**). Sure, you'll likely want to rename them eventually, but this is a quick way to get started.

CLEAN UP 'OPEN WITH'

HOW DO I remove programs from the list that appears when I select the **Open With** option in my right-click menu?

Dave Beauregard, Wareham, Massachusetts
FIRST, LET'S NOTE that Windows makes it easy to add a program to those listed in



FIGURE 3: MAKE MULTIPLE FOLDERS in a flash by right-clicking in the folder and typing two keyboard shortcuts.

next time you right-click that file type.

Removing an item from the list of **Open With** programs requires editing the Windows Registry; as in the first tip, start by backing up your Registry, following the steps in find.pcworld.com/49950.

Once the backup is complete, choose **Start>Run**, type **regedit**, and press **<Enter>** to open the Registry Editor. Navigate in the left pane down to **HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Explorer\FileExts**.

If necessary, click the **+** (plus sign) next to the **FileExts** key to expand the branches beneath it. Next, click the **+** beside the key representing the file extension for the menu you want to edit. Select the **OpenWithList** key under the extension key.

In the pane on the right side, select the icon that corresponds to the menu item you would like to remove from your context menu. (Note that you won't see the menu item by name, but rather the name of the file

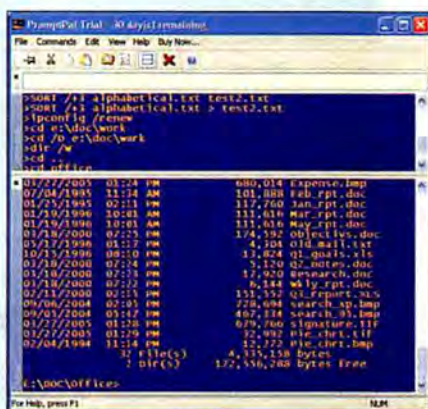
that the menu item launches.) Right-click it, choose **Delete** (or just press the **<Delete>** key on your keyboard), and click **Yes** (or press **<Enter>**) to confirm (see **FIGURE 4**).

The next time you right-click a file and choose the **Open With** shortcut, only the program options you decided to have there will be presented to you. If only it were this easy to throttle back all of Windows' runaway menus!

WINDOWS TOOLBOX

Supercharge Your Command Prompt With PromptPal

LAST SEPTEMBER'S column covered the hidden power of Windows' command line (find.pcworld.com/49954). Trouble is, the dark and dire Command Prompt window can intimidate those folks who have grown accustomed to a graphical interface. Addressing that need is PromptPal, a \$30 shareware program that gives the Command Prompt basic word-processing conventions such as copy and paste and drag-and-drop. As you type, PromptPal's autocomplete feature shows a list of available commands, as well as command lines that you've entered recently. For example, when you type a **/** to add a command-line switch, you get a pop-up display of available switches and helpful



information about each one. You can launch PromptPal (or switch its current directory) from any folder via a right-click command. PromptPal can even add a command box to the taskbar, which lets you combine the best features of the command-line window with Windows' own **Start>Run** options. To get a complete rundown of the utility's features, visit www.promptpal.com. Browse to find.pcworld.com/49956 to download the 30-day trial version of the program.

Send your Windows-related questions and tips to scott_dunn@pcworld.com. Windows Tips pays \$50 for each published item. Visit find.pcworld.com/31607 to read more Windows Tips columns. Scott Dunn is a contributing editor for PC World.



FIGURE 4: CLEAN UP YOUR 'Open With' menu by altering the Windows Registry.

the **Open With** submenu of your context (right-click) menu: All you need to do is right-click the document, select **Open With>Choose Program**, pick the program from the list, and click **OK**. Your choice will be on the **Open With** submenu the

INTERNET TIPS

SCOTT SPANBAUER

Knowledge Is Power: Your Essential Internet Glossary

"ANY SUFFICIENTLY advanced technology is indistinguishable from magic," states science-fiction titan Arthur C. Clarke's third law (find.pcworld.com/50030). The Internet barely existed when the author of *2001: A Space Odyssey* proposed his law, but it certainly can seem supernatural. Still, the Internet's magic is accompanied by a heap of trouble in the form of spam, viruses, spyware, zombie PCs, phishers, pharmlers, and the other nasty side-effects of digital life. You can avoid trouble more easily if you know a bit about how the Internet works. Here is my executive guide to the essential acronyms of the Internet.

TCP/IP: The Transmission Control Protocol/Internet Protocol is the network software that allows your system to bundle data into packets and send it. The computers and network routers that make up the Internet look at the source and destination IP addresses tacked onto each packet to determine how best to move it to its destination. That's the good news. The bad news is that any such packet could harbor an attack against your PC.

IP address: If your system is connected to a local network or to the Internet, it almost certainly relies on an Internet Protocol address to move data packets. Three IP address ranges are reserved for private networks, such as the one in your home or office: 169.254.xxx.xxx, 10.10.xxx.xxx, and 192.168.xxx.xxx (where 'xxx' is any number from 0 to 255). If your computer uses a public address (any address outside the private address ranges noted above),

it is susceptible to attacks from other PCs on the network. This is why a Windows XP system that's not patched against such direct attacks as the Blaster worm will crash within a few minutes of being connected through a public IP address. Windows assigns 169.254 addresses when it

same one that runs the DHCP server) to translate the public addresses on incoming packets into the private addresses that your local computers use. This enables you to browse the Web, send and receive e-mail, and connect to other Internet servers while staying invisible to attacking PCs. Even if your system is vulnerable to the Blaster worm, for example, NAT prevents the vermin from getting through.

DNS: The Web's domain-name system lets you connect to PC World's Web site using the domain name 'www.pcworld.com', instead of having to enter the site's IP address. The end of the site name (the '.com' in the case of 'www.pcworld.com') is called the top-level domain. The second-level domain ('.pcworld') appears just to the left of the top-level domain. The 'www' is a third-level domain, which can be almost anything—a fact phishers exploit to deceive victims.

URL: The Uniform Resource Locator lets your browser and other programs on your PC connect to a remote server via the

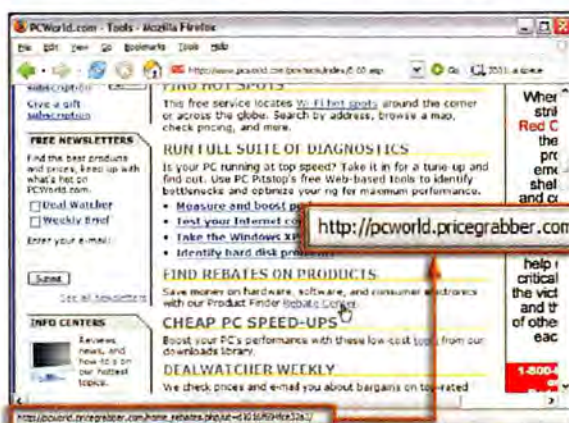


FIGURE 1: KNOW WHERE THE URL points before you click. This link is safe, but other links containing "pcworld" might not be.

can't see a DHCP server (see below). To find your IP address in Windows XP, right-click *My Network Places* and choose *Properties*. Select your LAN connection in the right pane, and your IP address will be listed under *Details* in the left pane (click the downward-pointing chevron to view the *Details* info, if necessary).

DHCP and NAT: The Dynamic Host Control Protocol allows one computer or other network device (such as a router) to hand out private IP addresses to other PCs. If your computer's address lies in one of the private ranges noted above, a DHCP server probably assigned it. Similarly, Network Address Translation permits a device or computer (usually the

Internet. URLs contain the domain name (or alternatively, the IP address) of the remote server and often include the name of a file or subdirectory on the server. They are usually preceded by the Internet protocol ('http://' for Web sites, for example); see

FIGURE 1. A well-constructed malicious URL can do a lot of damage, especially if it takes advantage of a flaw in a program on your PC. To be safe when clicking URLs embedded in a Web site, an e-mail message, or elsewhere, be paranoid: Don't do so until you know the link is safe. If the top- and second-level domains in the URL look phishy (if, for example, the second- and third-level domains have been swapped), don't take the bait. ■

Send your questions and tips to nettips@spanbauer.com. We pay \$50 for published items. Go to find.pcworld.com/31523 for more Internet Tips. Scott Spanbauer is a contributing editor for PC World.

HARDWARE TIPS

KIRK STEERS

Free Tools Help Keep Your Hardware Humming

IT'S ALWAYS EASIER to keep your PC healthy than it is to return the system to a functioning state once it has failed. Fortunately, the many free and inexpensive diagnostic utilities designed for Windows PCs make it easy to check your hardware. Here are the tools that I recommend for keeping your computer in tip-top shape.

Take inventory: Before you can determine if your PC's components are working properly, you need to know what they are. The free, intuitive Belarc Advisor (find.pcworld.com/50032) gives you a snapshot of your system's hardware without your having to open the case (see **FIGURE 1**).

Windows' Device Manager and System Information utilities list a lot of the details that Belarc Advisor does, but they make you dig for the info. To launch Device Manager in Windows XP or Windows 2000, right-click *My Computer* and choose *Manage>Device Manager*. In Windows 98

or Me, right-click *My Computer* and select *Properties>Device Manager*. To launch System Information in all versions of Windows, click *Start>Run* and type *msinfo32*. In Windows 2000 you may have to enter the entire path to the file: **Program Files\Common Files\Microsoft Shared\MSInfo**.

Say "ahhh": My favorite utilities for poking around my PC's innards are the \$10 #1-TuffTest-Pro and its free counterpart, #1-TuffTest-Lite, both created by #1 PC Diagnostics; browse to find.pcworld.com/50036 to download either the trial version of Pro or the free release.

Both versions boot from a floppy disk or CD, so they operate independently of the operating system—an important feature of any good diagnostic app because Windows and other operating systems can mask some problems from diagnostic software and restrict the program's access to certain portions of RAM. The free #1-TuffTest-Lite performs a great overall hardware checkup, but it scans only 8MB of RAM and 540MB of hard-disk space. The full-system scan that the \$10 version performs is well worth the price.

A stress test is a useful way to probe your PC for hardware weaknesses. Manufacturers use burn-in utilities such as Passmark's BurnInTest (find.pcworld.com/50037) and Jouni Vuorio's CPU Stability Test (find.pcworld.com/50038) to test new PCs' hardware, but they can reveal hardware weaknesses in any system.

Jog your memory: According to Thomas Thor, an analyst with memory manufacturer Crucial Technology, the company recommends testing RAM with two diag-

nostic programs: Microsoft's Windows Memory Diagnostic (find.pcworld.com/50039) and Memtest86+, the successor to the venerable Memtest86. You can download Memtest86+ along with instructions for its use at www.memtest.org. Both programs run from a floppy disk or CD.

Check your pipes: If you send and receive presentations, video, or other large files, check your PC's download and upload rates. BroadbandReports.com provides an easy online speed test (find.pcworld.com/50040); read the site's FAQ (find.pcworld.com/50041) before you run the test to ensure accurate results, and make certain to select the closest download server.

Take your PC's temperature: Monitoring your system's internal temperature can save your motherboard and CPU from

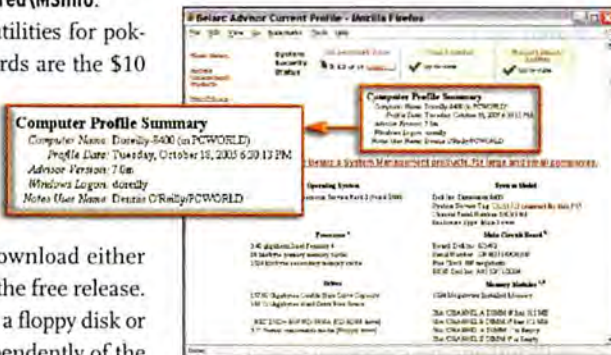


FIGURE 1: BELARC ADVISOR gives you a snapshot of your hardware configuration.

frying. Though it's no longer supported, Motherboard Monitor (find.pcworld.com/50042) remains one of the best free tools for tracking your system's temperature. I also recommend Alfredo Milani Comparetti's SpeedFan (find.pcworld.com/50043), which watches your machine's temperature and fan data, and checks your hard drive's SMART (Self-Monitoring, Analysis, and Reporting Technology) statistics, which can provide timely notice about an imminent hard-drive failure.

Go to find.pcworld.com/31511 for past Hardware Tips columns. Send your tips and questions to kirk_steers@pcworld.com. We pay \$50 for published items. Kirk Steers is a PC World contributing editor and the author of PC Upgrading and Troubleshooting Quicksteps from McGraw Hill/Osborne Press.

POLISH YOUR IMAGE

IF YOU'RE PICKY about your PC's display, use Entech's PowerStrip utility to tweak your graphics card (or the graphics integrated onto your system board) for the best display image possible. The program permits more than 500 types of adjustments, from gamma settings to clock speed. It works with a wide selection of graphics cards and integrated graphics, including models from ATI, Intel, Matrox, and nVidia. Programmable hot-keys let you change settings quickly—for example, you can brighten a dark hallway in your favorite game. PowerStrip is free to try and \$30 to keep. Browse to find.pcworld.com/50046 for your copy.

ANSWER LINE

LINCOLN SPECTOR

Why Is My Hard Drive Slowing Down My PC?

? SOMETHING IS CONSTANTLY accessing my hard drive, which has slowed my PC's performance to a crawl. How can I find the culprit?

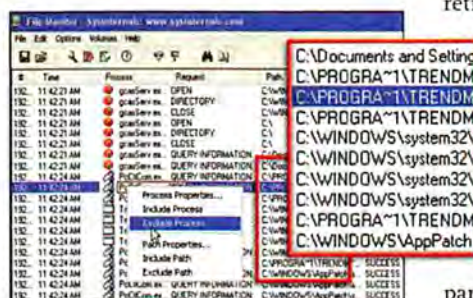
Wade Frazier, Tucson, Arizona

ASSUMING THAT THE symptoms you describe can't be attributed to a scheduled antivirus scan or other normal activity, the two most likely sources of the problem are a spyware or virus infestation, or (easier to diagnose) a mechanical problem with the drive itself.

Shut down your PC and restart it without loading Windows. To do this, you can use a bootable floppy or CD, or you can open your PC Setup program (when you turn your PC on, an on-screen message will tell you which key to press). If the hard drive continues to thrash when Windows isn't running, you probably have a hardware problem. Back up everything on the drive immediately, and buy a replacement. But don't assume that

your hard drive is fine just because it doesn't make a racket with Windows closed. See Kirk Steers's *Hardware Tips* column on page 125 for descriptions of free and low-cost utilities that test your drive and your PC's other hardware.

If your hard drive is okay, the slowdown is likely due to malware. Don't trust your installed antivirus program; it may



SYSINTERNALS' FREE FILEMON utility tells what programs are accessing your hard drive.

be compromised. Several free online virus scanners are more reliable; if one draws a blank, try another. First, read Erik Larkin's "Threat Alert: Antivirus Killers" (find.pcworld.com/50061) from last November's issue. Scroll down to find links to two good virus scanners.

Other online virus scanners are available from BitDefender, McAfee, Panda Software, Symantec, and Trend Micro. (Visit find.pcworld.com/50586 for links to all five.) Some of the scans require Microsoft's Internet Explorer browser.

Don't depend on just one antispyware program, either. I recommend three free spyware zappers: Lavasoft's Ad-aware, Safer Networking's Spybot Search and Destroy, and Microsoft AntiSpyware. Go to find.pcworld.com/50067 to download

these programs, as well as trial versions of our favorite low-cost security tools from November's "Best Defenders."

If you find these sites and programs blocked, you definitely have an infection. Visit find.pcworld.com/50068 to read my column from last July, "Prevent Viruses From Disabling Your Protection."

Here's a final suggestion: Sysinternals' free Filemon program will show you which files are accessing your hard drive at any given time (see **FIGURE 1**). You can download the version for 98/Me or for XP/2000 at find.pcworld.com/50069.

SCREEN SALVATION?

? IS THERE ANY GOOD reason why I should use a screen saver to protect my monitor these days?

Alexander M. Hinz

Fairview Heights, Illinois

A CONVENTIONAL CRT monitor theoretically can still suffer from burn-in—

the problem that screen savers were invented to overcome. But I haven't heard of a burned-in PC monitor in what seems like ages (though it does remain a problem for screens on ATMs, airport displays, and both CRT and gas-plasma wide-screen TVs). Flat-panel LCDs don't have burn-in issues.

Screen savers won't cut your system's power consumption, either. For that, use Windows' Power Options: Right-click the desktop, choose *Properties*•*Screen Saver*, and click the *Power* button.

But a password-protected screen saver will keep others off your PC while you're at lunch. Right-click the desktop, select *Properties*•*Screen Saver*, and check *On resume, password protect*. Windows Me and 98 will ask you for a password; XP and 2000 use your log-on password.

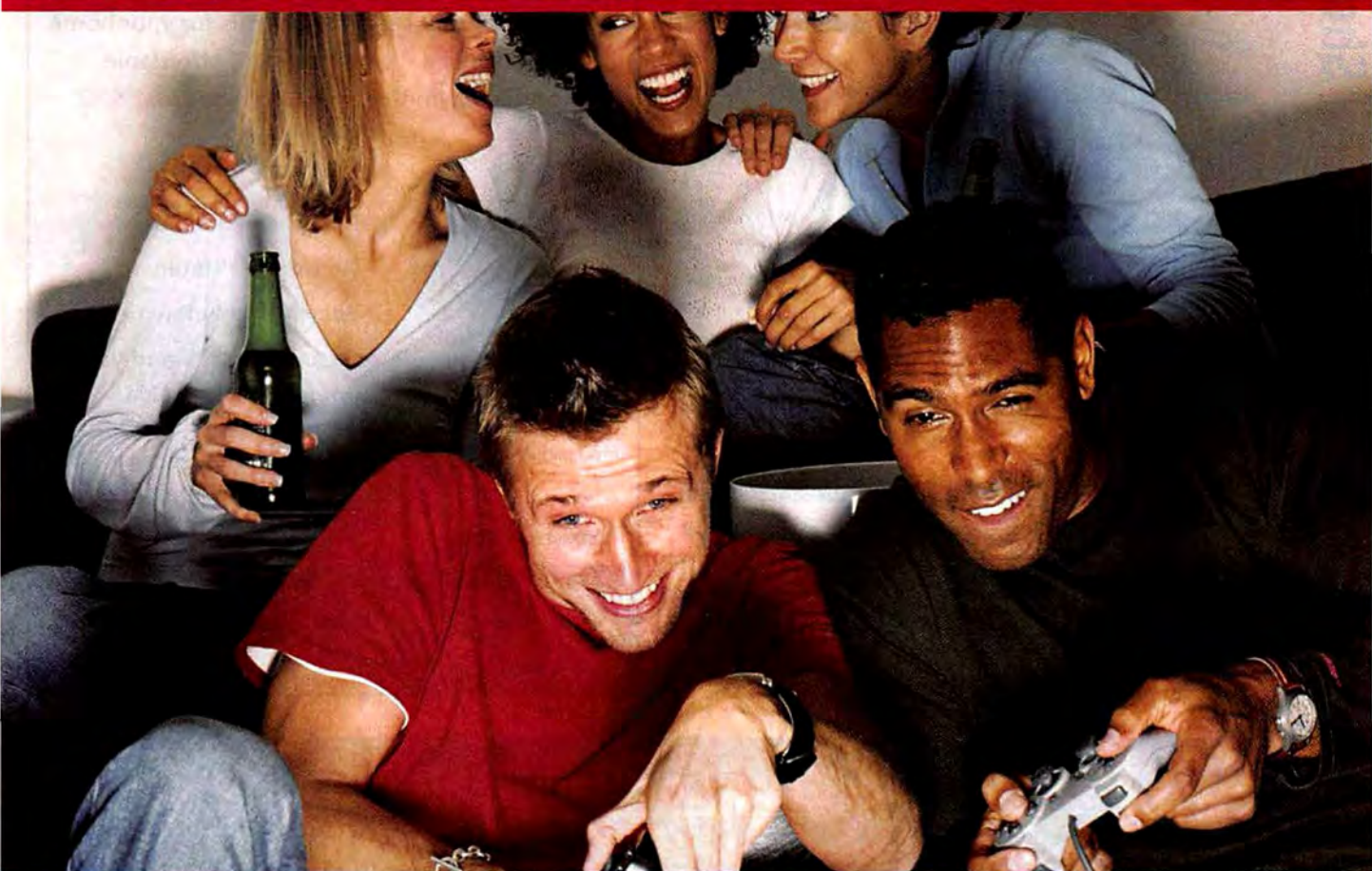
And if this world still has room for some frivolity, there's one more reason to use a screen saver: They're fun. ■

Send your questions to answer@pcworld.com. We pay \$50 for published items. See find.pcworld.com/31577 for more Answer Line columns. You'll find Contributing Editor Lincoln Spector's humorous and other writings at www.thelinkinspector.com.

ARCHIVE AROUND TOWN

LAST SEPTEMBER, I RECOMMENDED making multiple copies of important files ("Preserve Your Most Vital Data for the Long Haul"; find.pcworld.com/50071). This way at least one copy will likely be readable a few decades hence. Don Glenn of Bellevue, Nebraska, points out that you should store those copies in different locations. Keep one copy at home, and put the other at the home of a friend or relative, or in a safe deposit box. That way, if your house is burgled or burns down, your digital photos and tax information will still be safe.

ZyXEL



Add another "X" to your gaming experience: The X-550 XtremeMIMO™ Wireless Router

The family router with attic-to-basement coverage by day and
an Xtreme gaming port by night

- 8 times the speed of the 802.11g
- StreamEngine™ technology for ultimate performance
- Advanced WPA2 security and firewall protection
- 5 minute set-up



M-102



M-302



X-550

The ultimate weapon for every road warrior: The AG-225H Wi-Fi Finder/Adapter/Access Point Combo

The tool all road warriors wish they had

- Gum-pack sized gizmo that sniffs out three wireless protocols - 802.11a/b/g
- Easy to use with detailed LCD readout
- Built-in rechargeable LiON battery



AG-225H

The Wi-Fi Finder of Choice

"...the first detector that can sniff out all three flavors of Wi-Fi networks" - NY TIMES, Nov. 2005

For where to buy information, please visit www.us.zyxel.com/wheretobuy



Senior Vice President of Sales
Neal Mandel 212/652-5157

Southeast/West Coast
Maurine Blake 212/652-0846

Midwest/Southwest
Shirley Nixon 212/655-5114

Northwest/Northeast/West Coast
Michelle Tonzi 212/655-5201

FOR
ADVERTISING
INFORMATION
CALL TOLL
FREE:

888/254-0711

PC WORLD MARKETPLACE

PRODUCTIVITY

Academic Superstore	800/580-9237
Berkeley Varitronics Systems	732/548-3737
Boldata	800/923-BOLD
Inkfarm	800/INKFARM
International Audio Visual	888/999-6564
Journey Ed.....	800/974-9001
My Computer Club.....	800/667-7407
PC Connection	800/988-1290
Projector People	888/228-9865
Secure It	800/451-7592
Tech Restore	866/96-RESTORE
Videx	541/758-0521
Wilson Windowware	800/762-8383

SERVICE/SUPPLIES

Blue Genesis	866/258-3350
Insure.com	800/323-7720
High Speed PC	highspeedpc.com
ESS Data Recovery	800/237-4200

Need a new Computer?

No Credit - Bad Credit
No Problem!

Buy interest-free, high speed, quality computer systems, laptops, and peripherals for your home or business - with easy and affordable monthly payments **starting from just \$22** (for 18 months).



You can immediately qualify for MyComputerClub.com's **\$3,000 interest-free** computer credit line!

- ▶ No Credit Checks
- ▶ No Interest Rates
- ▶ Easy Monthly Payments
- ▶ Plus, join today and you'll immediately receive certificates for \$100.00 off all purchases, and 50% savings on shipping!

MyComputerClub.com

For details, visit
www.mypccredit.com or
Call **1-800-667-7407**

10:00 am EST to 9:00 pm EST

CyberLock® The Lock on Intelligence

Complete Access Control in Every Lock Cylinder

Who!	Where!	When!	What!
Key Name	Lock Name	Date/Time	Status
Joe Wilson	East Entrance	03/20/2004 06:14:22 AM	Denied
Abby Chaney	West Entrance	03/20/2004 07:28:03 AM	Key Authorized
Pete Sussman	Records Room	03/20/2004 07:59:15 AM	Out of Schedule
John Michaels	Computer Room	03/20/2004 08:00:03 AM	Key Authorized
Evelyn Leller	West Entrance	03/20/2004 08:12:16 AM	
Juanita Banks	Computer Room	03/20/2004 08:18:52 AM	
Andy Dunsmore	Computer Room	03/20/2004 08:27:12 AM	

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



Replace standard door lock cylinders with CyberLock cylinders in minutes.



Secure storage units and file cabinets and get an access history.



www.videx.com/lock29
541-758-0521 • sales@videx.com

Bumble Bee

IDENTIFY RFID, VoIP, Wi-Fi, ZigBee and Wi-MAX INTERFERENCE.

- ✓ 900 MHz
- ✓ 2.4 GHz
- ✓ 5 GHz

Spectrum Analysis

NEW FEATURES:

- Realtime Histogram, Persistence and Spectrogram screens
- Interference ID assist
- User and Band presets
- Integrated data logger
- Optional PC Playback Software

STANDARD FEATURES

- Calibrated Receiver
- iPAQ® PocketPC® interface
- 3 Waveform traces
- Peak hold / search
- Packet / interface triggers
- Screen snapshots

Ask about our 4.9 GHz and Wi-MAX models



Shown with optional Direction Finder

BERKELEY VARITRONICS SYSTEMS
Metuchen, NJ 08840
Call today: (732) 548-3737

www.bvsystems.com

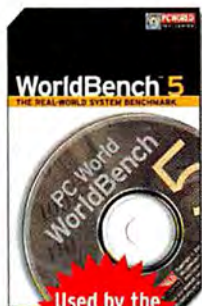
AVAILABLE TO THE PUBLIC FOR THE FIRST TIME EVER!



PC WORLD
WorldBench

HOW DOES YOUR SYSTEM MEASURE UP?

Find out with WorldBench® 5, the industry standard benchmark for testing PC performance.



Used by the PC World Test Center

- **Automated and Bulletproof**
Runs completely on its own from start to finish.
- **Results You Can Use**
Provides real-world results, not a synthetic score.
- **Apples to Apples**
Combines results and compares them to the reference system.

WorldBench 5, the industrial-strength benchmarking tool that the PC World Test Center uses to analyze desktop and laptop PCs, is now available for purchase. **ONLY \$249!**

*plus taxes and shipping

Go to www.worldbench.com and order today!



We're projecting a better bottom line.



EPSON

PowerLite 755c Lightweight, Wireless Wonder. XGA (1024 x 768), 2000 lumens, only 3.9 lbs., wireless.

Call for Today's Low Price

~~\$1599.00~~



MITSUBISHI ELECTRIC

XD480U

Long Life, Incredible Images. XGA (1024 x 768) resolution, 3000 lumens, 5,000-hr lamp, 3-yr. warranty.

Call for Today's Low Price

~~\$2895.00~~



HITACHI

CP-RX60

Stylish, Compact, Portable Affordable. XGA (1024 x 768), 1500 lumens, less than 5 lbs., 3-yr. warranty.

Everyday Low Price

~~\$899.00~~



Benq

CP120

Ultimate Mobility. XGA (1024 x 768), 1500 lumens, 2000:1 contrast, only 2.9 lbs. Broad wireless compatibility.

Everyday Low Price

~~\$1699.00~~



DA-LITE

Screens for all occasions.

From ceiling-recessed electric screens to ultra-portable Insta-Theater screens, Da-Lite has the right screen at the right price.

Call our Projector Experts for a custom solution

~~\$80.00~~

Panasonic NEC InFocus Optoma SANYO CASIO CHIEF



ProjectorPeople.com

Call 888-228-9865

www.projectorpeople.com

* Prices at time of printing — call for latest deals and discounts!

IT Automation

WinBatch Automates Windows PC's Fast



- Swift scripting software
- 800+ practical examples
- 2,500 case studies
- 30 special purpose libraries and extenders

WinBatch gives you the power that only top notch C++ or VB developers can enjoy, but takes away the complexity.

KH - Network Services Manager

Free Evaluation Copy

www.winbatch.com
90-day unconditional money-back guarantee

sales@winbatch.com

1-800-762-8383

Wilson WindowWare, Inc.

Guaranteed • Supported • Complete

Software Savings for Students, Teachers, and Schools!

Get up to 85% off retail software prices on the brands you know and use...



Adobe®
Creative Suite 2
Save! 67%
Order Today!
Get the Best for Less!



Macromedia®
Studio 8
Save! \$710
Only! \$289.⁹⁵
Brand New Version!



Quark®
QuarkXpress 6.5
Save! \$756
Only! \$189.⁹⁵
The Industry-Standard!



Microsoft®
Office 2003 Pro
Save! 66%
Order Today!
4 Programs - 1 Price!

We carry thousands of industry-leading software and hardware products at huge discounts for students, teachers and schools. These special prices are ONLY for the academic community. And our prices are typically \$10-\$20 lower than most college bookstores! Visit us today and start saving!

Adobe®
Acrobat Pro 7.....**Save 69%**
Photoshop CS 2**Save 53%**
Video Collection.....**Save 55%**

Alias®
Maya 7 Complete Student**\$289**
SketchBook Pro 2 Student.....**\$89**

Corel®
Painter IX.....**\$89**

Macromedia®
Dreamweaver 8.....**\$189**
Flash Professional 8**\$239**

Microsoft®
Windows XP Pro Upg**Save 58%**

Sony Media Software®
ACID Pro 5.....**\$149**
SoundForge 8.....**\$149**
Vegas+DVD.....**\$299**

Hey Parents!

You are eligible to buy for your students at home or away at college!

FREE SHIPPING!
when you order online

Prices subject to change at any time.

Give us a call anytime! 1-800-580-9237

PW.AcademicSuperstore.com

**ACADEMIC
SUPERSTORE**

Escape to Nature.

nature.org

The
Nature
Conservancy®
Saving the Last Great Places

NEW LOW PRICE!



\$888 (Wow!)
Qty 2+

Qty 1: \$10.88
Remanufactured HP 51645a
(No. 45) ink cartridge.

More great deals at...
1-800-INKFARM

inkfarm.com
the ink & toner supersite.™

**SAVE YOUR COPIES OF
PCWORLD**

Organize and protect your copies of *PC World*. Slipcases are designed to hold more than a years worth of issues and are ideal for protecting and organizing your valuable copies. Attractive and durable, each slipcase is covered with a blue, leather-like material. A custom label decorated in silver with the *PC World* logo is included for personalizing. Great for Gifts! **SATISFACTION GUARANTEED!**



ONE - \$15 THREE - \$40 SIX - \$80

ORDER ONLINE AT
www.tncenterprises.net/pcw.html

By mail your order to: TN Enterprises, Inc., P.O. Box 2470, Nashville, TN 37202. Enclose name, address, and payment with your order. The P.O. must be paid in full. Add \$3.50 per copy for postage and handling. Credit Card Orders: Call 1-800-580-9237. USA orders only. PCWORLD is a registered trademark of Time Inc. Magazine. © 2006 TN Enterprises, Inc. All rights reserved.

BOLDATA'S POWERFUL ALL-IN-ONE COMPUTER FEATURING THE AMD ATHLON™ 64 PROCESSOR



Key Features

- Stylish and highly compact design
- Choice of processors:
 - AMD Athlon™ 64 processor
 - AMD Sempron™ processor
- Up to 2 GB of DDR400 Memory; 2 sockets
- Up to 300GB 3.5-inch Serial ATA Hard Drive
- Choice of Optical Drives:
 - 8x Multi Dual-Layer DVD Burner; DVD-RAM; DVD+-RW; slot-based
 - 8x Dual Dual-Layer DVD; DVD+-RW; tray based
- External 150W; Auto-Switching AC Adapter
- Internal wireless 802.11b/g WLAN and Bluetooth
- Internal, optional CMOS webCam
- 4 Built-in speakers and built-in Subwoofer
- "Multimedia Center Ready" with optional internal TV Tuner
- Ports: 6x USB2.0; 1x FireWire (IEEE1394a); 1x Headphone; 1x Mic-in; 1x S/PDIF out; 1x S-Video jack for Video Input; 1x RGB jack for Analog Video input; 1x DVI-IN jack for digital video input; 1x CIR; 1x TV antenna jack

BOLData's all-in-one small footprint entertainment and computing LCD PC is built with the AMD Athlon™ 64 processor with HyperTransport™ technology for increased bandwidth and reduced bottlenecks for increased performance and better multi-tasking. With a 17-inch widescreen flat LCD TV display, built-in 6 speakers and up to 2 GB memory, 300 GB hard drive, 8x multi dual-layer DVD burner, Wi-Fi, internal webcam for video conferencing and all standard ports, this is the ultimate system for business computing and personal entertainment. For powerful space saving systems that deliver all the bells and whistles, call us today.

Configure your system today at

1-800-923-BOLD

BOLData®
S Y S T E M S



Custom configure and buy on-line at
www.boldata.com

The **Only** Microsoft® Windows®-compatible
64-bit PC processor.

4 8 3 6 3 F r e m o n t B l v d . • F r e m o n t • C A • 9 4 5 3 8

Copyright © 2005, BOLData Systems Inc. BOLData, the BOLData logo are registered trademarks of BOLData Systems. AMD, the AMD Arrow logo, AMD Athlon™, AMD Sempron™ and combinations thereof are trademarks of Advanced Micro Devices, Inc. All other product and company names are the trademarks or registered trademarks of their respective owners. See AMD website at <http://www.amd.com> for details and independently audited benchmark results.

Project your Dreams

PORTABLE PROJECTORS FOR EVERY BUDGET

PLC-XU48
XGA 1,024 x 768
3,000 Lumens
Weight: 5.9 lbs. **\$ 1,695**
Call

PLC-XU73 *New*
XGA 1,024 x 768
2,000 Lumens
Weight: 5.3 lbs. **\$ 995**

PLV-Z4
Home Theater Projector
WXGA Native 16:9 1,280 x 720
Contrast: 7,000:1 **\$ 1,995**
Call

iavi
International Audio Visual, Inc.
Your source for
SANYO
www.iavi.com
Toll Free: 888-999-6564
E-mail: sales@iavi.com

© International Audio Visual, Inc.
All rights reserved

Get Rid Of Computer And Data Theft Worries Once And For All

800,000 people did NOT protect themselves against data theft



3M Privacy Filters



Security Cables



LCD Security Alarms



Asset Tracking Tags

See Our Complete Line of Security Solutions

Secure-It

www.Secure-It.com
800-451-7592

Pro/ENGINEER WILDFIRE 2.0

STUDENT EDITION



Available to Students
and Educators at:

199⁹⁸

Pro/ENGINEER Wildfire is the one solution for engineers that don't want to choose between price and power, ease of use and robust process functionality. Pro/ENGINEER Wildfire 2.0 Personal Edition is the perfect solution for professionals and students who desire this software for personal use.

ProE Reference Books also available!

ATTENTION FACULTY MEMBERS: Request a box of ProE brochures and a poster to let your students know about this great offer.

JourneyEd
Education Marketing

www.JourneyEd.com

1-800-974-9001

Laptop Repairs & Upgrades

OVERNIGHT - NATIONWIDE: 1-866-96-RESTORE

Overnight Nationwide Repairs For All PC Laptops - Only \$79

Includes Round-Trip, Overnight Shipping And Diagnosis

Visit LaptopRestore.com For Details



Hard Drive Upgrades:
Up To 120gb
Starting At \$219

100gb 7200 RPM Just \$399!

Includes Data Transfer,
Overnight Pickup/Return
And 24-Hour Turnaround!

Visit Us For
24-Hour iPod
Repairs and
Upgrades!

Details at:
iPodRestore.com

"I had no idea that upgrading
the hard drive on my
laptop could be so easy!
Thanks for the fast,
reliable and all-around
excellent service!"

Abigail Hume



TechRestore.com
1-866-96-RESTORE
Local/International: 925-689-9488

ThinkPad®

FROM A

ATI Radeon® graphics
 Bluetooth wireless
 Intel® Centrino™ Mobile Technology
 DDR2 memory (2GB max.)
 Embedded Security Subsystem
 Optional Integrated Fingerprint Reader
 Gigabit Ethernet
 Serial ATA Hard drive (up to 100GB)
 Integrated HD shock absorber
 At home, on the Job or on the couch
 Multiple docking solutions
 Long battery life (up to 5.5 hours)
 Multimedia Fn+ keys

Newest member of the ThinkPad family

Starting at 6.6 pounds

Microsoft® Windows® XP Pro

High-Quality stereo speakers

3-in-1 flash card Reader

S-Video output

Available Titanium cover

Ultrabay Enhanced (not swappable)

Up to 128MB Video RAM

Wide-area wireless networking

MAXBright widescreen display

Your work your way

Full-size keyboard



TO Z

ThinkPad Z60 Starting at \$799

1.800.986.4290 | www.pcconnection.com/thinkpad

PC Connection®
 we have your brand™

©2005 PC Connection. All rights reserved. PC Connection is a trademark of PC Connection, Inc. or its subsidiaries. All copyrights and trademarks remain the property of their respective owners. Our Sales Policy: All sales are subject to PC Connection's Standard Terms of Sale. You may review the Terms of Sale at www.pcconnection.com.

INTRODUCING:
A Virtual Server that
JUST MAKES
MONEY!

- Host from 5 to 100 domains
- Windows and UNIX sites with Email!
- Over 1000 templates included!!!
- Free Virus scanning/Spam filtering
- Free 24/7 Outstanding Support
- Free 24/7 Support for your clients
- Free Site Creator
- Free Setup

Let us take care of all the hardware, software, and template designs so that you can concentrate on what matters most: building websites and making more money!

Pricing from \$39.99!
 Check out our free demo at BlueGenesis.com

Blue Genesis

Call TODAY! 1-866-258-3350 for a free 30 day trial!

Life insurance rates drop to all-time lows

Visit Insure.com today. Our computer system will compare rates of over 60 leading companies in 5 seconds. Each company bids their absolute lowest price to win your business.

10-Year Term Life Sample Monthly Premiums

Age	\$500,000	\$1,000,000	\$2,000,000
35	\$13	\$20	\$35
40	\$17	\$30	\$54
45	\$26	\$46	\$87
50	\$39	\$73	\$141
55	\$60	\$114	\$223
60	\$97	\$188	\$371
65	\$167	\$329	\$653
70	\$386	\$661	\$1,316

"The premier Web site in terms of details and ease of use, (best of all, it's free)" — *Yahoo! FINANCE*

"...we'd recommend you do your insurance shopping here..." — *Barron's*

Insure.com

Or call 1-800-323-7720 for FREE quotes and advice

Ad Code: PCW 2/06

NOTE: The sample Pennsylvania rates shown above are not specific to any individual person or insurer. Please call 1-800-323-4514 or visit www.insure.com to obtain personal quotes specific to your health history profile. Copyright © 1984-2006 Quotesmith.com, Inc., 3025 South Cass Avenue, Suite 102, Darien, Illinois, 60551. All rights reserved. CA agent #0A13858, LA agent #200696, MA agent #333509159, Quotesmith.com, Inc. dba Insure.com Insurance Services in CA under agent #0827712, in LA under agent #205078, Quotesmith.com, Inc. dba Insure.com Insurance Services, Inc. in UT under agent #90093. Quotesmith.com dba Insure.com and Life Quotes, Inc. in CO.

HighSpeed PC
 Specialty Computer Hardware

HSPC Tech Station Fast-Access Computer Case!

"The Tech Station (patent pending) is a hardware workbench bringing PC parts within easy reach yet keeping them safe and secure. Perfect for PC builders, upgraders, and overclockers."

- HDD storage/cooling rails for up to two 3.5" hard drives
- AGP/PCI card support brace w/thumb screws (no loose add in cards!)
- ATX Control Kit (mini power/reset switches, LED's speaker)
- 120mm fan for ideal cooling
- Anti-static and non-conductive!
- Standard, Large, and custom sizes/colors available

www.highspeedpc.com

Good for recovering your cat...

Bad for recovering your data.

LOST DATA
 Please call with information
618-654-3553
 we're to (C) Drive and have all my PC
 with 1 week being online maintenance
BIG REWARD

ESS DATA RECOVERY LABS
 800.237.4200 • www.savemyfiles.com
 1241 Quarry Lane, Pleasanton, California • 120 Executive Drive, Highland, Illinois

AMAZING GRACE...
DON'T LET IT
VANISH WITHOUT
A TRACE.

1.800.CALL.WWF
www.worldwildlife.org/act

Get your free World Wildlife Fund Action Kit and help leave our children a living planet.

WWF

PRESIDENT, CEO Jeff Edman
EXECUTIVE ASSISTANT Roxanne Warrick

ADVERTISER'S INDEX

Type find.pcworld.com/ plus the five digit number below, to go directly to any advertiser in this list.

CONTACT INFORMATION

PHONE: 415/243-0500 FAX: 415/442-1891
E-MAIL: letters@pcworld.com
WORLD WIDE WEB: www.pcworld.com
MAIL: PC World 501 Second St. #600
San Francisco, CA 94107

ADVERTISING SALES

VP/PUBLISHER, PC WORLD MAGAZINE
Wayne Silverman (201/634-2318)
SALES ADMINISTRATOR Linda Moreno
(201/634-2317)

EAST

Mid-Atlantic/New York State/
New Jersey/Southeast
SENIOR ACCOUNT MANAGER Judy Sutter
(404/504-6211)
New York City/New England/Upper Midwest/
Eastern Canada

SENIOR ACCOUNT MANAGER Kathy McKay
(847/759-2723)
SALES ASSOCIATE
Tammy O'Sullivan (847/759-2722)

WEST

Orange County/San Diego/Washington
ASSOCIATE PUBLISHER/MARKET DEVELOPMENT
Susan Green (949/442-4021)
San Francisco/Los Angeles/Southwestern
U.S./Texas/Western Canada

SENIOR ACCOUNT MANAGER Jane Evans
(415/267-1766)
SALES ASSOCIATE
Billie Sutherland (949/442-4014)
Silicon Valley/Oregon

SENIOR ACCOUNT MANAGER Alicia Langer
(415/267-4578)
SALES ASSOCIATE
Vanessa Thomas (415/978-3317)
SENIOR SALES DEVELOPMENT MANAGER
Duane Hampson (415/978-3133)

CUSTOM PUBLISHING/EVENTS

VP/PUBLISHER, PCWORLD.COM, CUSTOM
PUBLISHING Michael Carroll (508/370-0842)

PC WORLD MARKETPLACE

Neal Mandel (888/254-0711)

PC WORLD REPRINTS

Ashley Rinier (717/399-1900 x125)

PCWORLD.COM AD SALES

VP/PUBLISHER, PCWORLD.COM, CUSTOM
PUBLISHING Michael Carroll (508/370-0842)
BUSINESS PROJECTS COORDINATOR
Angela Beaudoin (508/370-0841)

Northwest
SENIOR ACCOUNT MANAGER Melissa Gruber
(415/974-7373)

Southwest
SENIOR ACCOUNT MANAGER Cindy Crow
(949/442-4005)

East
SENIOR ACCOUNT MANAGER Mark Barreca
(732/544-2006)

PCWORLD.COM AD OPERATIONS

AD OPERATIONS AND DESIGN SPECIALIST
Kevin Barden (415/975-2673)
AD OPERATIONS SPECIALIST
Sarah Rose (415/978-3266)

MARKETING

SENIOR DIRECTOR OF MARKETING Sandy Wong
SENIOR MARKETING COMMUNICATIONS
SPECIALIST Heidi Tanaka

RESEARCH

DIRECTOR, MARKETING RESEARCH Lisa Huck

CONSUMER MARKETING

VICE PRESIDENT, CONSUMER
MARKETING Shawne Burke Pecar
ASSOCIATE CIRCULATION DIRECTOR David Cobb
SINGLE COPY SALES DIRECTOR
Holly Drawbaugh
DIRECTOR, RETENTION MARKETING Lisa Radler
SENIOR SUBSCRIPTION MARKETING MANAGER
Linda Trinh
SUBSCRIPTION MARKETING MANAGER
Jennifer Ma
SENIOR RETENTION MARKETING MANAGER
Robyn Patty
RETENTION MARKETING COORDINATOR
Shavon Burden

PRODUCTION

DIRECTOR, PRINT AND ONLINE
PRODUCTION Nancy Jonathans
PRODUCTION MANAGER Lisa S. Mireles
TRAFFIC MANAGER Eliza Wee
ADVERTISING TRAFFIC COORDINATOR Erika Pino

PCWORLD.COM MANAGEMENT

GENERAL MANAGER Ulla McGee
ONLINE PRODUCT DEVELOPMENT
MANAGER R. Bruce McCurdy
DIRECTOR, BUSINESS AND LEGAL AFFAIRS
Sue Krensek
SENIOR MANAGER, BUSINESS DEVELOPMENT
Brian Buizer
DIRECTOR, ONLINE MARKETING Alexa Wiggins
NEWSLETTER SERVICES MANAGER
Michael E. England
MEMBER SERVICES SPECIALIST Brian Witchel
ONLINE MARKETING SPECIALIST Ben Veechai

HUMAN RESOURCES

VICE PRESIDENT, HUMAN RESOURCES
Kate Coldwell
HUMAN RESOURCES MANAGER Carina Rivera
HUMAN RESOURCES REPRESENTATIVE
Jenny Steele

TECHNOLOGY

CHIEF TECHNOLOGY OFFICER Aaron Jones
DIRECTOR, INFORMATION SYSTEMS
Norman Noble
SENIOR NETWORK ANALYST Walter Clegg
NETWORK MANAGER Rodney Barnes
IT DEVELOPER/ANALYST Stan Erhart
SYSTEMS ANALYST Eileen Chaney
NETWORK ADMINISTRATOR Gabe Ramos
SENIOR SYSTEMS ADMINISTRATOR Geoff Hunter
SENIOR SYSTEMS ADMINISTRATOR Justin Hunter
LEAD SOFTWARE ENGINEER Jim Hutson
SENIOR APPLICATIONS DEVELOPERS
Arturo Flores, Blossom Woo, Wei Ming Xu
APPLICATIONS MANAGER
Matthew Newton
PROJECT MANAGER Kayan Wong

FINANCE

SENIOR VP, COO/CFO Vicki Peilen
DIRECTOR, FINANCE Diane Ryzek-Rae
DIRECTOR, ACCOUNTING Michelle Reyes
DIRECTOR, ADVERTISING ACCOUNT SERVICES
Kevin Greene
DIRECTOR, FINANCIAL AD OPERATIONS
Diane Hacker
STAFF ACCOUNTANT Lee Ann Baldwin
ACCOUNTING COORDINATOR Andrew Lyon-Hall

Advertiser Page Number	Find-It Address	Advertiser Page Number	Find-It Address
1&1 Internet Inc. 76-77	50207	KONICA MINOLTA C4	50213
Abby Software 68	50210	Linksys 121	50185
Acer America Corp. 97-104	50201	Microsoft Office 14-15	50187
Ajump.com 12	50212	MS Linux 53	50186
Alienware 73	49929	MS WSS SQL 2-3	49857
Antec Inc. 32	49938	NEC Display 27	50203
AOpen 42	49439	NEC Solutions 19	49913
Apricorn 70	50202	Nero, Inc. 63	50196
Asus 111	49940	newegg.com 89A-89B	50214
BenQ America Corp. 36	49935	OkiData 8	50199
Brother 57	50758	PC America 112	50200
Buffalo Technology 79	49910	PC World's Digital Duo 86C	50206
Buffalo Technology 87A	49918	Primera Technology 29	50752
CDW Corporation C2-1	49858	Ricoh Corporation 39	50197
CDW Corporation 40	49859	Ricoh Corporation 51	50198
Combortronic Ltd. 10-11	50188	Rimage 16	49931
Cyberpower, Inc. 88B-89	49596	Seiko Instruments 71	49936
Dell, Inc. 20-21	49930	Sony 31	50208
DLP 88A	50216	SunRocket 117	50757
Fujitsu ScanSnap TM 13	50192	ThinkPad 58-59	50209
Grisoft 34	50194	Toshiba America 4-5	49912
HP 74-75	50204	Transcend Inc. 44	49861
HP 86A	50215	U.S. Robotics 55	49933
IDC Directions 2006 86B	49920	Universal Laser Systems 109	50190
IDC Directions 2006 86B	49921	ViewSonic Corp. 6	49922
Insight Direct 67	50754	Wacom Technology 64	50756
IOGEAR Inc. 61	49937	ZT Group 69	50205
IX Web Hosting 35	50195	ZyXEL Communications 127	50189
Kingston Technology C3	49852		



Web 2.0? First, Let's Get Web 1.0 Right!

"WEB 2.0" IS A PROMISING IDEA—and there are plenty of sites that reflect its innovations in this issue's cover story, "New, Improved Web" (page 80). But you know what I want to see this "new" Web deliver to prove the brilliance of the concept? Fixes for what Web 1.0 keeps doing wrong.

I'm tired of lame sites that force me to do their bidding in some particular, arbitrary style. Now that programmers can deploy powerful, fast-working magic to make sites more interactive, let's see them use new techniques—or hey, even old ones—to solve problems that have been around since the dawn of the Web. In 2006, well-behaved sites should:

Work our way. Worst thing on the Web: forms that can handle input only if you type it in precisely the way they want it. Exhibit A is the awful Web site of FedEx, which somehow fancies itself a technology leader. Paste an official account number, complete with two hyphens, into the proper field, and you'll receive an error message—after you fill out the entire page. For some reason, FedEx's programmers remain blissfully unaware that those hyphens appear just about everywhere in FedExland but their domain, so they insist that you enter account numbers as nine consecutive digits.

You know how the dimbulbs responsible for glitches like this will probably use Web 2.0 technology: The very instant you type a prohibited character, the site will pop up a message announcing that your entry is unacceptable (but not exactly why). The right way to deal with this, of course, would be to use programming savvy to strip out the hyphens behind the scenes. Elsewhere, similar logic should accept both 1-2-06 and 01/02/2006 as

legitimate date entries. Forcing users to do the formatting instead of writing code to handle it is just plain lazy.

Let us navigate. Excuse me, but after I return to a form via the back or forward button, I want to see what I entered in the first place. I don't want to see the page go blank or revert to some default state. And don't tell me not to use the back button. Just make it work.

Even on the 'new' Net, old problems are everywhere.



Give us help. Microsoft Office uses delay-based help when it shows partial menus but reveals the rest if you take too long to pick an item. That's a terrible implementation, because it's better just to show all the options in the first place. More broadly, the concept of help that appears when you need it has been around since WordStar, and it's still worth pursuing.

Say you spend a long while staring at a Web page; a little balloon might pop up to offer some assistance. But the technique makes sense only if it improves good sites rather than covering up for bad ones. The same goes for tips that appear when you hover over an item—and please, no more of those multiple-level rollover menus, which tend to be as twitchy as an over-tightened roller blind.

Do more for us. Google nudges us with a gentle reminder when it thinks we may have mistyped a search term. But some travel sites are totally flummoxed when we make a slight error in entering an airport code. Sorry, but offering to search the entire world is not the logical next step.

Many of the fixes we need most—like the ability to see shipping charges before we get to the very end of a transaction—are a matter of smart design, not newfangled technology. Even so, with the most sophisticated tech yet at their disposal, Web designers have fewer excuses than ever for creating sites that make for annoyance instead of delight. ■

Contributing Editor Stephen Manes is cohost of PC World's Digital Duo (www.pcworld.com/digitalduo) on public television. Visit find.pcworld.com/31595 to see additional Full Disclosure columns.



Volume 24, number 2. PC World® (ISSN 0737-8939) is published monthly at \$24.95 for one year (12 issues), \$49.90 for two years (24 issues), \$74.85 for three years (36 issues) by PC World Communications, Inc., 501 Second Street #600, San Francisco, CA 94107. Foreign orders must be prepaid in U.S. funds with additional postage. Add \$12 per year for Canada; add \$30 per year for airmail for all other countries. Canadian GST Registration #R124669680. Periodicals Postage Paid at San Francisco, California, and at additional mailing offices. Canada Post Publications Mail Agreement #2493993. Returns: 4960-2 Walker Road, Windsor ON N9A 6J3. 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 © 2005, 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 100®, 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. Ride-along enclosed in book versions 4B, 7, and 9 through 27.



5YEAR
WARRANTY

Life is an open road. Enjoy the drive.

Introducing the revolutionary U3 DataTraveler Smart Drive.



It might look like an ordinary USB Flash drive but it's much more than storage – it's freedom.

Kingston's U3 Smart drive takes mobile storage to new levels, letting you launch and run U3 software programs while carrying your data on one convenient device that fits on your keychain.

Make it your own by selecting programs from such categories as communication, productivity, games, photo, file synchronization and security. Download the applications at U3.com, then run them from the drive itself. Now you have the freedom to easily move between PCs.

For your safety today and down the road, U3 DataTraveler offers password protection, 24/7 tech support and a five-year warranty. Visit kingston.com/U3 for details or purchase from one of our partners.

buy.com.



TigerDirect.com

 **Kingston**
TECHNOLOGY
COMMITTED TO MEMORY®



Please note: Some of the listed capacity is used for formatting and other functions and thus is not available for data storage. For more information, please consult Kingston's Digital Media Guide at kingston.com/Digital_Media_Guide. ©2005 Kingston Technology Company, Inc. 17600 Newhope Street, Fountain Valley, CA 92708 USA. All rights reserved. All trademarks and registered trademarks are the property of their respective owners.

Go to find.pcworld.com/49852

KONICA MINOLTA

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC., TOKYO, JAPAN



Color Laser Printers

800-523-2696 • buymagicolor.com

magicolor laser printers will enhance your image

NEW LOW PRICES

When it's time to make a great impression, count on magicolor® laser printers from KONICA MINOLTA. For just pennies a print, add vivid, bold color to your presentations, sales proposals, and marketing brochures. Then watch the positive impact color makes on your business.

magicolor 2450

Superior Color

- 20 ppm color, 5 ppm b&w
- 9600 x 600 dpi-class quality
- Fast Ethernet®, USB 2.0, & parallel
- Windows® & Mac® compatible
- PostScript® 3 & PCL® 6 emulations

\$499

Buyers Laboratory
Highly Recommended

magicolor 5440 DL

Extreme Speed

- 27 ppm in color and b&w
- 2400 x 600 dpi
- Fast Ethernet & USB 2.0
- Windows, Mac, & Linux® compatible

\$999



magicolor 5450

Ultimate Speed & Quality

- 27 ppm color and b&w
- 9600 x 600 dpi-class quality
- Gigabit Ethernet®, USB 2.0, & parallel
- Windows, Mac, & Linux compatible
- PostScript 3 & PCL 6 emulations

\$1,499



Buyers Laboratory
Pick of the Year

Save \$300 when you buy a magicolor 5440 or 5450 & a Toner Value Kit. See buymagicolor.com for details.

Copyright © 2006 KONICA MINOLTA PRINTING SOLUTIONS U.S.A., INC. KONICA MINOLTA and the KONICA MINOLTA logo are trademarks or registered trademarks of KONICA MINOLTA HOLDINGS, INC. magicolor is a trademark or registered trademark of KONICA MINOLTA PRINTING SOLUTIONS, U.S.A., INC. All other trademarks or registered trademarks are the property of their respective owners. All prices are manufacturer's estimated street prices.



KONICA MINOLTA