Top **HIGH-DEF MOVIE** Players p.105 • 10 Workhorse **LAPTOPS** p.58

# PCWorld

JULY 2008 • WWW.PCWORLD.COM

# BEAT YOUR BIGGEST TECH ANNOYANCES

## Upgrade Headaches, Rebate Hassles, Pushy Sales, Lousy Support & More!

**100 Best Products**
Gadgets, Apps & Sites We Love p.90

PRINTED IN USA • $6.99

# CDW can help you upgrade your technology. Your wardrobe is entirely up to you.

Monitor sold separately

**Lenovo® ThinkCentre® A57**

- Intel® Celeron™ Processor 430 (1.80GHz)
- Memory: 512MB
- 80GB hard drive
- DVD-ROM drive
- Windows® XP Professional

lenovo

$429.99
CDW 1434101

**Samsung 2253BW**

- 22" analog/digital widescreen LCD with dynamic contrast ratio of 8000:1
- Panel brightness: 300 cd/m²
- Three-year limited parts, labor and backlight warranty

SAMSUNG

$324.99 CDW 1399241

[1]CDW supports and honors AT&T Mobility National Business Contract offers and discounts; contact a CDW account manager for activation and support. [2]Promotional pricing good only for new subscribers and for a limited time; to be eligible for this promotion, purchaser must activate a voice plan of $39.99 or higher AND an Unlimited BlackBerry data plan with CDW on a two-year contract at time of purchase; call your CDW account manager for details. Offer subject to CDW's standard terms and conditions of sale, available at CDW.com. ©2008 CDW Corporation

Monitor sold separately

## Lenovo® ThinkCentre® A57

- Intel® Pentium™ Dual-Core Processor E2180 (2GHz)
- Memory: 1GB
- 160GB hard drive
- DVD±R drive
- Windows® XP Professional

lenovo

intel Pentium

**$576.99**
CDW 1409808

### Xerox® Phaser® 8560N

xerox

- Network-ready, solid ink color printer
- Mfr. speed rating: up to 30 ppm black and color
- Print resolution: 2400 FinePoint™
- Duty cycle: up to 85,000 pages per month
- One-year onsite warranty

**$699.99** CDW 1127943

---

**$499.99**
CDW 1383022

lenovo

AMD 64 Athlon X2

## Lenovo® ThinkCentre® A61

- Dual-Core AMD Athlon™ 64 X2 Processor 3800+ (2.40GHz)
- Memory: 1GB
- 160GB hard drive
- CD-RW/DVD-ROM combo drive
- Windows® XP Professional

Monitor sold separately

ViewSonic

### ViewSonic VX1940w

- 19" analog/digital, widescreen LCD with dynamic contrast ratio of 3000:1
- Panel brightness: 300 cd/m²
- Three-year limited parts, labor and backlight warranty

**$224.99** CDW 1368269

---

Monitor sold separately

## Lenovo® ThinkCentre® A61

- AMD Athlon™ 64 X2 Processor Model 4400+ (2.30GHz)
- Memory: 1GB
- 80GB hard drive
- CD-RW/DVD-ROM combo drive
- Windows® XP Professional

lenovo

AMD 64 Athlon X2

**$599.99**
CDW 1282010

### BlackBerry Curve™ Titanium 8310 from AT&T[1]

at&t

- TeleNav GPS Navigator™ allows you to find your destination with spoken driving directions, 3D moving maps and real-time traffic alerts
- Quad-band GSM/GPRS/EDGE - get high-speed access across the U.S. and global roaming capability

**$199.99**[2] CDW 1327745

---

## We're there with the technology solutions you need.

Music and vintage clothing still have a place in the world today. Old technology? Not so much. From upgrades to the latest operating system, or even switching to a new one altogether, CDW has the desktops to suit your needs. Of course, we also offer a personal account manager who knows the needs of your business, as well as technology specialists to answer questions and a host of configuration services. Bottom line—we'll make sure you get what you want, when you want it. So call CDW today and upgrade to where you need to be. Technologically speaking, of course.

CDW

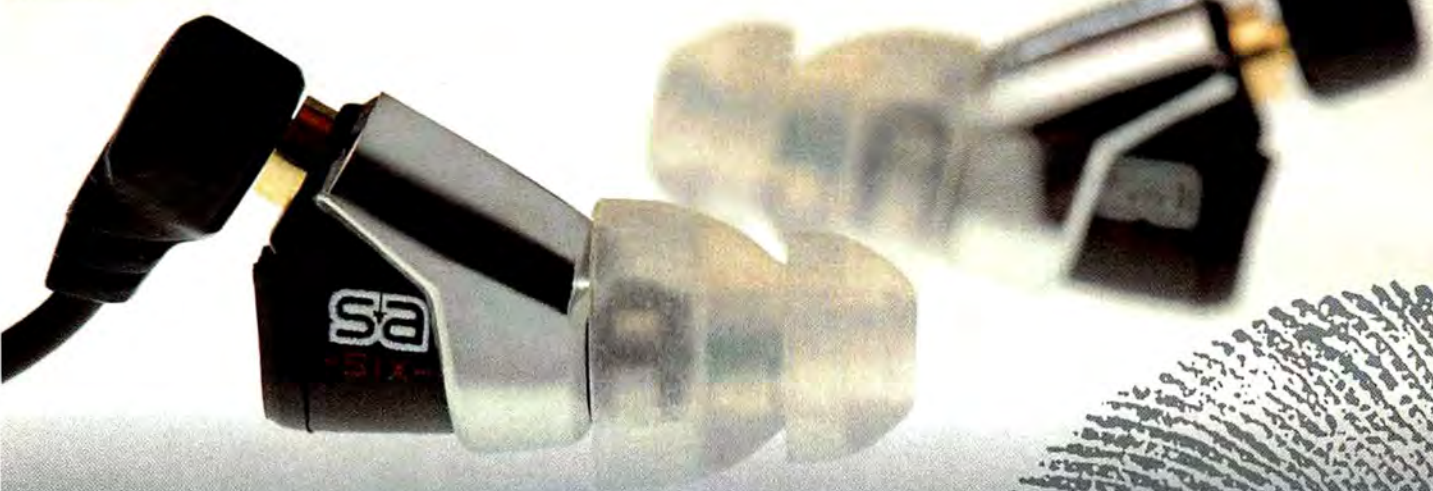
CDW.com | 800.399.4CDW

The Right Technology. Right Away.®

www.sleek-audio.com

# "COCHLEA-OPENING EAR CANDY"

— *WIRED.com* 9 out of 10
*(www.sleek-audioreviews.com)*




## FIND YOUR AUDIO FINGERPRINT™
with the **SA6 Earphone**

The Sleek Audio SA6 is the *first fully customizable earphone* that allows the bass and treble to be adjusted independently. We call this innovative feature the VQ System™ and it's designed to find your personal *audio fingerprint*.

We all hear differently and have unique tastes in music; finding your personal settings will help you to enjoy your audio experience.

- VQ System™ Interchangeable bass and treble ports for fine tuning.
- Multiple size ear tips to fit any ear canal.
- Removable cable that also swivels 360 degrees. Cable can be worn up and over the ear or hanging down as a traditional earphone.
- Compatible with Sleek Audio's independent wireless system to be released in late 2008.

Enter coupon code **PCWorld** and get **$20 Off**

SA SLEEK™ AUDIO

*Music in Tune with You™*

©2008 Sleek Audio

# Record Everything Your Employees Do On The Internet

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

### Internet Abuse is Costing Your Business

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

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

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

### Spector CNE Investigator to the Rescue

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

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

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

### The Leader in Monitoring and Investigation Software

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

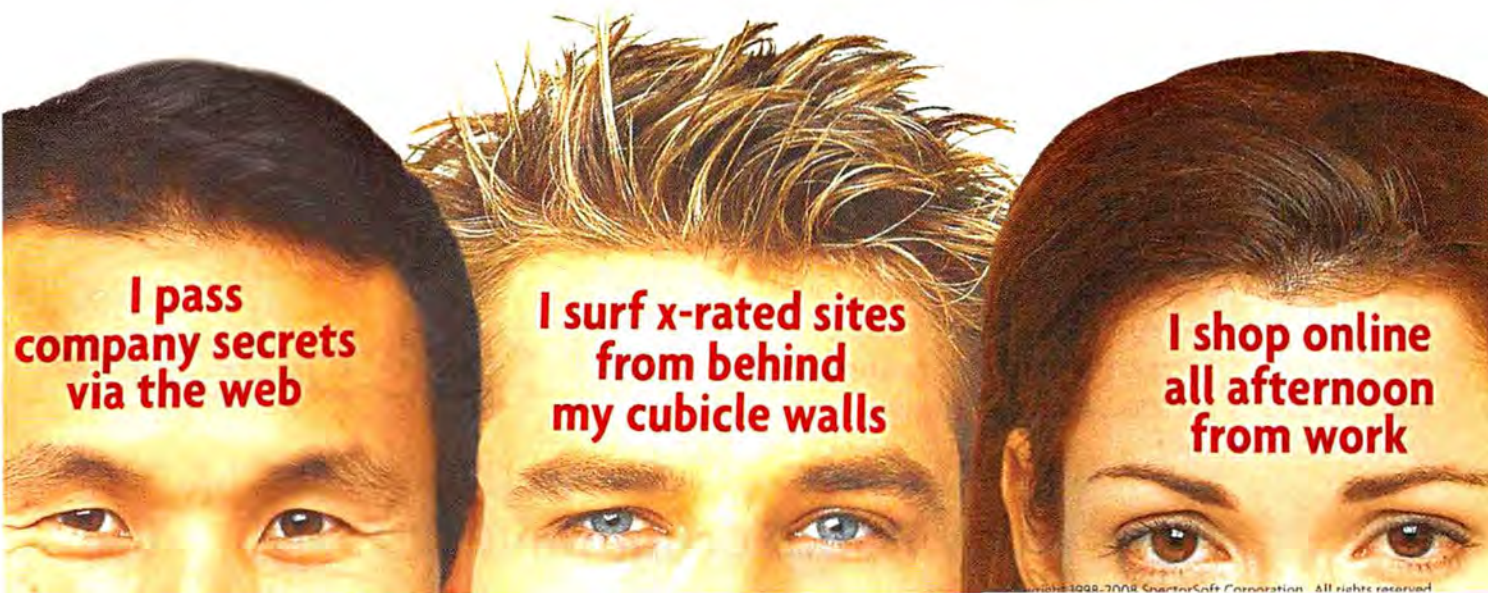
**Spector CNE Investigator**

*PC and Internet Monitoring Software*

**Get Started Today!**

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

**Isn't it time you put an end to the Internet abuse that is harming your business?**




Copyright 1998-2008 SpectorSoft Corporation. All rights reserved.

OVER 100 5STAR RATINGS

PCWorld

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

# Is This Your Password System?

# Ours is Better!

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

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

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

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

## PC World Readers Download RoboForm for FREE!

RoboForm®

**www.RoboForm.com/PCW**

# EVER MIS SOMTHING IMPORTNT?

**CAPTURE EVERYTHING YOU HEAR AND WRITE.**

**PLAY IT BACK WHENEVER YOU WANT.**

**STORE, SEARCH AND SHARE IT.**

pulse™
SMARTPEN

## NEVER MISS A WORD™

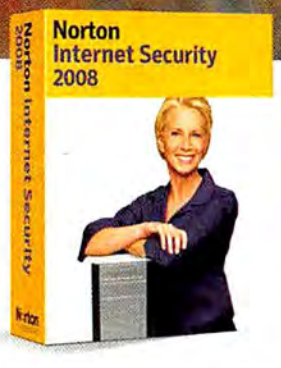
Get a 1GB or 2GB smartpen at **pulse.livescribe.com**

livescribe.

# FAST FACTS:

# A GRIZZLY BEAR CAN OUTRUN A RACEHORSE.

# NORTON SCANS 48% FASTER THAN THE COMPETITION.




PC MAGAZINE EDITORS' CHOICE

Sept. 7, 2007
Norton Internet Security 2008

Norton Internet Security™ 2008 also boots faster than ever while using 83% less memory.* Our SONAR technology can protect you against emerging spyware and viruses even before traditional detection signatures are available. And our integrated Norton™ Browser Protection defends your computer from attacks while you surf the Internet. Get the facts about who's really fast at norton.com/performance

**Same great protection. Re-engineered for speed.**

Norton™ from symantec

*Scanning time and memory usage for Norton Internet Security™ 2008 compared to the average of nine competitive Internet security applications. PassMark Software, Antivirus & Internet Security Performance Benchmark Report, November 2007. PC Magazine Editors' Choice Award Logo is a registered trademark of Ziff Davis Publishing Holdings Inc. Used under license.

© 2008 Symantec Corporation. All rights reserved. Symantec, the Symantec Logo, Norton, and Norton Internet Security are trademarks or registered trademarks of Symantec Corporation or its affiliates in the U.S. and other countries.

# PCW

JULY 2008
Volume 26 • Number 7 • www.pcworld.com

## » FEATURES

82 **The 10 Most Annoying Habits of Technology Companies**
From support hassles to wasteful mail-order packaging, here are the biggest tech irritations—and tips on how you can combat them.

90 **The 100 Best Products of the Year**
In a golden age of high tech, the carat count keeps going up. We offer our choices for the year's top hardware, software, and services.

105 **Now Playing: High-Def Movies**
Blu-ray Disc is the next dominant DVD format. What features are important? Should you collect discs or access Blu-ray video from the Web? Plus, our picks in players.

## » DEPARTMENTS

11 Techlog
13 PCW Forum
124 Full Disclosure

## » FORWARD

18 **Elude BitTorrent Blockades**
Users react as ISPs crack down.
19 Plugged In
24 GeekTech
28 Gadget Freak
30 Beta Watch

## » CONSUMER WATCH

41 **Is Compression Hurting HD?**
TV image quality may be declining.
42 Skeptical Shopper
44 On Your Side

## » BUSINESS CENTER

47 **Search Engine Optimization**
Maximize your visibility with SEO.
48 Net Work

## » SECURITY ALERT

53 **Selling Malware via Web 2.0**
How crooks use social networks.
54 Bugs and Fixes
57 Privacy Watch

## » REVIEWS AND RANKINGS

58 **The Best Business Laptops**
Check out our top choices in each of three notebook categories.
62 Canon PowerShot SD1100 IS
64 Top 5 46- and 47-Inch HDTVs
66 Shuttle KPC K4500 PC
72 Top 5 Inkjet Printers
75 Mio Moov 310 GPS Device
76 Download This

## » HERE'S HOW

110 **Organize With Free Web Tools**
Track tasks, store notes, obtain virtual help, follow your money.
114 Answer Line
117 Fact Check
118 Steve Bass's Hassle-Free PC

COVER ILLUSTRATION BY ZOHAR LAZAR
COVER DESIGN BY GREG SILVA

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

WE CAN HELP.

Shop and Compare at PC World Online

PC WORLD

pcworld.com/shopping

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

PCW

**PHONE:** 415/243-0500

**FAX:** 415/442-1891

**E-MAIL:** letters@pcworld.com

**WEB:** www.pcworld.com

**MAIL:** PC World Editorial, 501 Second St. #600, San Francisco, CA 94107

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

## EDITORIAL

**SENIOR EDITORS** Yardena Arar, Kalpana Ettenson, Anne B. McDonald, Tim Moynihan, Melissa J. Perenson, Robert Strohmeyer

**SENIOR ASSOCIATE EDITORS** Eric Butterfield, Liane Cassavoy

**SENIOR WRITERS** Darren Gladstone, Tom Spring

**ASSOCIATE EDITORS** Danny Allen, Mark Sullivan

**ASSISTANT EDITOR** Greg Adler

**ONLINE COMMUNITY MANAGER** Kellie Parker

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

**EDITORIAL ASSISTANT** Amber Bouman

**ONLINE RESEARCHER** Kristina Saar

## ART AND DESIGN

**DEPUTY ART DIRECTORS** Jeff Berlin, Beth Kamoroff

**DESIGNER** Chip Taylor

**MEDIA SPECIALIST** Chris Manners

**DIGITAL IMAGING SPECIALIST/ PHOTOGRAPHER** Robert Cardin

## CONTRIBUTING EDITORS

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

## PC WORLD TEST CENTER

**MANAGER OF BENCHMARK DEVELOPMENT** James Motch

**DATA MANAGER** Jeffrey Kuta

**SENIOR PERFORMANCE ANALYST** Elliott S. Kirschling

**SENIOR DATA ANALYST** Tony K. Leung

**DEVELOPMENT ANALYST** Thomas Luong

**PERFORMANCE ANALYST** William Wang

**TEST CENTER COORDINATOR** Jose Rodas

## FOUNDERS

**FOUNDER** David Bunnell

**FOUNDING EDITOR** Andrew Fluegelman

## MAILING LISTS

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

## REPRINTS AND PERMISSIONS

You must have permission before reproducing any material from *PC World*. Write to *PC World*, Reprints and Permissions, 501 Second St. #600, San Francisco, CA 94107, or send e-mail to permissions@pcworld.com; include a phone number.

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

## PCW COMMUNICATIONS

**PRESIDENT, CEO** Michael Kisseberth

**SENIOR VP, COO/CFO** Vicki Peilen

**SENIOR VP, GENERAL MANAGER, ONLINE** Stephan Scherzer

**SENIOR VP/GROUP PUBLISHER** Michael Carroll

**VP, HUMAN RESOURCES** Kate Coldwell

## INTERNATIONAL DATA GROUP, INC.

**CHAIRMAN OF THE BOARD** Patrick J. McGovern

**CEO, IDG COMMUNICATIONS** Bob Carrigan

## SUBSCRIPTION SERVICES

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

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

**WEB:** www.pcworld.com/customer

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

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

**FAX:** 515/432-6994

## QUESTIONS AND SUBMISSIONS

Send material electronically to the appropriate online address listed below, or mail it to *PC World*. We reserve the right to edit letters. *PC World* pays $50 for published *Here's How* tips and questions; accepted submissions will be acknowledged by payment. Editors cannot guarantee personal responses to all questions.

**ANSWER LINE:** answer@pcworld.com

**BUGS AND FIXES:** bugs@pcworld.com

**FULL DISCLOSURE:** stephen_manes@pcworld.com

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

**PCW FORUM:** forums@pcworld.com

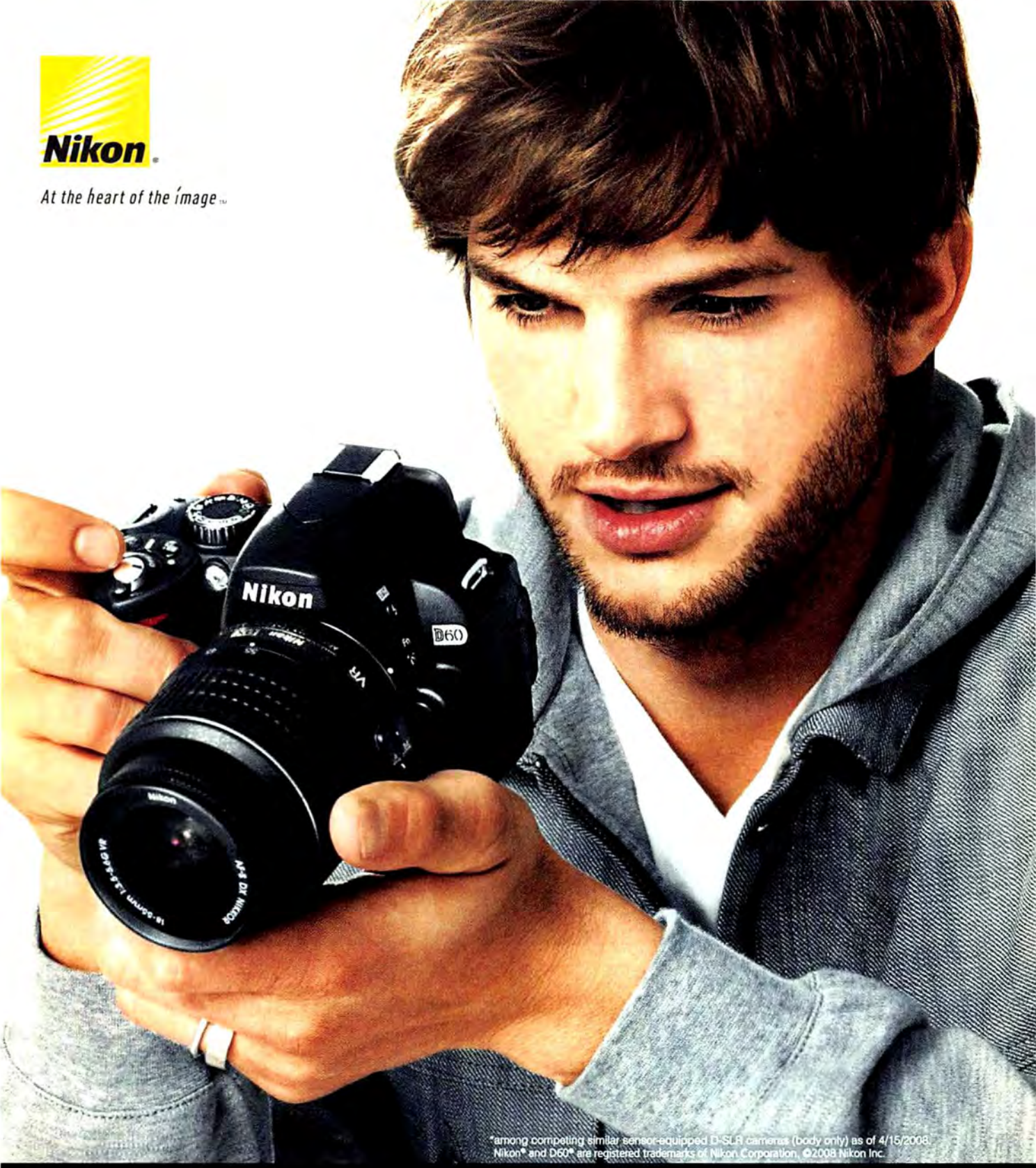
**ON YOUR SIDE:** onyourside@pcworld.com

**PLUGGED IN:** ed_albro@pcworld.com

**PRIVACY WATCH:** privacywatch@pcworld.com

## BACK ISSUES

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




## The compact, easy to use Nikon D60.
## Because everyone deserves a shot at life's moving moments.

The Nikon D60 is the Nikon Digital SLR that makes it easy for anyone to capture the shot instead of losing it to shutter lag. And it's the smallest digital SLR of its kind,* with an 18–55 VR (image stabilization) NIKKOR® lens for the sharp, rich images that make a Nikon a Nikon.

**Enter your best pictures in The Nikon D60 Moving Moments Photo Contest at ashtonsd60.com**
**Upload, organize and share your pictures online at mypicturetown.com**

©2008 Samsung Electronics America, Inc. All rights reserved. Samsung is a registered trademark of Samsung Electronics Co., Ltd. All product and brand names are trademarks or registered trademarks of their respective companies. **Screen images simulated.** *DisplaySearch Q4'07 Quarterly Desktop Monitor Shipment & Forecast Report.

**SyncMaster 53-Series**
*2253BW/LW, 2053BW & 953BW*

# give style to the word substance

The Samsung 53-Series is loaded with an outstanding 8000:1 dynamic contrast ratio, coupled with a fast 2ms (G to G) response time. But looks count too, so we wrapped all that technology up in an immaculate glossy finish and a minimalist bezel design to complement any home or office. It's all the style that substance could ever ask for. And vice-versa.

**For more information from the #1 selling monitor brand in the world,* call 1-800-SAMSUNG or visit www.samsung.com/monitor**

*8000:1 Dynamic Contrast Ratio*
*2ms GTG Response Time*
*Exclusive Magic Technologies*
*DVI with HDCP*

CERTIFIED FOR Windows Vista™

SAMSUNG

# Techlog

HARRY McCRACKEN

# I'm Telling You This for the Last Time...

In which I share some major news and a few lessons I've learned—sometimes painfully—about the world of technology.

FOR NEARLY 14 years, I've had the privilege and pleasure of serving as a *PC World* editor. But all good things must come to an end. By the time you read these words, I'll have stepped down as editor in chief to try my hand at launching my own Web site.

There are countless things I'll miss about this wonderful gig, and one of them is writing this column. Never again will I have the first editorial page in the world's largest computing magazine as my personal soapbox. So while I still have the chance, I want to get a few things off my chest. They may seem kind of random. (They are!) But I didn't want to take off from these parts without putting them on the record.

**My fastest troubleshooting tip:** Whenever Windows or another application hurls an error message at me—no matter how alarming and/or cryptic it may be—I don't panic. I simply type that exact message into Google. And with uncanny precision, the search engine almost invariably leads me to one or more pages that spell out for me exactly what's wrong and how to fix it.

**The biggest limiting factor for high-quality images and audio:** Oftentimes, it's not the technology—it's your own eyes and ears. And that's okay. For example, if you can't distinguish 720p video from higher-definition 1080p stuff, that's a compelling argument for saving a little money by buying a cheaper HDTV set.

**The most essential advice for hard-drive buyers:** Don't stress out over which internal drive to buy—they're all pretty reliable these days. (Yes, I know we still review and rate them.) Just find one that has a high capacity and a decent warranty at a reasonable price, and you'll be in good shape.

**The one customer service policy I love most:** When I started buying computer stuff, returning products that turned out to be lousy and getting a full refund was easy. Today, most sellers charge restocking fees that can make a bad buying decision costly. But a few merchants don't impose 'em, and I give those sellers my business whenever possible. (Bless you, Costco.)

**The trouble with utilities:** Plenty of times, using the right utility has saved my bacon—and nearly as many times, software tools have made problems worse or introduced new headaches. The end result: I'm fussy about the utilities I allow onto my computers.

**The "right time" to buy a PC:** Relatives, friends, and complete strangers frequently ask me how they should time the purchase of a new computer. I always tell them it's not about waiting for a particular month or season. The right time to buy is when the PC that you're currently using starts hampering your productivity because it's too slow, unreliable, or lacking in the latest conveniences. No sooner, no later.

**The secret to good digital photos:** Certain people seem to believe that I'm a skilled photographer. Don't tell anyone, but I barely know how to set white balance. It's just that I take hundreds and hundreds of photos without worrying much about settings—and then I throw out 98 percent of my shots and share only the great ones.

**The smartest way to subsidize a gadget habit:** When you get tired of a digital camera, laptop, or other gizmo, box it back up and sell it on eBay—and use the proceeds to subsidize the item you decide to replace it with. I'm routinely stunned at how much money people are willing to pay for lightly used gear that comes in the original packaging.

**The truth about being a tech expert:** I like to think I know what I'm doing, but I try to remind myself that I still have gaping holes my knowledge—and that it's worthwhile trying to fill them. Earlier this week, for instance, I learned a three-click cell-selecting maneuver in Excel that's, oh, around 50 times faster than the technique I've been using to accomplish the same results.

And so I sign off from *Techlog* for the last time. *PC World*, in both its print and online forms, remains in the excellent hands of my editorial colleagues—and I'll remain part of the extended family as a contributing editor. Want to reach me from here on out? Drop me a line at hm@harrymccracken.com. ●

*When Harry McCracken joined* PC World *in 1994, it didn't even have a Web site.*

## PICK OF THE MONTH

FOR YEARS, MY advice on buying a point-and-shoot digital camera has included this: "Consider buying the best Canon Digital Elph you can afford." My recommendation holds for Canon's PowerShot SD1100 IS. Excellent image quality, a stylish metal case, and pocketable size help this $220 Elph continue its predecessors' smart, well-balanced approach. Check out Danny Palmerlee's review on page 62.

ASUS®
Rock Solid . Heart Touching

ASUS Recommends Windows Vista® Business

# Mobile Multimedia Just Doesn't Get Any Better Than This

## M70

ASUS M70 delivers high definition quality for a dramatically enhanced multimedia experience.

### 17.1" State of the Art Mobile Multimedia

For the absolute best in multimedia, ASUS' 17.1" M70 is the way to go. Its 1920 x 1200 LCD screen delivers bright, crisp, images in better than full-HD resolution. It also offers the best Dolby® Home Theater sound with 4 Altec Lansing speakers and a subwoofer, and up to a terabyte of storage for the biggest multimedia libraries.

## M50

### 15.4" Next-Gen Multimedia Powerhouse

The 15.4" M50 offers multimedia features that even the top 17+" multimedia systems don't. Dolby Home Theater certification and premium Altec Lansing speakers guarantee superior sound. ASUS SmartLogon with face recognition gets you logged on effortlessly. There is even a feature called AI sensor that automatically adjusts screen brightness.

## The Best Complimentary Notebook Coverage in the Industry

ASUS 360 2 0 2 24

ASUS 360 is a premium service package that includes a 2-year limited global warranty and a 30-day zero bright dot warranty. ASUS also offers free two-way standard overnight shipping and 24/7 tech support for notebooks.

ASUS ADW

ASUS Accidental Damage Warranty (ADW) protects ASUS notebook computers from accidental damage incurred from electrical surges, fire, drops and spills. It covers the notebook itself and any built-in or onto-the-base accessories - Free of charge. It is a one-year warranty, extending for one year from the date of purchase. A $150 value.

intel Centrino inside
Performance to go

Price and specifications subject to change without notice. Copyright 2008 ASUS Computer International. All Rights Reserved. ASUS is a registered trademark of ASUSTeK Computer International. Centrino, Centrino Logo, Core 2 Duo, Core Inside, Intel, Intel Logo, Intel Inside Logo are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

# PCW Forum

Whether Vista is 'inevitable' on your workstation, as one analyst says (find.pcworld.com/60831), and whether Windows really needs many third-party features (find.pcworld.com/60832) are hot topics on our site. Add your two cents by going to these articles and clicking on 'Comment'.

ILLUSTRATION: HARRY CAMPBELL

## Vista 'Inevitable' at Work, Analyst Says

I think Microsoft should be slapped with a class-action lawsuit. The fact that it is forcing every user, corporate or personal, to switch to Vista and spend a lot of time and money doing so is insane when there is nothing wrong with XP or XP Pro. Microsoft finally got it right, and now here we go again.

*Bubba, from the PC World forums*

Microsoft has every right to cease supporting a product. It is a corporation dedicated to making money. If you don't like its new products, don't buy them. If it stops supporting the product you are using, which it is entitled to do, just switch to something else.

*Blackcross, from the PC World forums*

My employer, a multinational company (which has 50,000 people in the United States alone), updated our networked workstations to XP SP2 (from SP1) about a year ago because of incompatibilities with some of our older proprietary software. Much of our proprietary software, and expensive hardware, won't run under Vista. If Microsoft and some analysts think it's feasible for a company such as this to lay out many millions of dollars for software and hardware upgrades to run Vista, then they are sadly mistaken.

*Mcbarker, from the PC World forums*

## 18 Features Windows Should Have (But Doesn't)

Just because a feature is available in Apple's OS X doesn't mean it should be in Windows—unless you really think uninspired, unusable, mindless form over function is the way to go.

*JonathanKay, from the PC World forums*

The point the article is actually making is that Windows lacks functionality out of the box. Whether motivated users can find free ways to make up for Windows' shortcomings is another story.

*Yoshi122, from the PC World forums*

## The Web's Best Free Stuff

I am glad (no, delighted) I read your May cover story. For over a year I have been having trouble with Adobe Reader, removing and reinstalling versions 6, 7, and 8 with no success. I went online for help, but nothing worked. Then I saw your item on Foxit Reader for Windows. I immediately downloaded Foxit—*and it worked!* Many thanks!

*Sidney J. Rubin, Forest Hills, New York*

## Hacking Elections

I am disappointed in your headline "U.S. Presidential Election Can Be Hacked" [find.pcworld.com/60833], as it serves only to alarm your readers without any basis in fact. It is well understood that voting systems are not connected to public servers or to the Internet, which eliminates a substantial portion of the potential threats to our voting systems.

The Election Technology Council, the national trade association of voting system providers, supports efforts for independent reviews; however, the principles of intellectual property must be incorporated. Until there is widespread recognition that voting systems, either electronic or paper-based, do not operate in an isolated environment and that the integrity of an election comes down to the people, processes, and technology, there will continue to be divisions in how best to move forward with voting technology.

*David Beirne, Executive Director, Election Technology Council, Houston*

Please inform your readers that if they really want to do things *faster* (as your story 'How to Do Everything Faster,' June, suggests), they better not use the Vista OS. Stick to Windows XP Pro or a recent Linux distribution.

*Richard Givis, Broken Arrow, Oklahoma*

## Is HDTV Compression Damaging Picture Quality?

Although your article [find.pcworld.com/60837] focuses on cable service, I have Dish Network and am very disappointed with its HD compression. An over-the-air signal via bunny ears is *far* superior to any channel that Dish offers.

*Noahjwhite, from the PC World forums* »

# Free Office

## Compatible. Reliable. And the best: It's free.

**SoftMaker Office:**

- Reads and writes your Word and Excel files seamlessly.
- Does exactly what you want.
- Blazingly fast. Slow is out.

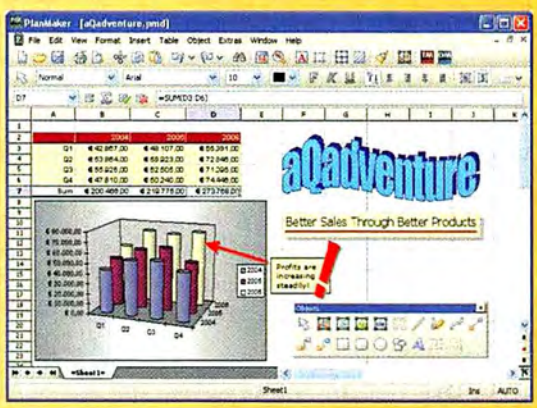
TextMaker
Microsoft Word-compatible
word processor

**Free download for Windows and Linux:**

**www.softmakeroffice.com**

**Some highlights:**

Track changes • Bullets and numbered lists that really work • Translation dictionary • Built-in address database • Outliner • Runs off USB flash drives • Comments • Fully Excel-compatible charting • AutoShapes




PlanMaker
Microsoft Excel-compatible
spreadsheet

SoftMaker

# Office SE

Part of the problem is that in the United States, we average only 1.9 megabits per second to 8 mbps for broadband downloads. Some averages elsewhere: Japan, 93 mbps; France, 44 mbps; Korea, 43 mbps; and Sweden, 14 mbps.

These countries all have a better broadband infrastructure than we do. As consumers we need to demand higher quality. We also need to push for broadband technology that offers the "pipes" for delivering HD content. Otherwise, we might as well get used to the snow and the white noise.

*enLite10, from the PC World forums*

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

## TELL US WHAT YOU THINK

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

## CORRECTIONS

IN JUNE'S "TAKE the Sting Out of Subscription Services" (*Consumer Watch*), we should have stated that PC Tools does send out renewal notices for its Spyware Doctor software, even though Lorrie Price, the user in our article, said she had never received such an advance e-mail notice or found it in her spam filter's folder.

The chart in June's "Identity Protectors: Who Can You Trust?" should have indicated that TrueCredit by TransUnion's "3 in 1 Monitoring" service does offer identity theft insurance.

*PC World* regrets the errors.

Say "Hello" to the Fit System® Console.

Are you on friendly terms with your current workstation? If not, maybe it's time for a change.

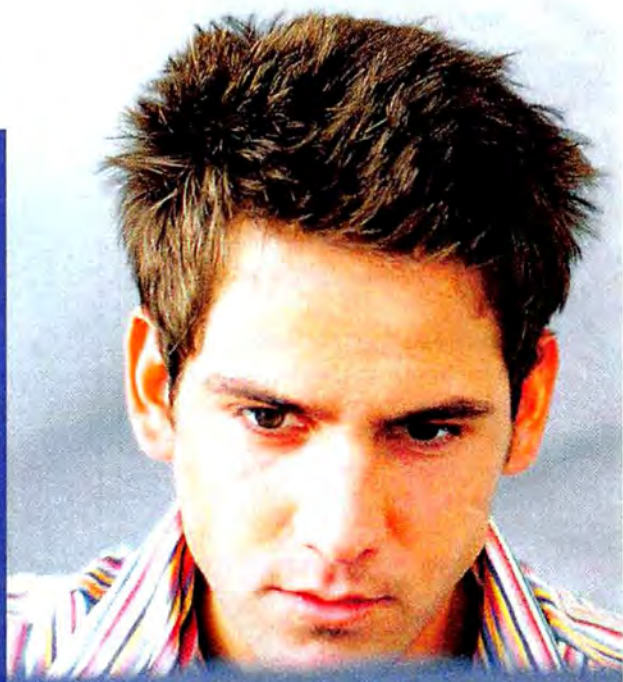
Our Fit System Console is one of our best-selling workstations for a reason: its curved shape keeps everything within easy reach. Load up all the shelves with your heaviest equipment, and then, with our long list of accessories, customize your Console to your heart's content.

Contact our knowledgeable folks at 800.325.3841 or through our chat feature located on anthro.com/pcw — we'd love to say "Hello" to you, too.

ANTHRO® Technology Furniture®

Your workstation. Exactly the way you want it.

# Get the best value when you
# World's #1 Web Host!



1&1 is both the world's biggest web host, and the fastest growing. Our global community is over 7 million people strong. We are financially stable, profitable, and look forward to hosting your website for many years to come.

## Your complete website solution

Whatever your Internet requirements, from personal websites to dedicated servers and e-commerce sites for businesses, 1&1 has a complete solution to fit your needs. The powerful, intuitive 1&1 Control Panel is web-based, giving you full control of your information from any Internet-connected computer with no software to install. Update your domains, modify all elements of your site, and even upgrade your 1&1 package, all with one password and one login.

## FREE domains!

Sign up for one of our Web Hosting packages and receive up to 5 domain names FREE! You don't need an extra registrar!

## All-inclusive prices, unbeatable value

Other companies promise affordable web hosting, but then charge extra for setup fees, higher renewal rates, or promotional services. With 1&1, the listed price is the number you'll pay, and you can expect a fully loaded, comprehensive suite of web services.

## Advanced Data Centers

1&1 has spent $25 million to provide the ultimate home for your valuable information. Surpassing all standards of safety, power, connectivity, hardware, performance, and security, our Data Centers represent the future of information storage. 1&1's superior technology delivers reliable service for your website.

## 90-Day Money Back Guarantee

We take pride in our reputation for reliability. If you're not completely happy within 90 days from placing an order with 1&1, you will receive your money back – no questions asked.

MEMBER OF united internet

Call 1.877.go1and1

# choose the

**.info**
**Domain only**
**$0.99**
**first year!***

**Best Value:**
**Compare for yourself.**

| | 1&1 Home | Go Daddy DELUXE | Hostway GOLD |
|---|---|---|---|
| Included Domains (.com, .net, .org, .info or .biz) | 2 Valued at up to $13.98/year! | $1.99/year | $7.95/year |
| Web Space | 120 GB | 150 GB | 12 GB |
| Monthly Transfer Volume | 1,200 GB | 1,500 GB | 250 GB |
| E-mail Accounts | 1,200 IMAP or POP3 | 500 POP3 | 250 POP3 |
| Mailbox Size | 2000 MB | 500 MB | 75 MB |
| Website Builder | 12 Pages | Additional $8.09/month | ✓ |
| Access to Open Source Application Library | ✓ | ✓ | – |
| Starter Software Suite | ✓ | – | – |
| Search Engine Submission | ✓ | – | – |
| 90-Day Money Back Guarantee | ✓ | – | – |
| Support | 24/7 Toll-free Phone, E-mail | 24/7 Phone, E-mail | 24/7 Toll-free Phone, E-mail |
| Price Per Month | ~~$4.99~~ | $6.64 | $13.95 |

# 3 months FREE
## on the 1&1 Home Package!**
## Offer ends 6/30/2008!

**"Over the past 3 years, I've had 1&1 as a hosting solution for all my needs. Not only have they been extremely reliable, but fast also. And when considering value, 1&1 offers the best solution for the lowest price hands down. You just can't beat it!"**

**Nick Jagodzinski, www.blindroutine.com**

© 2008 1&1 Internet, Inc. All rights reserved.

Visit 1and1.com for details. Prices based on comparable Linux web hosting package prices, effective 4/24/2008.
* Price valid for first year of .info domain registration. After the first year, regular prices will apply.
** Offer valid for Home Package only, 12 month minimum contract term required. Home Package special expires 6/30/2008. Product and program specifications, availability, and pricing subject to change without notice. All other trademarks are the property of their respective owners.

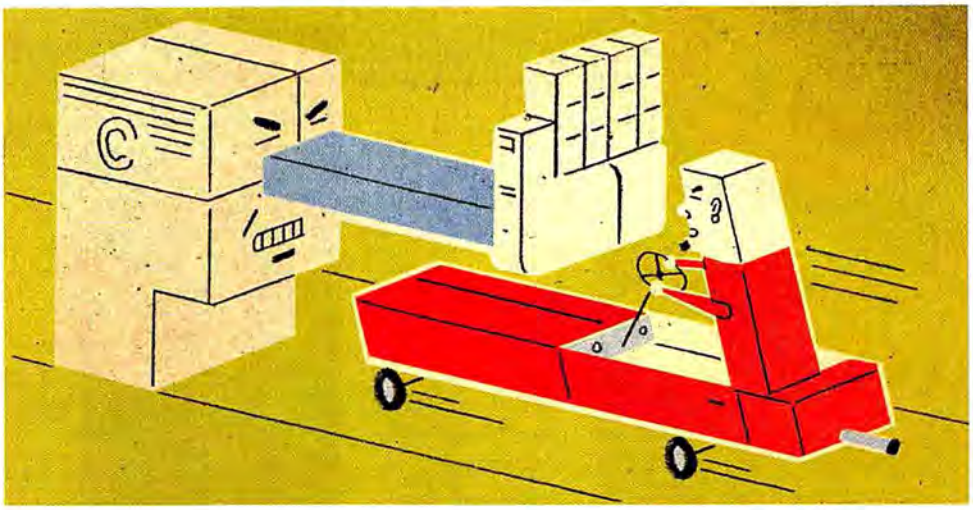
1&1

Visit us now **1and1.com**

# Forward

## Elude Your ISP's BitTorrent Blockade

BY TOM SPRING



More and more Internet service providers are blocking traffic to the peer-to-peer file-sharing service. Find out whether you've been targeted, and learn how to get around the restrictions.

I'M A FAN of live music and a patron of online communities such as eTree.org, where music fans swap copyright-free music. So I was stung when I tried to download a live recording of a Dave Matthews concert only to discover that my BitTorrent client was dead in the water.

My system and Net connection checked out fine, so paranoia immediately set in: Was my Internet service provider, RCN, blocking BitTorrent? I called RCN, and the tech I spoke to told me that the ISP had added BitTorrent to its list of prohibited programs because many people use the software to download copyrighted material. The concert I tried to download was copyright-free, but that didn't sway him.

Later I called RCN's press department as a reporter, and the story changed. The ISP's spokesperson told me that the customer support representative I had talked to earlier had misspoken. RCN has never intentionally blocked peer-to-peer traffic, the spokesperson said, and it supports the principles behind Net neutrality. Within 24 hours, my bandwidth-related problems with BitTorrent simply vanished.

Of course, most customers can't call their ISP and (honestly) identify themselves as professional journalists. But tips and tools are available to assist you in determining whether you're facing a BitTorrent blockade and, if so, to work your way around it.

Some ISPs have acknowledged imposing limitations on peer-to-peer traffic. Comcast admits to interrupting access to file-sharing programs such as BitTorrent. Time Warner Cable spokesperson Alex Dudley says that his company limits bandwidth to applications such as peer-to-peer software.

### Torrent to a Trickle

If you suspect your ISP of blocking your BitTorrent traffic, call and ask. But be aware that you may not receive a straight answer.

A Road Runner customer and BitTorrent user in Bar Harbor, Maine (who requested that his name not be used for fear that his ISP would treat him unfairly), called Road Runner's tech support when his BitTorrent download speeds dropped to just 8 kilobits per second. When he asked what was going on, a support rep reprimanded him for using BitTorrent and accused him of downloading copyright-protected music. At the same time, the tech said he couldn't comment on bandwidth management issues.

"I pay a monthly fee for Internet access. I shouldn't be limited to watching YouTube videos, browsing the Web, and checking e-mail," the Road Runner customer says, noting that he wasn't attempting to download copyright-protected content. (Road Runner's parent company, Time Warner Cable,

ILLUSTRATION DAVID PLUNKERT

PCWORLD.COM

**PC World's Downloads library has lots of resources to help you use BitTorrent better—and with less interference from your ISP. Take a look at the collection of programs at find.pcworld.com/60800.**

says that it does not block peer-to-peer traffic to BitTorrent, but that it manages its network in ways that keep BitTorrent traffic in check.)

If your ISP's support reps won't tell you what's happening, look at the company's terms-of-service agreement (most are available online). Here, again, you may find the answer unsatisfactory. Some ISPs couch their bandwidth-management practices in vague policy statements that are difficult to decipher. Others, such as DSL Extreme and Verizon, are unambiguous: They don't mess with BitTorrent traffic.

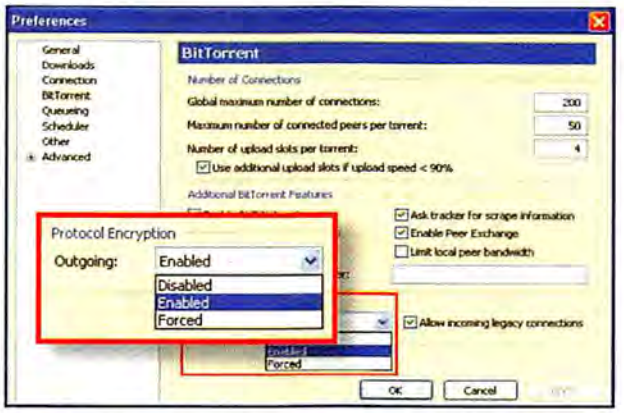
If your ISP won't come clean about its BitTorrent bandwidth policy, you can try any of several ways to test whether your BitTorrent traffic is being throttled.

One method is to assess your connection speed. BitTorrent download speeds for popular files with many sources should be roughly the same as your bandwidth speeds in benchmark tests.

Glasnost (find.pcworld.com/60797), a Web-based tool, checks whether your ISP is meddling with your BitTorrent traffic, according to the utility's authors, the Max Planck Institute for Software Systems. The tool requires no download and performs the test in 4 to 7 minutes.

For die-hard techies who are willing to tinker, the Electronic Frontier Foundation developed Pcapdiff (find.pcworld.com/60798) to determine whether an ISP is disrupting BitTorrent traffic.

Last, the makers of the BitTorrent client Vuze have created a plug-in for their peer-to-peer file swapping client. Downloading and running it on your PC won't tell you whether your ISP is meddling with your BitTorrent traffic—but it will help Vuze, which uses the data to lobby the FCC to prohibit artificial limitations on BitTorrent.




**IF YOUR ISP can't find your file-sharing traffic, it can't block the data transmissions. Try turning on encryption in your BitTorrent client.**

## Evasion of the Bit Snatchers

If you find or suspect that your ISP is slowing your BitTorrent traffic, you can take several countermeasures, none of them a sure bet.

First, try using encryption to cloak your peer-to-peer traffic. Clients such as BitComet, BitTorrent, uTorrent, and Vuze support in-client encryption. Turning this feature on makes it much harder, though not impossible, for your ISP to detect that you're using peer-to-peer software. Here's how to proceed.

**BitComet:** In the *Options* menu, choose *Preferences•Advanced•Connection*, and select *Protocol encryption*.

**BitTorrent and uTorrent:** In *Preferences*, select the *BitTorrent* tab. Choose *Protocol encryption* and select *Enabled*.

**Vuze:** First change your user profile from the default beginner mode to the advanced mode. Go to the *Tools* drop-down menu, open the Configuration Wizard, and select *advanced*. Next return to the *Tools* drop-down menu and select *Options•Connection•Transport Encryption*. Check *Require encrypted transport*, go to the *Minimum encryption* drop-down menu, and select *RC4 encryption*.

A second method of evading an ISP's throttling practices is to change the way the BitTorrent protocol behaves. This method may work against ISPs that try to throttle speeds based on a standard set of BitTorrent configurations.

Troubleshooting your BitTorrent client's protocol settings can be tricky. To reconfigure your software, refer to the instructions »

## PLUGGED IN EDWARD N. ALBRO

**FULL MICROSOFT-YAHOO MERGER OFF:** Has Microsoft ever given up on anything so fast? It took those guys four years to pull the plug on SPOT watches!

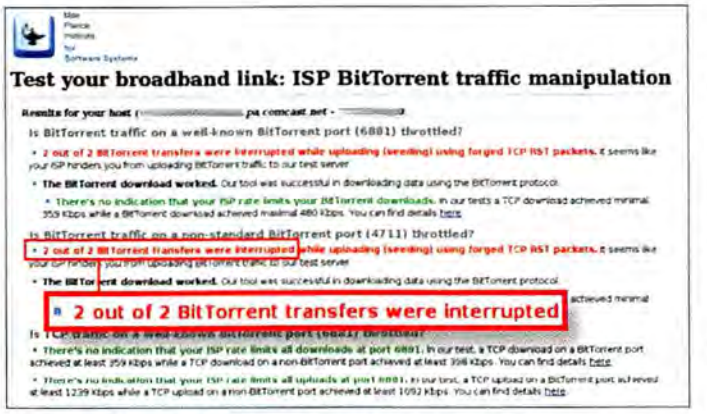
**SPIKE LEE MAKING CELL PHONE MOVIE:** If you're a fan of the director, don't worry—Spike is still big, it's just the screen that has gotten small.

**GRAND THEFT AUTO IV SELLS 6 MILLION COPIES:** After hearing the news, Hillary Clinton begins campaign to win delegates from Liberty City.

**DELL SHIPS LAPTOPS WITH FAULTY KEYBOARDS:** Or as one of the affected Vostros would put it, Swkk aguoa k'orioa qurg d'ykrt jwtvi'esa.

**WEB 2.0 NAMES GET WEIRDER:** Xobni, Jygy, Tokbox, Oosah, Trigit—are the proprietors of these sites doing their typing on Vostro keyboards, too?

**GOOGLE SPENDS $72M ON FREE FOOD:** Its café serves oysters, seviche, and the like. At our kitchenette, that'd be 53 million Ho-Hos and 100 vats of Dr. Pepper.




**GLASNOST, A FREE online tool, tests your connection to see whether your ISP shows signs of blocking or slowing your BitTorrent traffic.**

that the publisher provided. One simple yet effective way to experiment with alternate BitTorrent protocol configurations is to try a different BitTorrent client, since every client may have its own default protocols.

The default communications port for BitTorrent traffic is 6881. ISPs know this, and they watch that port like a hawk. If an ISP throttles or blocks BitTorrent traffic traveling through this port, your file-sharing speeds will plummet.

To elude ISP throttling, BitTorrent clients enable you to switch the port or port range your PC uses for BitTorrent traffic. Some BitTorrent clients automatically try to configure your firewall or router to let traffic pass through the new port; with others you may have to open ports on your router manually. The excellent site Port Forward (portforward.com) will step you through the process of tweaking your router to permit incoming connections.

A more-advanced method of obfuscating your BitTorrent traffic involves using an encrypted tunnel that, as the name suggests, shields from your ISP the type of data you are sending and receiving.

Free services such as The Onion Router (TOR, www.torproject.org) and I2P (find.pcworld.com/60799) are designed for sending anonymous and encrypted messages, but some people have adapted them to use BitTorrent connections. The Vuze client comes with built-in support for routing your traffic through TOR and I2P.

For about $5 a month, commercial virtual private network providers such as Relakks (www.relakks.com) and SecureIX (secureix.com) can help you prevent your ISP from identifying BitTorrent traffic. In marketing its service, SecureIX promises to "disable P2P throttling." The company also offers a free tier of service with a bandwidth limit set to 256 kbps.

But ISPs are catching on to such advanced encryption techniques, and reportedly they are clamping down and throttling encrypted tunnels despite being unsure whether the encrypted data is BitTorrent traffic. The most extreme method an ISP may use to manage peer-to-peer traffic is to block anything that appears to be BitTorrent traffic, encrypted or not. If that happens to you, only two options remain: Switch ISPs or stop using BitTorrent software.

SMARTER SWAPPING

## Future Mixed for File Sharers

IF YOU'RE EXPECTING the federal government to enshrine a "right to download" sometime soon, you're likely to be disappointed. Nevertheless, a new advanced peer-to-peer technology known as *P4P* could help both ISPs and file swappers.

Groups such as the Electronic Frontier Foundation and peer-to-peer software company Vuze have petitioned the Federal Communications Commission to force ISPs to disclose any discriminatory network-management practices they engage in. But the FCC says that it probably won't adopt new regulations forcing ISPs to disclose or desist from slowing practices, because it believes that current laws are strong enough.

Comcast and Verizon have expressed interest in Proactive Network Provider Participation (P4P), which reportedly can boost file delivery speeds using the BitTorrent protocol by as much as 600 percent while making it easier for ISPs to manage their bandwidth. Verizon ran tests using P4P earlier this year, and Comcast is testing the technology on its network in June. As yet, no ISP has announced that it will use P4P full-time on its networks.

According to Pando Networks, which has tested P4P technology and is a member of the P4P Working group, the protocol encourages smarter routing of peer-to-peer traffic by sending requests for a specific file within an Internet service provider's own network first, before connecting to another ISP's network. This approach reduces the bandwidth costs that an ISP incurs for connecting to a third-party network, and it permits ISPs to manage their bandwidth more efficiently. Essentially, the closer a requested file is, the less bandwidth the ISP needs to expend in downloading it.

There may be a catch, however. Since ISPs will ultimately be the ones to deploy P4P technology, they will decide which applications can use the technology. If an ISP believes that an app is generally used for illegal downloads, it may block the connection to the P4P network.

**Great images begin with great lenses.** But it's not just unparalleled optics that keep Canon at the forefront of imaging. It's inspiration, the inspiration to constantly innovate. To develop technologies that redefine the industry standard, and to create cameras and lenses that inspire photographers to take their photography to the highest level.

# Web Apps Manage Social Networking Overload

WHETHER YOU'RE A social butterfly constantly seeking new sites to cross-pollinate, or a caterpillar creeping after your friends from one network to the next, you have likely experienced social-site fatigue by now. Even if your buddy lists consist entirely of people you actually know, keeping up with the endless stream of Flickr photos, Twitter tweets, and Facebook-dwelling zombie hunters is practically a full-time job. To put the fun back in friendship, social network management services—some of them still in beta—are rapidly evolving online.

**WITH SPROUT, YOU can create widgets to hold the content that you like best, and then put them in your MySpace or Facebook profile or on your blog.**

Yoono (yoono.com) is a browser plug-in designed to keep tabs on all your friends on most social networks, including AIM, Facebook, Flickr, Twitter, and Yahoo. Yoono, which sits in the left side of your browser window, alerts you when messages come in and gives you a single place to go to post new blog entries, IM a friend, or poke someone who just has it coming.

Other services add their own features to the social sites you visit. UK-based Rummble.com, for instance, lets you use a Google Maps–powered interface to record where you are and what you're doing, and post that info to Bebo, Facebook, Flicker, Twitter, WordPress, or YouTube. Sprout (sproutbuilder.com) gives you tools for creating a customized widget populated with content from all your favorite sites, and then embedding your widget on your blog or your MySpace or Facebook profile.

Oosah (oosah.com) helps you manage the multimedia content you've spread across the Web. This site gathers the pictures, video, and music you've posted to Facebook, Flickr, Picasa, and YouTube, and makes them accessible via a single interface. You can easily add and delete media to and from the various sites with a single log-on.

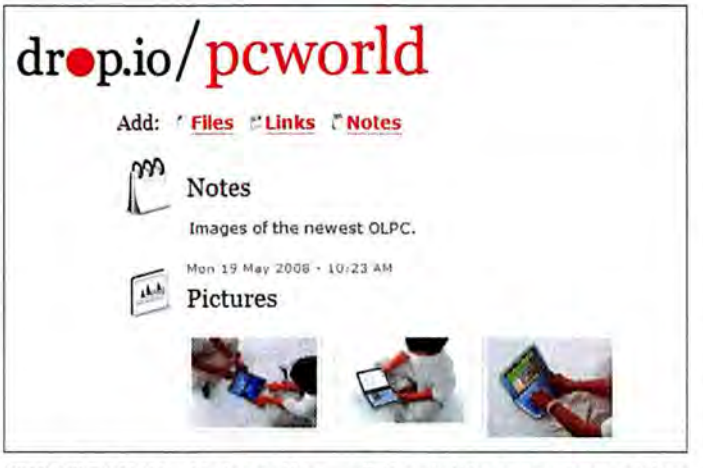
Among recent trends in Web information management, mashup tools like Intel's Mash Maker (mashmaker.intel.com) may have the most potential for bringing your favorite sites together. This plug-in lets you build custom pages out of any content you find online, whether it's a buddy's profile or a news feed. Using Mash Maker is a lot more complicated than popping open a Yoono sidebar, but it's far more customizable, too.

The ever-expanding glut of social networking sites has become too much for most of us to manage, and it's unclear whether this year's batch of social site aggregators will actually solve the problem. While some of them do consolidate your buddy lists into a single interface, having all of the lists crammed into one working space can be just as unmanageable as trying to keep track of ten different sites on your own.

> Startups promise to consolidate tweets, pokes, and zombie bites into one interface, but not every service makes clutter more manageable.

If you are suffering from extreme social site burn-out, a simple site called Drop.io may offer the relief you need from the overpersonalized, overnetworked sharing sites. With no profiles to manage and no buddy lists to prune, Drop.io focuses on keeping your communications private. Set up a free drop box on this site, and you can share 100MB of pictures, music, and videos—and even receive voicemail messages and faxes, or conduct a free conference call—with only the people you choose to share your drop box with. And no zombies will pester you.

*—Robert Strohmeyer*




**SOME FILES ARE too big to send by e-mail. Drop.io lets you create a container on the Internet for pictures, documents, and other data that you want to share.**

EOS REBEL XSi

Wow. It's what you want people to feel when they see your photographs. It's what you want to feel when you take a shot. And it's exactly what you feel when you pick up the new **Canon EOS Rebel XSi**, featuring a 12.2-megapixel CMOS sensor, 3.0-inch LCD monitor with Live View Function and 3.5 frames-per-second continuous shooting. Now available with the EF-S 18-55mm f/3.5-5.6 IS lens with Optical Image Stabilizer, it's obvious the EOS Rebel XSi was designed with one thing in mind–wow.

To get more inspired about the Canon EOS system, go to: www.usa.canon.com/dlc

NFL Official Camera of the NFL

Canon imageANYWARE

©2007 Nate Shron, Winner of the 2007 Canon "Why Do You Love Football" Photo Contest, Teen Division.

©2008 Canon U.S.A., Inc. Canon, EOS and EOS Rebel are registered trademarks of Canon Inc. in the United States. IMAGEANYWARE is a trademark of Canon. All rights reserved. © 2008 NFL Properties LLC. All NFL-related trademarks are trademarks of the National Football League.

# New Memory Form Could Replace RAM

HP RESEARCHERS have developed a working unit of a once-theoretical memory circuit called a *memristor*, which may someday replace RAM and make PCs smarter.

Memristor technology could enable PCs to make decisions by understanding patterns of collected data, much as a human brain collects and understands data on a series of events.

For example, a memristor could adjust a microwave's heating time for a potato based on whether the oven overcooked a potato the last time, says HP senior fellow Stanley Williams. Memristors could reach the commercial semiconductor market in five years, he says.

A memristor circuit uses lower voltage and turns on faster than memory types such as DRAM and flash. Denser cells allow memristor circuits to store more data than flash memory, too.

The memristor is the fourth basic circuitry element, joining three—the resistor, the capacitor, and the inductor—that science has known about for 150 years, Williams says.

*—Agam Shah*

**THIS MICROSCOPIC CIRCUIT includes 17 memristors.**

## GEEKTECH TOM MAINELLI

# How to Build a Superfast, Superquiet PC, Part 1

WHEN MY HOME-BUILT desktop unexpectedly dropped dead of what the coroner will record as a motherboard aneurism, I did what any geek would do. I freaked out for 5 minutes or so, and then I started thinking about my next build.

With my key criteria of speed, quietness, and affordability firmly in mind, I pointed my browser toward my favorite online parts stores, whipped out a credit card, and set to work. What follows is the first half of the component list that ultimately became the fantastic new desktop I'm writing this column about. The prices listed below were accurate at press time.

> The older I get, the less tolerance I have for noisy PCs. So my new desktop computer had to be quiet, not just fast. Oh, and I needed it to be affordable, too.

**Processor:** My last two PCs used AMD CPUs; but for this build, going with Intel was a no-brainer, as its chips tend to be much better performers at most price levels. Though a quad-core Intel processor sounded appealing, a well-optimized dual-core made more sense, I decided (few apps today use all four cores well, anyway). I went with the E8400, a 3-GHz CPU based on Intel's new 45-nanometer fabrication process. The chip is fast, runs relatively cool, and is so popular with enthusiasts (and consequently so hard to find) that I spent $260 for it, despite Intel's list price of $179.

**CPU cooling:** Standard CPU heat sinks are for suckers (or people undisturbed by turboprop engines), so I opted instead for Sythe's Ninja Plus Rev B SCNJ-1100P, which uses six pipes to draw processor heat up through its aluminum fins. A 120mm fan attached to the side of the sink then blows the heat away. At $39 (before a $10 rebate), it isn't cheap, and it wasn't particularly easy to install (you must attach it before installing the motherboard in the chassis). But the hassle was worthwhile: My CPU has yet to exceed the 32° C mark under load; and even with the case open, the fan is nearly noiseless.

**Motherboard:** In choosing Gigabyte's GA-P35-DS3L, I was influenced by the product's Ultra Durable 2 moniker. (My last two PC builds succumbed to motherboard-related issues.) Also, it's 100 percent passively cooled, supports my new CPU, and costs just $88. Based on Intel's P35 chip set, the motherboard owes its durability to its Conductive Polymer Aluminum Solid capacitors. Gigabyte says that the technology leads to better voltage regulation, increased stability, and a longer PC life span. I can't verify any of that yet, but my new system has been rock-solid so far.

**Graphics card:** Though I don't spend much time gaming at my PC, I demand a top-notch graphics card. For this build I wanted something featuring NVidia's 8800 GT GPU, which is a few notches (in quality and price) below its top-of-the-line GTX. I was quite pleased to find ECS's N8800GT 512MB board with an included passive cooler for silent heat dissipation. The $245 card (before a $50 rebate) includes Arctic Cooling's fantastic Accelero S1 cooling system, which uses a series of copper heat pipes connected to 32 fins that stretch the length of the card. You need a big chassis to accommodate this long card. I left off the optional fans since I don't plan to overclock, and the card runs fast and silent.

The tally so far (before $60 in rebates): $632. Next month I'll introduce my choices for RAM, hard drive, optical drive, chassis, sound card, speakers, and operating system.

**CHECKLIST**

| | |
|---|---|
| **CPU:** Intel Core 2 Duo E8400 | $260 |
| **CPU cooling:** Sythe Ninja Plus Rev B SCNJ-1100P | $39 |
| **Motherboard:** Gigabyte's GA-P35-DS3L | $88 |
| **Graphics:** ECS N8800GT | $245 |
| **TOTAL** | $632 |

verizon wireless

# With the Network,

## you can work in more spots than just hotspots.

With Wi-Fi, you're trapped. Confined to hotspots. Get Broadband**Access** for your Mac or PC from Verizon Wireless and work in more spots than just hotspots. Simply click to connect and start working on the go, all on America's most reliable wireless broadband network.

UM 150 USB wireless modem
for your Mac or PC

To learn more about our mobile broadband solutions, get in touch with a dedicated business representative.

Call 1.800.VZW.4BIZ  Click verizonwireless.com/bba  Visit your local Verizon Wireless Store

Activation fee/line: $35.
IMPORTANT CONSUMER INFORMATION: Subject to Customer Agmt, Calling Plan, rebate form and credit approval. Up to $175 early termination fee, and other charges. Broadband**Access** is available to more than 240 million people in 248 major metropolitan areas. Offers and coverage, varying by service, not available everywhere. See verizonwireless.com/bestnetwork for details. ©2008 Verizon Wireless.

# Most Connected BlackBerry Yet

RESEARCH IN MOTION'S new BlackBerry Bold 9000 could pose a real challenge to Apple's next-generation iPhone on the basis of its connectivity options alone.

The Bold comes with support for tri-band HSDPA and quad-band EDGE (meaning that it will support the highest-speed GSM-family data networks wherever they are available, worldwide), as well as having 802.11a/b/g Wi-Fi capability, stereo Bluetooth, and both assisted and autonomous GPS.

## Hardware Keyboard

This BlackBerry even looks a bit iPhone-esque, with its glassy display area, generally flat profile, and rounded corners. But the Bold comes configured with a hardware QWERTY keyboard, and it retains the general dimensions of its RIM predecessors, so it's considerably shorter and also somewhat thicker than the iPhone.

> The BlackBerry Bold 9000 not only offers support for HSDPA networks worldwide, but works with Wi-Fi, GPS, and stereo Bluetooth as well.

The Bold 9000's removable back comes covered in black leatherette, but you can personalize your device by buying replacement backs in any of several colors (red, blue, green, brown, or gray).

The redesigned keyboard has guitar-inspired frets—thin metal strips—between each row. The keys themselves are sculpted to help users avoid fingertip slippage. The BlackBerry also comes equipped with a 2-megapixel camera capable of up to 5X digital zoom.

## High-Quality Display

The Bold's 624-MHz StrongARM processor with full MMX (multimedia extensions) is the most powerful CPU on a handheld to date (the BlackBerry Curve, in contrast, uses a 312-MHz chip without MMX). The Bold's extra power enables the device to handle full-motion video on its 480-by-320-pixel, 65,000-plus-color display (that resolution is double the Curve's at basically the same screen size).

Of course, little commercial video content is available as yet for non-Apple media players. Further, the Bold's screen is diminutive compared to the current iPhone's roomy 3.5-inch display, and it isn't a touch screen. But since the Bold's smaller display holds the same number of pixels as the current-generation iPhone's does, images look much higher-resolution on it than on its competitor.

The Bold's 1GB of onboard secure memory (in addition to its 128MB of flash) will appeal to BlackBerry's core community of enterprise users, providing storage for items that companies would rather not make available for transport on a microSD card. But users who want to carry their music and video libraries on their handsets will be able to do so via microSD.

AT&T, which has the largest HSDPA network in the United States, will be the exclusive American carrier for the Bold 9000. RIM expects that the Bold will ship worldwide this summer.

*—Yardena Arar*

**THE BOLD 9000, while shorter and a bit thicker than an iPhone, does have a hardware keyboard.**

# AT&T Enters Mobile TV Competition

AT&T SUBSCRIBERS in 58 U.S. cities can sign up for their carrier's new mobile TV service. AT&T Mobile TV is now available in Atlanta, Chicago, Los Angeles, New York, Philadelphia, Seattle, Washington, D.C., and 51 other markets. One catch: You need a specially enabled AT&T phone.

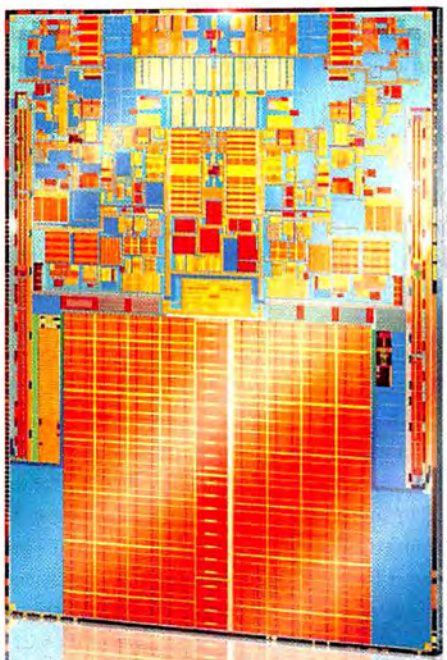
About a year behind Verizon Wireless, AT&T based its mobile TV on the same FLO technology, and AT&T now offers two new FLO-enabled phones: the LG Vu and the Samsung Access ($400 and $300, respectively, with a two-year contract).

While the two services deliver many of the same channels (mobile versions of CBS, Comedy Central, ESPN, FOX, MTV, NBC, NBC News, and Nickelodeon, among others), AT&T also has two channels that Verizon doesn't: PIX—which will run movies from Sony Pictures Television's library—and CNN Mobile Live. Unlimited access to AT&T Mobile TV runs $15 a month. A package that adds unlimited mobile Web browsing and unlimited access to AT&T Wireless's on-demand video clips costs $30 a month. (All charges are on top of voice-plan fees.)

*—Yardena Arar*

**AT&T MOBILE TV offers 10 broadcast-style channels, including NBC and Fox, for $15 a month.**

Want speed? Just put me in a notebook and I'll show you the true meaning of fast.



**NEW HAFNIUM-INFUSED INTEL® CENTRINO® PROCESSOR TECHNOLOGY.**

It's helping set new benchmarks for next-generation notebook performance and amazing battery life. Find out more about the power of hafnium at **intel.com/greatcomputing**

**GREAT COMPUTING STARTS WITH INTEL INSIDE.**

©2008 Intel Corporation. All rights reserved. Intel, the Intel logo, Centrino, and Centrino Inside are trademarks of Intel Corporation in the U.S. and other countries.

intel Centrino inside™

NEW *BREAKTHROUGH* HAFNIUM DESIGN

# Mobile Net to Run at Wired Broadband Speeds

SPRINT AND Clearwire have agreed to form a joint venture that will deliver wired broadband speeds to mobile users, perhaps by late 2008.

The companies had charted separate paths to roll out mobile WiMax, a form of mobile broadband previously deployed in scattered places around the world. Widespread deployment of WiMax is about two years behind early predictions. Sprint and Clearwire's WiMax rollout will likely offer speeds well above 5 mbps. Pricing isn't set.

Sprint clearwire WIMAX

WiMax adapters should proliferate by 2009. Intel has backed WiMax since deciding in 2004 that existing cellular 3G plans could not meet its needs. Intel will build Centrino chips that have WiMax and Wi-Fi capability built in. Companies such as Motorola, Samsung, and Zyxel are committed to building fixed receivers for residences and businesses, as well as laptop and desktop adapters like PC Cards and ExpressCards.

Ben Wolff, the CEO of the new service, estimates that Clearwire will be available to 120 to 140 million people by 2010. By then AT&T and Verizon should be rolling out LTE (Long Term Evolution), their 4G flavor, which will offer comparable speeds.

*—Glenn Fleishman*

## GADGET FREAK DAN TYNAN

# High-Tech Memory Helpers With the Write Stuff

AS I'VE GOTTEN older, I've developed a terrible case of CRS (can't remember stuff). I can't tell you how many times my lovely but increasingly frustrated wife has informed me that "I told you that yesterday" (since, obviously, I can't remember).

Soon, though, I may not have to remember anything. Thanks to breakthroughs in storage and miniaturization, it may soon be possible for us to record every waking moment of our lives, store the data, search it, and replay the bits we need. Already a fairly ancient analog recording device—the ink pen—has undergone a transformation that enables it to turn your doodles into digits for editing and storage.

> A handful of tools attempt to turn the humble ink pen into a digital recording device—with varying degrees of success.

**LIVESCRIBE'S Pulse Smart Pen uses an infrared sensor and special paper to orient itself on a page.**

## Pen Testing

There are really two kinds of digital pen. One, typified by Iogear's Mobile Digital Scribe ($130, iogear.com), uses a thumb-size infrared receiver clipped to the top of your page to capture the stylus's movements. To upload a picture of the page, you simply unclip the receiver and plug it into your PC's USB port; then you can add to it, e-mail it to a colleague as a JPEG file, or convert it into editable text. (See our full review of the Mobile Digital Scribe on page 68.)

Unfortunately, the Scribe's handwriting recognition software, Vision Objects' My Script Notes Lite, is nothing to write home about. For example, the classic phrase "oh I used to be disgusted now I try to be amused" came out as "on 1 used to be disgusted now I try to be amoral" (which may be accurate, relatively speaking, but it's not what I wrote). The good news: You can view your handwriting and the converted text side by side, which makes correcting mistakes easier. You can also create a personal profile to teach the program that on Planet You a particular squiggle represents an *H* and not, say, an *N*—but this feature is available only if you upgrade to the full version of My Script Notes, priced at €20 (about $30) at press time.

LiveScribe's Pulse Smart Pen (available for $149 to $199 at livescribe.com) is another story. About the size of a fancy fountain pen, the Pulse uses an infrared sensor built into its tip and special paper imprinted with an invisible grid to orient the pen on the page. Besides capturing your notes, the pen uses directional microphones to record audio and sync the sounds to what you're writing. Tap anywhere on your notes, and the device plays back that portion of the recording with remarkable fidelity. So you can write "remember this" on the page, and when you tap those words, you'll hear the information you wanted to remember. (This works only with special paper available from LiveScribe; a four pack of 100-page spiral notebooks costs $20.)

When docked, the pen uploads your notes to your PC, where you can edit or share them with other Pulse users on LiveScribe's Web site. No handwriting recognition software comes with the Pulse, but it will work with My Script Notes.

The Pulse can do some other wicked-cool things, too. Write a word in English, and it will recite the word in Arabic, Mandarin, Spanish, or Swedish while displaying the translation on the pen's tiny LCD. Write a math problem (34,567 x 2,342 =), and the Pulse will display the answer (80,955,914). Draw a piano keyboard on the page, and the pen will play the correct note as you tap on each key. Demo samples of these apps ship with the Pulse; full-fledged versions will be available separately later this year.

Whether you need a Pulse pen depends on how much time you spend taking handwritten notes. But the technology is impressive, and the Pulse could be the first in a long line of digital capture devices we carry wherever we go.

That's something even I could remember.

PHOTOGRAPH: ROBERT CARDIN

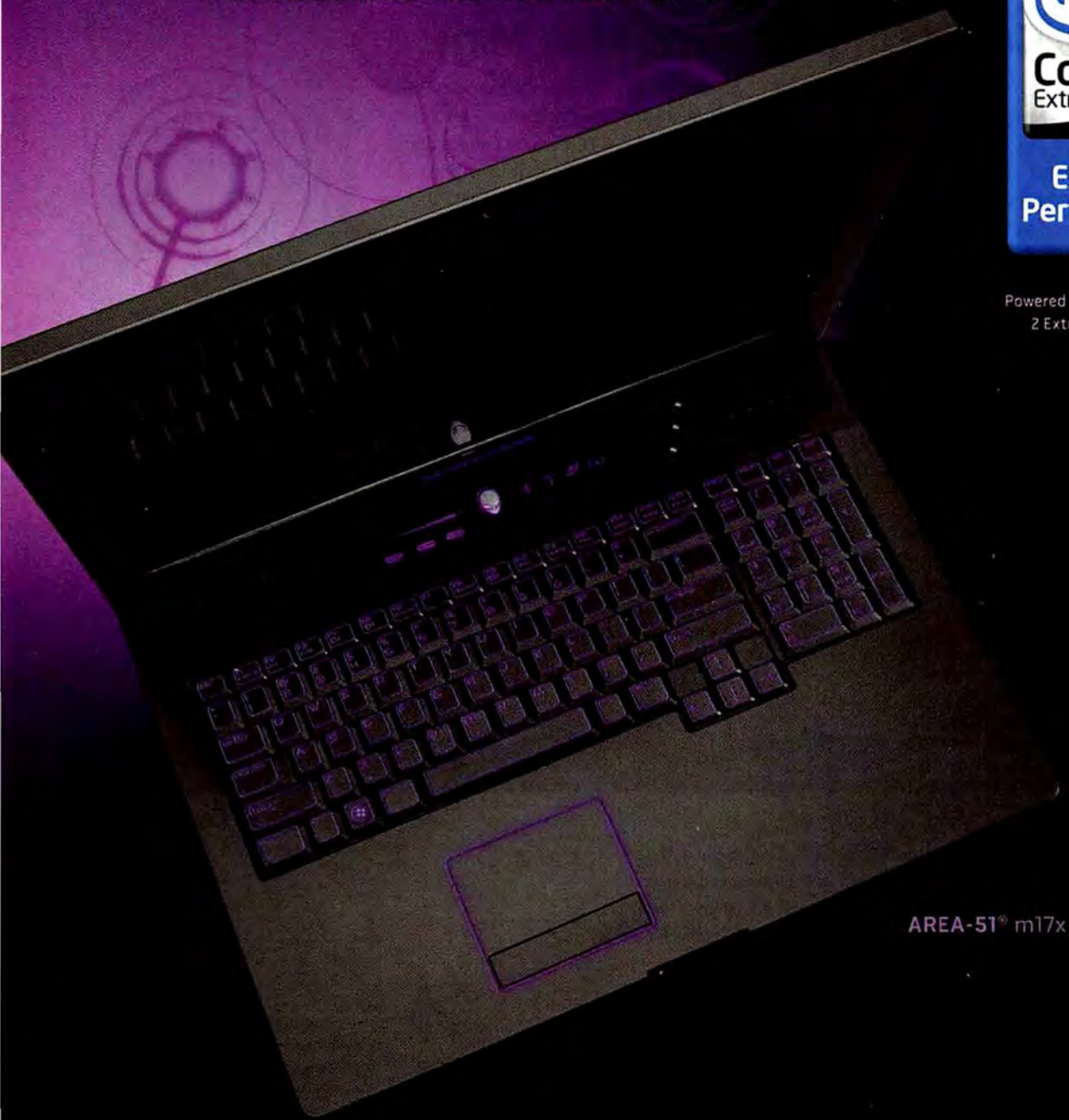
# ALIENWARE'S MOST POWERFUL NOTEBOOK

## INTRODUCING THE NEW AREA-51® m17x

intel Core™ 2 Extreme inside™

**Extreme Performance**

Powered by the Intel® Core™ 2 Extreme Processor.



AREA-51® m17x

## REDEFINING YOUR STANDARDS

Who says looks don't matter? When you walk into the local coffee shop, the sleek, aggressive design of the Area-51® m17x is guaranteed to turn every head. Being the center of attention is just plain fun. Enjoy it.

Run your fingers across an Area-51® m17x and feel the notebook spring to life at your touch. Capacitive sensors for volume controls, Bluetooth®, Stealth Mode and more allow the Area-51® m17x to maintain a smooth, seamless design while making clumsy mechanical buttons obsolete.

Call toll-free or visit online to learn more at:

WWW.ALIENWARE.COM/PCWORLD 1.800.ALIENWARE

Alienware, Alienware alien head logo and Area-51 are registered trademarks or trademarks of Alienware Corporation. Alienware can not be held responsible for errors in photography or typography. Availability may change without notice. Actual case may vary in design. The lighting color shown on the Area-51 m17x system is generated by Alienware's AlienFX. Intel, the Intel logo, Intel Core and Core Inside are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. All other registered trademarks and trademarks are the property of their respective owners.

# Mac Clone Outperforms Mac Mini

PSYSTAR'S OPEN Computer, the new Mac clone system that raised a ruckus on the Internet when introduced, scored decently on a recent battery of *Macworld* tests.

The Open Computer ran about 28 percent faster than a $799 2-GHz Mac Mini but 8 percent slower than the recently updated entry-level iMac—a 2.4-GHz all-in-one system that runs on Intel's latest Penryn chips.

In its marketing materials, Psystar compares the Open Computer to the Mac Mini, Apple's least-expensive desktop unit. For either system, you supply the display, keyboard, and mouse.

The Open Computer has a faster processor, more RAM, and a larger hard drive than the Mini. It also provides more peripheral ports and expansion options. (Of course, the Mini offers Apple tech support and support for OS updates.) *Macworld*'s test Open Computer carried 2GB of 667-MHz RAM and a 250GB hard drive. Add-ins included an nVidia GeForce 8600GT graphics board ($110), a FireWire card ($50), and Psystar's installation of Mac OS X 10.5.2 ($155, but the company doesn't provide installation instructions). The total cost, with shipping, was $751.47.

When the Open Computer debuted earlier this year, it caused quite a commotion. Apple frowns on clones: The company's end-user license agreement for OS X forbids installing or running the software on non-Apple systems. Also, at first it was unclear whether Miami-based Psystar really was in business.

Whether Apple will fight Psystar remains an open question, but the upstart company has started to fill orders for its innovative PC.

Of course, focusing on the raw numbers associated with the Open Computer means sidestepping the ethical question of whether you should consider buying a PC that requires you to ignore Apple's licensing agreement.

*—James Galbraith*

**PSYSTAR'S OPEN COMPUTER lacks Apple's design touch.**

## BETA WATCH

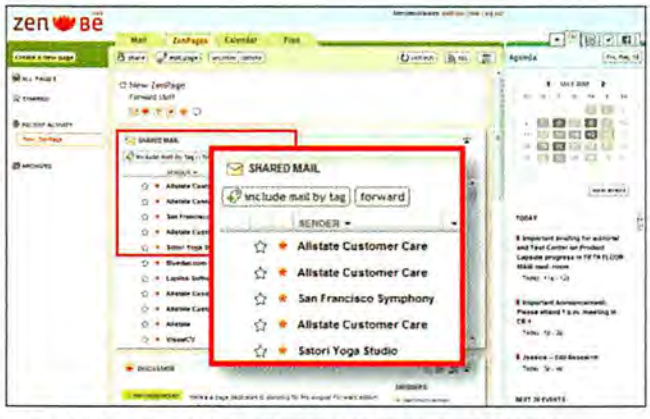
EDWARD N. ALBRO

### Powerset: Useful Gateway to Wikipedia

Powerset, a search engine that looks not just at words but at their meanings, too, has drawn lots of hype as a potential Google killer. But no one at Google will quake over Powerset's first public incarnation. The beta Powerset restricts its searches to Wikipedia, Freebase, and a few other specialized databases. It does add some nice touches for organizing and navigating information, though. The results page for the Marquis de Sade, for instance, finds the main Wikipedia page devoted to the French writer, along with references to him on other Wikipedia pages. And when you click through to see the Wikipedia entry, Powerset provides a detailed outline of the page, with links to each section. www.powerset.com

### Zenbe: A New Box for Your Inbox

With Gmail, Windows Live Hotmail, and Yahoo Mail on hand, who needs a new source for a free Web mail account? Probably no one, which is why Zenbe, in private beta, focuses on funneling mail from your accounts with the Big Three into its inbox. Zenbe's advantage—beyond its attractive, minimalist design—is that it pulls all your information together: calendars, tasks, contacts, friends' recent Facebook activity, and file attachments organized independently of the e-mail messages they were attached to. You can also create pages that include a selection of your e-mail, tasks, comments, and other modules and make them available to the world. www.zenbe.com




**ZENBE LETS YOU share e-mail messages, tasks, and other info.**

### HubDub: Bet on the News

If you're clairvoyant—or just smart about current events—prove it at HubDub. Sign up with the free service, and you get $1000 in virtual money for placing bets on questions like "Will Hillary Clinton drop out before the Democratic Convention?" If you're right and she does, you stand to make $123 from your $100 bet. Your winnings won't buy anything more than bragging rights, but that's plenty for some people. HubDub's all-time leading wagerer has parlayed his original $1000 stake into just short of $1 million. www.hubdub.com

PHOTOGRAPH: ROBERT CARDIN

LINKSYS® by Cisco

# Get Connected...wirelessly.

## With the right piece, it all comes together.

Easy to install and effortless to use - Wireless-N with LELA will let you and your family stay connected throughout your home, to do whatever you need to do. It's so easy when you have all the right pieces. Perfect for Back-to-School.

visit linksys.com/gowireless

BEST BUY amazon.com circuit city STAPLES that was easy OfficeMax

cisco

# Blu-ray's Capabilities Enhance Gaming Wars

SONY PLAYSTATION 3 users, get ready: Kojima Productions' Metal Gear Solid 4: Guns of the Patriots uses every spare gigabyte of its Blu-ray disc to provide a rich and detailed story, extremely vivid sound, and one of the best game-play experiences to date. And remember the sophisticated Cell processor (which made the PS3 so expensive)? MGS4 finally gives you some bang for all those bucks. Here's some declassified intel.

*—Darren Gladstone*

## Splintered Cell

The oft-touted Cell processor that powers the meaty PS3 finally has the opportunity to pull its own weight. The hard drive caches most of the game, allowing you to explore the world without seeing a 'Loading...' screen. Meanwhile, the CPU calculates procedural physics as the game runs. Meaning: Bodies collapse and dirt clumps realistically fly.

## Sounds Amazing

Sid Schuman, senior editor of *GamePro*, played the final version before the game's release. He says that Skywalker Sound's state-of-the-art audio mastering helps give MGS4 some of gaming's crispest and clearest sound effects, with the booming gunshots particularly vivid.

## Online Innovations

You know the old saying "There are two sides to every story"? Make that three. One online game-play mode pits two teams against each other while a lone superspy in a stealth-cloaking suit (not visible here—hmmm) infiltrates the war zone and tries to wipe out both sides on the sly. The *Yojimbo* angle is one of the multiplayer twists that MGS4 adds to its already solid single-player campaign.

acer

Acer recommends Windows Vista® Ultimate.

AMD Turion 64 X2 MOBILE TECHNOLOGY

June/July 2008

# Ferrari 1100
# Unique Innovation

circle-line.eu - ADV

**Ferrari 1100-5457**

**$1,999**

**(LX.FR90U.071)**

- AMD Turion™ 64 X2 Dual-Core Mobile Technology Gold Edition TL-66
- Genuine Windows Vista® Ultimate
- Microsoft® Office Professional 2007 (60-day trial)[3]
- 4GB DDR2 667 SDRAM
- 250GB[1] hard drive
- Integrated slot-loaded Super-Multi drive (DVD+R, DVD-R, DVD-RAM)
- 5-in-1 card reader
- 12.1" WXGA (1280 x 800) TFT display, Acer CrystalBrite Technology
- ATI Radeon™ Xpress 1270 graphics
- Integrated Acer OrbiCam camera
- Dolby Home Theater®
- 802.11n WLAN, gigabit LAN, V.92 modem, Bluetooth®, Bluetooth® VoIP phone
- Wireless optical mouse
- Fingerprint reader
- One-year limited warranty[2]

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

Ferrari
OFFICIAL LICENSED PRODUCT

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

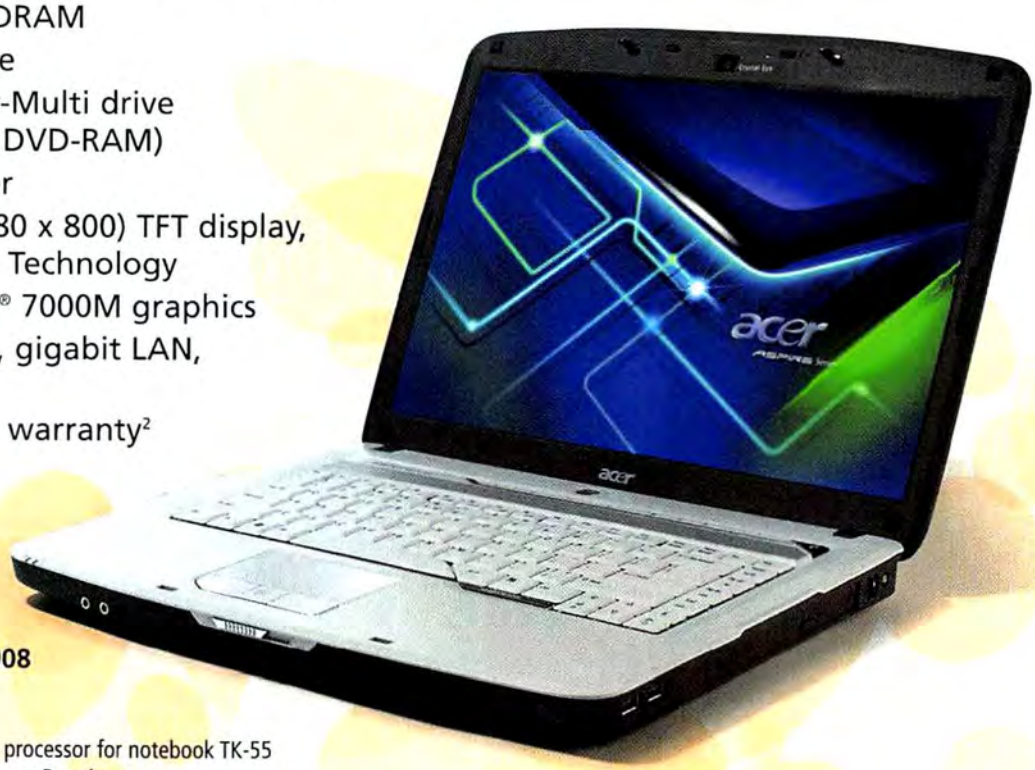
acer

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

800-571-2237 - acer.com/us

# Acer® Aspire® 5520

- AMD Athlon™ 64 X2 dual-core processor for notebook PCs
- Genuine Windows Vista® Home Premium
- 1GB DDR2 667 SDRAM
- 120GB[1] hard drive
- Integrated Super-Multi drive (DVD+R, DVD-R, DVD-RAM)
- 5-in-1 card reader
- 15.4" WXGA (1280 x 800) TFT display, Acer CrystalBrite Technology
- NVIDIA® GeForce® 7000M graphics
- 802.11b/g WLAN, gigabit LAN, V.92 modem
- One-year limited warranty[2]




**Acer Aspire 5520-5908**

**$569**

AMD Athlon™ X2 dual-core processor for notebook TK-55
Genuine Windows Vista® Home Premium
(LX.AJ70X.027)

**Acer X263Wbi**

- 25.5" wide-screen TFT LCD
- 1920 x 1200 maximum resolution
- 3000:1 dynamic contrast ratio
- 170° horizontal viewing angle
- 160° vertical viewing angle
- VGA, HDMI (HDCP) signal connectors
- 350 cd/m² brightness
- 5ms gray-to-gray response time
- Internal power adapter
- Three-year limited warranty[2]

**$499**

(ET.GX3WP.001)

**Acer V223 Wbd**

- 22" wide-screen TFT LCD
- 1680 x 1050 maximum resolution
- 2500:1 dynamic contrast ratio
- 170° horizontal viewing angle
- 160° vertical viewing angle
- VGA, DVI (HDCP) signal connectors
- 300 cd/m² brightness
- 5ms response time
- Internal power adapter
- Three-year limited warranty[2]

**$249**

(ET.EV3WP.001)

**Acer V193W b**

- 19" wide-screen TFT LCD
- 1440 x 900 maximum resolution
- 2000:1 dynamic contrast ratio
- 176° horizontal viewing angle
- 176° vertical viewing angle
- VGA signal connector
- 300 cd/m² brightness
- 5ms response time
- Internal power adapter
- Three-year limited warranty[2]

**$199**

(ET.CV3WP.002)

Acer recommends Windows Vista® Home Premium.

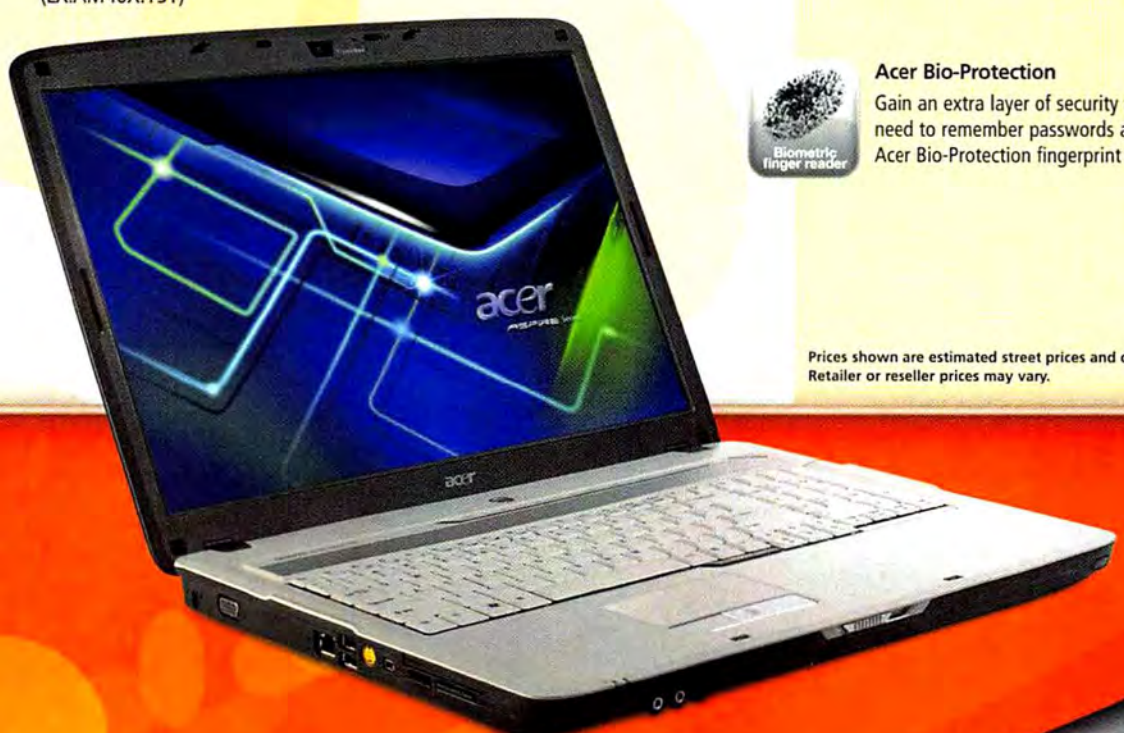
# Acer® Aspire® 7520

- AMD Turion™ 64 X2 Dual-Core Mobile Technology
- Genuine Windows Vista® Home Premium
- 2GB DDR2 667 SDRAM
- 250GB[1] hard drive
- Integrated Super-Multi drive (DVD+R, DVD-R, DVD-RAM)
- 5-in-1 card reader
- 17.0" WXGA+ (1440 x 900) TFT display, Acer CrystalBrite Technology
- NVIDIA® GeForce® 8400M graphics
- 802.11b/g WLAN, Bluetooth®, gigabit LAN, V.92 modem, integrated webcam
- One-year limited warranty[2]

**Acer Aspire 7520-5907**

**$939**

AMD Turion™ 64 X2 Dual-Core Mobile Technology TL-60
Genuine Windows Vista® Home Premium
(LX.AM40X.151)




**Acer QuickCharge**

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

**Acer DASP**

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

**Acer CrystalEye**

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

**Acer Bio-Protection**

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

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

acer

# Acer® LCDs

**Acer B223W bdmr**
- 22" wide-screen TFT LCD
- 1680 x 1050 maximum resolution
- 2500:1 dynamic contrast ratio
- 170° horizontal viewing angle
- 160° vertical viewing angle
- Two 1.0W integrated speakers
- VGA, DVI (HDCP) signal connectors
- 300 cd/m² brightness
- 5ms response time
- Internal power adapter
- -5° ~ 15° tilt
- 35° swivel
- 110mm height adjustment
- 90° pivot
- Release button
- Three-year limited warranty[1]

**$269**
(ET.EB3WP.002)

**Acer B203W bdmr**
- 20" wide-screen TFT LCD
- 1680 x 1050 maximum resolution
- 2500:1 dynamic contrast ratio
- 160° horizontal viewing angle
- 160° vertical viewing angle
- Two 1.0W integrated speakers
- VGA, DVI (HDCP) signal connectors
- 300 cd/m² brightness
- 5ms response time
- Internal power adapter
- -5° ~ 15° tilt
- 35° swivel
- 110mm height adjustment
- 90° pivot
- Release button
- Three-year limited warranty[1]

**$249**
(ET.DB3WP.002)

**Acer B193 bdmh**
- 19" TFT LCD
- 1280 x 1024 maximum resolution
- 2000:1 dynamic contrast ratio
- 160° horizontal viewing angle
- 160° vertical viewing angle
- Two 1.0W integrated speakers
- VGA, DVI (HDCP) signal connectors
- 300 cd/m² brightness
- 5ms response time
- Internal power adapter
- -5° ~ 15° tilt
- 35° swivel
- 80mm height adjustment
- Three-year limited warranty[1]

**$249**
(ET.CB3RP.002)

**Acer B193W bdmh**
- 19" wide-screen TFT LCD
- 1440 x 900 maximum resolution
- 2000:1 dynamic contrast ratio
- 160° horizontal viewing angle
- 160° vertical viewing angle
- Two 1.0W integrated speakers
- VGA, DVI (HDCP) signal connectors
- 300 cd/m² brightness
- 5ms response time
- Internal power adapter
- -5° ~ 15° tilt
- 35° swivel
- 80mm height adjustment
- Three-year limited warranty[1]

**$229**
(ET.CB3WP.002)

**Acer V193 b**
- 19" TFT LCD
- 1280 x 1024 maximum resolution
- 2000:1 dynamic contrast ratio
- 176° horizontal viewing angle
- 176° vertical viewing angle
- VGA signal connector
- 300 cd/m² brightness
- 5ms response time
- Internal power adapter
- Three-year limited warranty[1]

**$229**
(ET.CV3RP.001)

**Acer V173 b**
- 17" TFT LCD
- 1280 x 1024 maximum resolution
- 2000:1 dynamic contrast ratio
- 176° horizontal viewing angle
- 176° vertical viewing angle
- VGA signal connector
- 300 cd/m² brightness
- 5ms response time
- Internal power adapter
- Three-year limited warranty[1]

**$185**
(ET.BV3RP.001)

Acer recommends Windows Vista® Home Premium.

# Acer® Aspire® 4520

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

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

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

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

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

**Acer Aspire 4520-5141**
**$589**
AMD Athlon™ X2 dual-core processor for notebook TK-57
Genuine Windows Vista® Home Premium
(LX.AHS0X.257)

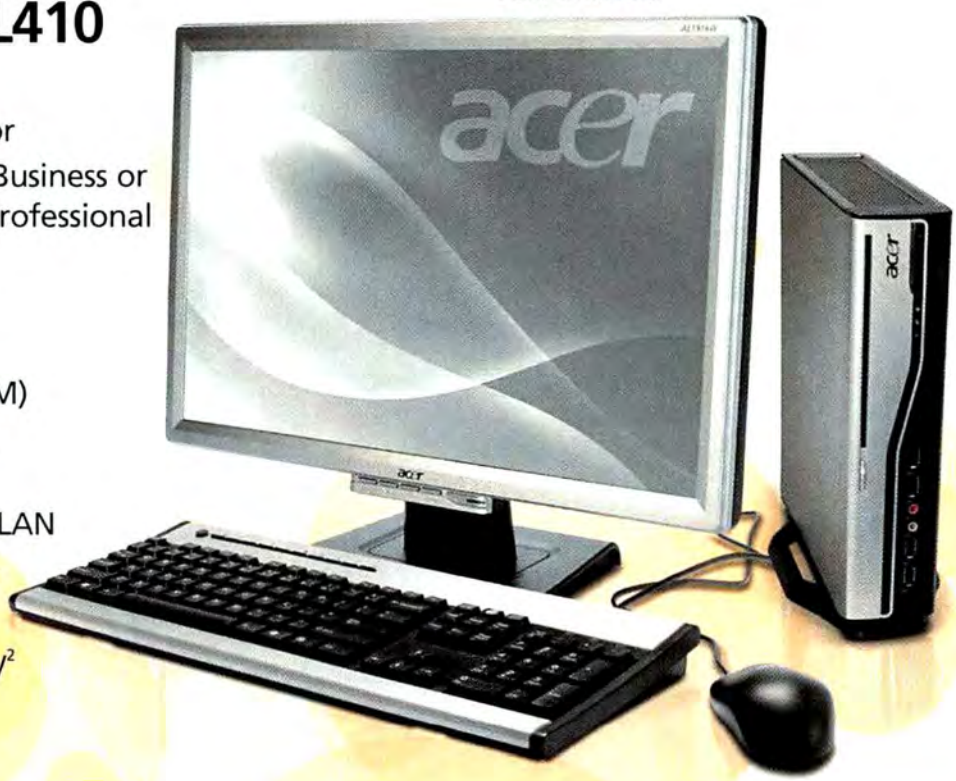
acer

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

800-571-2237 - acer.com/us

# Acer® Veriton® L410

Display sold separately.




- AMD Athlon™ X2 processor
- Genuine Windows Vista® Business or - Genuine Windows® XP Professional
- 1GB DDR2 SODIMM
- 160GB[1] SATA hard drive
- Super-Multi drive (DVD+R, DVD-R, DVD-RAM)
- ATI Radeon™ Xpress 1250 graphics solution
- 802.11b/g WLAN, gigabit LAN
- USB keyboard and mouse
- 2.4" W x 9.8" D x 7.9" H
- One-year limited warranty[2]

**Acer Veriton L410**

## $499

AMD Athlon™ 64 X2 4200+ dual-core processor
Genuine Windows Vista® Business
Microsoft® Office Professional 2007 (60-day trial)[3] and CD with Genuine Windows® XP Professional[4] (VL410-UD4201C) or
Genuine Windows® XP Professional
Microsoft® Office Professional 2007 (60-day trial)
(VL410-UD4201P)

*empowering technology*

**Acer X173Wb**

- 17" wide-screen TFT LCD
- 1440 x 900 maximum resolution
- 1000:1 dynamic contrast ratio
- 140° horizontal viewing angle
- 130° vertical viewing angle
- VGA signal connector
- 250 cd/m² brightness
- 8ms response time
- Internal power adapter
- Three-year limited warranty[2]

**$159**

(ET.BX3WP.002)

**Acer X163Wb**

- 16" wide-screen TFT LCD
- 1366 x 768 maximum resolution
- 500:1 contrast ratio
- 90° horizontal viewing angle
- 65° vertical viewing angle
- VGA signal connector
- 250 cd/m² brightness
- 8ms response time
- Internal power adapter
- Three-year limited warranty[2]

**$149**

(ET.ZX3WP.001)

Acer recommends Windows Vista® Business.

# Acer® Veriton® M410

- AMD Phenom™ X4 processor
- Genuine Windows® XP Professional
- Microsoft® Office Professional 2007 (60-day trial)[3]
- DVD-Dual drive (DVD+/-RW)
- ATI Radeon™ X1200 graphics solution
- Gigabit LAN
- PS/2®-style keyboard and mouse
- One-year limited warranty[2]

**Acer Veriton M410**
**$799**
AMD Phenom™ X4 9600 quad-core processor
Genuine Windows® XP Professional
3GB DDR2 SDRAM and 320GB[1] SATA hard drive
(VM410-UF9600P)

Display sold separately.

**Acer Veriton M410**
**$699**
AMD Phenom™ X4 9500 quad-core processor
Genuine Windows® XP Professional
2GB DDR2 SDRAM and 250GB[1] SATA hard drive
(VM410-UF9500P)

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

## Acer Empowering Technology

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

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

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




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




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

acer

Acer recommends Windows Vista® Business.

ATI RADEON GRAPHICS

AMD Turion 64 X2 MOBILE TECHNOLOGY

# Acer® TravelMate® 5520

- AMD Turion™ 64 X2 Dual-Core Mobile Technology
- Genuine Windows Vista® Business
- 1GB DDR2 667 SDRAM
- 120GB[1] hard drive
- Integrated Super-Multi drive (DVD+R, DVD-R, DVD-RAM)
- 5-in-1 card reader
- 15.4" WXGA (1280 x 800) TFT display
- ATI Radeon™ Xpress 1250 graphics
- 802.11b/g WLAN, gigabit LAN, V.92 modem
- Fingerprint reader
- One-year limited warranty[2]

*empowering technology*

**Acer TravelMate 5520-5929**

## $699

AMD Turion™ 64 X2 Dual-Core Mobile Technology TL-60
Genuine Windows Vista® Business
Microsoft® Office Professional 2007 (60-day trial)[3] and
CD with Genuine Windows® XP Professional[4]
(LX.TKU0Z.005)

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

## Choose an Acer Notebook Service Upgrade for Added Protection

Quality is built into every notebook Acer makes, and each comes with a one-year standard limited warranty.[2] It includes hardware technical support via toll-free phone plus a concurrent International Traveler's Warranty for travel outside the U.S. and Canada. Extra protection is available with one of these upgrades:

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

**$99**

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

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

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

**$199**

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

[1] When referring to storage capacity, GB stands for one billion bytes and MB stands for one million bytes. Some utilities may indicate varying storage capacities. Total user-accessible capacity may vary depending on operating environments.
[2] For a free copy of the standard limited warranty end-users should see a reseller where Acer products are sold or write to Acer America Corporation, Warranty Department, P.O. Box 6137, Temple, TX 76503.
[3] The 60-day trial of Microsoft® Office Professional 2007 is available with Genuine Windows Vista® Business only, not with Genuine Windows® XP Professional.
[4] Genuine Windows® XP Professional can be installed in place of, not in addition to, Genuine Windows Vista® Business.

© 2008 Acer America Corporation. Information and prices are subject to change without notice. Pricing is effective from June 1, 2008 through July 31, 2008. Product images are representations of some of the models available and may vary from the model you purchase. Acer, the Acer logo, Aspire, TravelMate and Veriton are registered trademarks of Acer Inc. Microsoft, Windows, the Windows logo, and Windows Vista are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. AMD, the AMD arrow logo, AMD Athlon, AMD Turion, AMD Phenom, AMD Opteron, AMD Sempron and combinations thereof, ATI, the ATI logo, ATI Radeon and combinations thereof are trademarks of Advanced Micro Devices Inc. Dolby, Dolby Home Theater and the double-D symbol are trademarks of Dolby Laboratories. Other names and brands may be claimed as the property of others. All rights reserved.

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

acer

# Is Compression Hurting Your HDTV Images?

BY LOUIS CHUNOVIC

DO YOUR HDTV programs look as good as they should? If not, you may be seeing the results of overcompression. A growing number of viewers and experts say increased use of compression—technology to downsize huge high-definition video streams for eventual reconstitution on your television screen—is hurting quality.

Such charges—aimed for the most part at the two biggest cable providers, Comcast and Time Warner—have been echoing around the blogosphere in the wake of reports about new compression algorithms. And one enthusiast's tests found that at least ten HD networks were more compressed on Comcast than on Verizon's fiber-optic-cable-based FiOS service.

To deliver more HDTV channels, both cable and satellite services are resorting to new compression algorithms. But some viewers fear that quality is suffering as a result.

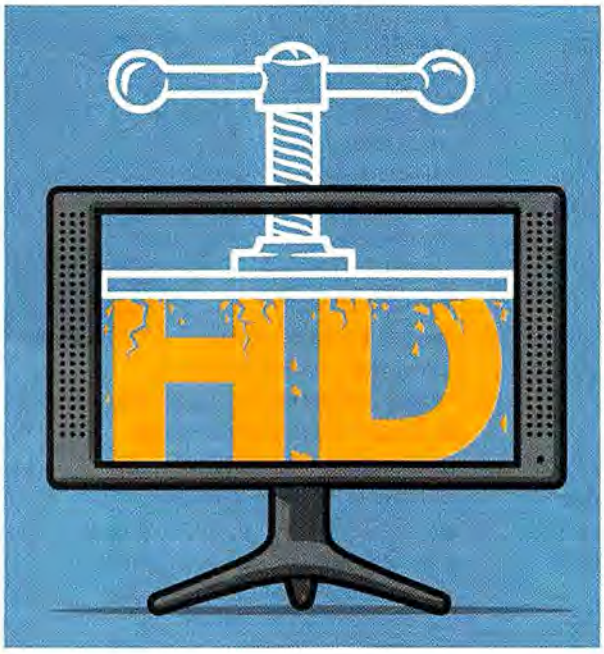



ILLUSTRATION CHRISTOPH NIEMANN

## Quantity vs. Quality

It's no secret that most digital TV content is compressed and decompressed—in some cases several times—not just by cable or satellite services and over-the-air broadcasters, but also by the video cameras that create the programs and by the network satellite systems that deliver the shows to distributors. The telltale signs of overcompression include tiling (little colored blocks) and "mosquito noise," which looks like flaring fireflies. The crispness of the picture can suffer, too.

Compressing huge HDTV video streams, however, allows carriers to deliver more of them. "Everyone's really fighting the same issue—limited bandwidth—[but] their offerings are more attractive if they give more channels," says Peter Symes, director of standards and engineering for the Society of Motion Picture and Television Engineers. "There are big arguments in the broadcasting community about whether you should use virtually the whole of the 19.2 megabits you get for a single HD channel to deliver really good HD, or whether by using other standards or more compression you can get away with [delivering] a high-definition [signal] and one or two standard-definition [signals] or maybe sell part of it for data services."

Currently, quality is "minor to a vast majority of the viewing public, because the vast majority...doesn't have very big TV screens," HDTV consultant Peter Putman notes.

But some viewers who do—such as Ken Fowler of Arlington, Virginia—are starting to notice. Fowler posted the results of his Comcast-FiOS comparison on AVS Forum (see find.pcworld.com/60827).

Fowler had dropped Comcast for FiOS, but subsequently he renewed his Comcast service (while retaining FiOS) in order to get Washington Nationals games in HD. He soon noticed that some Comcast channels "didn't have the same pop, the same level of contrast, and there was a lot more blurring during movement."

So Fowler used his TiVo to record the same shows on both FiOS and Comcast; he then downloaded the files to a PC and used file size to calculate the bit rates. The differences ranged from 0.7 percent more compression on Comcast for HBO HD to a whopping 38.5 percent for Discovery HD Theater. »

PCWORLD.COM

**'FiOS is the only provider with enough bandwith to deliver full HD without compression. My buddy has FiOS...and it blows everything else away.'** *—dino90inch in the PC World forums, find.pcworld.com/60829*

Comcast acknowledges that it recently implemented additional compression of selected HD networks, but says that the improved compression technology allows it to transmit three channels in the same bandwidth previously used to transmit two, without any loss of quality. Comcast's spokesperson points out that many of the comments responding to Fowler's AVS Forum post recognize that the company's "ongoing tweaking" is improving image quality.

Comcast isn't the only service looking to squeeze more HD into its cables. Time Warner Cable is testing new increased-compression technology. And satellite services DirecTV and Dish Network are switching to a "more advanced compression algorithm," Putman says. Verizon's FiOS, however, applies no additional compression to network signals.

High-def broadcast formats can make a difference in the impact of compression on quality. ABC and Fox, among other networks, use a progressive-scan format (720p), which Putman and other experts say tolerates the compression slightly better than the interlaced (1080i) format that such broadcasters as CBS, NBC, and PBS employ.

### Blu-ray Is the Benchmark

For consumers, the best HD experience will be with **Blu-ray Disc content on a player hooked up to a display via an HDMI connection. "That's going to be the benchmark," says Symes.**

If you're shopping for an HD service, Symes recommends signing up for a fiber-optic service such as **FiOS or AT&T's U-Verse, if one is available. Beyond that, Symes says, so much local variability exists among competing cable and satellite services that the best you can do is to ask friends in your area about the quality of their service.**

And if you believe your HDTV service quality is suffering from compression, complain to your provider. Both Symes and Putman say that the industry will address overcompression only when customers who trade up to the biggest, highest-resolution screens notice.

## SKEPTICAL SHOPPER YARDENA ARAR

# Preview Your Next Cell Phone—Virtually

YOU NEED A new cell phone—but you can't make up your mind which one to get. Sound familiar?

**TryPhone's virtual handsets could help you narrow down the list of candidates when you're shopping for a cell phone.**

Given all the cool handsets that are on the market, and the increasing frequency at which updates and new models are appearing, it's no wonder people have difficulty deciding. And of course all the user and/or expert review sites in the world can't substitute for your own hands-on evaluations—but who has the time to traipse from store to store to play with every model worth considering?

A Web site called TryPhone (www.tryphone.com) might help you narrow down the field. It shows large replicas of selected handsets, complete with a few clickable keys that activate the screen and demos for important tasks such as creating a new contact or SMS message. The site also posts user reviews and detailed technical specifications.

I wouldn't want to make a buying decision based on TryPhone alone, but at least the site gives you a pretty good idea of how a handset will work and, especially, what the user interface will look like.

### Remote Access to Handsets

TryPhone has an interesting pedigree. It is a relatively new undertaking by a company called DeviceAnywhere (formerly MobileComplete), whose principal business is a service that gives cell phone application developers access via the Internet to real handsets on carrier networks located all over the world.

The service isn't cheap, but for companies that develop and test phone applications, using DeviceAnywhere is a lot less expensive than, say, buying dozens of devices and sending a team of engineers out into the field for real-world trials of a new application on all overseas networks where it will be deployed. The service is also being used as a tech support tool.

DeviceAnywhere provides developers with remote access to nearly 900 different combinations of devices and networks. Unfortunately, the TryPhone beta doesn't have nearly that many phones—only 12 as of late April, including such popular models as the Apple iPhone and the Motorola Razr 2. That's because even after the company spends ten days setting up remote access for one of its DeviceAnywhere units, it has to spend another ten days generating the Ajax-based virtual phones on TryPhone, explains DeviceAnywhere marketing director Leila Modarres.

The company is ramping up its staff, however, and it hopes to have between 100 and 150 handsets up by the holiday season, Modarres adds.

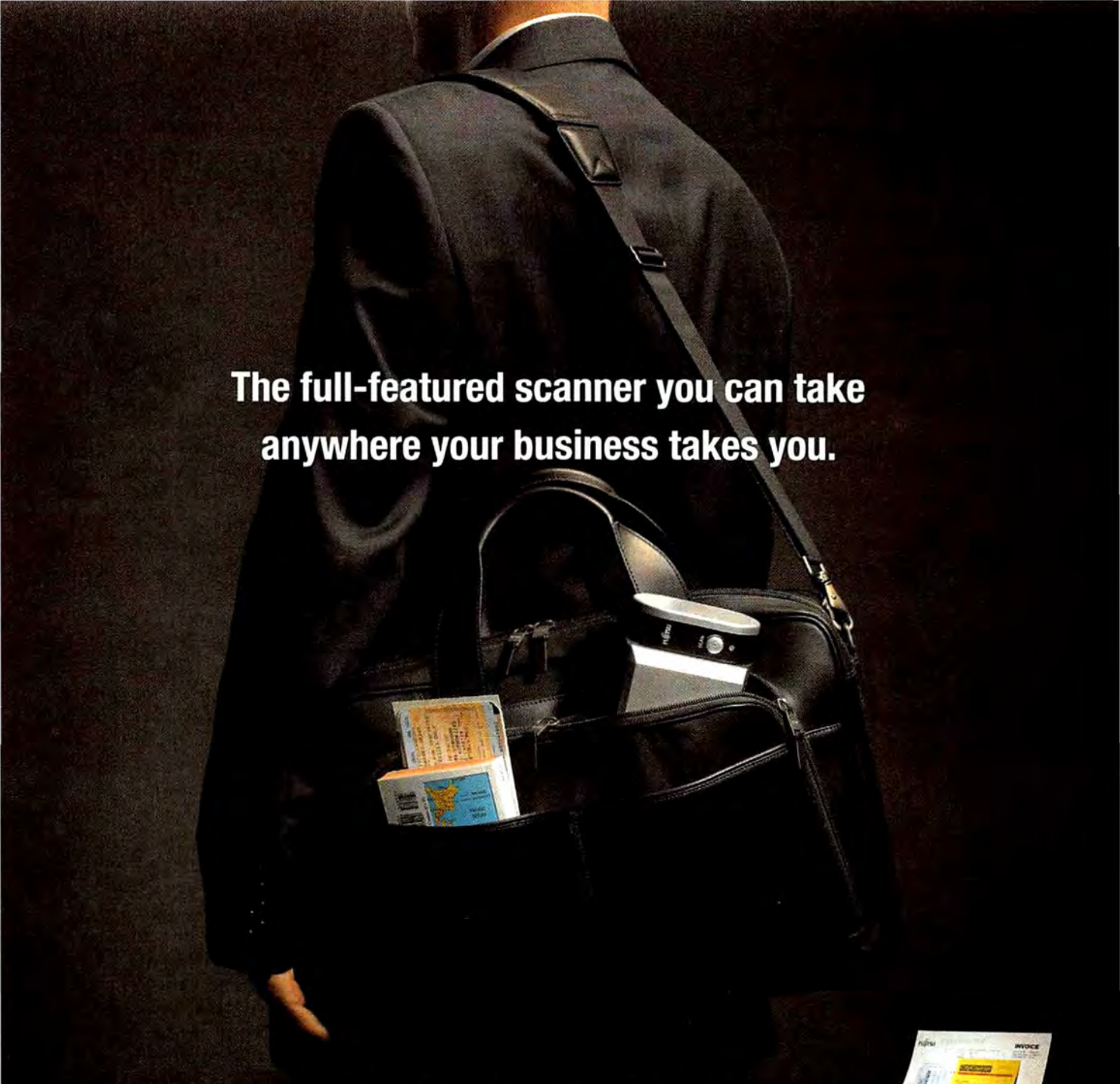
In addition, the company plans to increase the interactivity of the virtual handsets. Right now you can click navigation buttons to reach top-level menus; but if you attempt to virtually type an SMS message or enter a new contact, a video demo using canned input kicks in.

"We do intend to add a more free-form way of interacting," Modarres says.

TryPhone will never replace an in-person encounter with a handset, nor does it claim to. You can evaluate keyboards and displays only with actual hardware.

But playing with the site's virtual handsets costs nothing, and once TryPhone offers a critical mass of current models, it could be a useful (and fun) screening aid—which is all that it's trying to be.

ILLUSTRATION HARRY CAMPBELL



# The full-featured scanner you can take anywhere your business takes you.

**The ScanSnap S300. Because business doesn't always happen in the office.** It's small enough to fit in your carry-on and does everything from scanning business cards directly into your contact manager to adding legal size documents into emails. And since it scans eight double-sided documents per minute, you can convert stacks of paperwork into searchable PDFs. Now you can stay ahead of schedule – until the next flight delay. Visit Fujitsu at **http://us.fujitsu.com/scanners/80300** and tell us how you'll ScanSnap. You might **win a $100 American Express gift check.**

- AC adapter and USB power settings • Auto document feeder holds up to 10 pages • Scan receipts, expense reports, taxes and other documents • Scan to email, CardMinder and Organizer • Duplex color up to 600 dpi • Less than 3.1 lbs. • Only $295

Advance EXCHANGE

*Review Advance Exchange and all our maintenance programs at www.fcpa.fujitsu.com*

FUJITSU

THE POSSIBILITIES ARE INFINITE

CDW PC Connection PCMall Insight

© 2008 Fujitsu Computer Products of America, Inc. All rights reserved. Fujitsu and the Fujitsu logo are registered trademarks of Fujitsu Ltd. Advance Exchange is a trademark of Fujitsu Computer Products of America, Inc. All other trademarks are the property of their respective owners.

## ON YOUR SIDE AMBER BOUMAN

**WHEN MY ASUS 7900GT graphics board began to malfunction, I contacted Asus through the company's Web site, received an RMA [return merchandise authorization] number, and shipped the board back for repair. UPS records showed that Asus received it four days later, and the Asus Web site said the repair was to be processed within ten days. Two weeks later, I sent e-mail asking about the status of the repair, and a customer service representative promised to expedite the matter. But five additional inquiries have met with no reply. Can you help?**

*Jim Brasfield, Burns, Tennessee*

**OYS Responds:** By the time we forwarded Brasfield's e-mail to Asus, the company was out of stock on his graphics board model. However, the company sent him a newer model, which he was happy to accept as a replacement.

Asus admits that Brasfield's request for service fell through the cracks, and says that it happened for two reasons: First, Asus was in the process of moving its service centers, so some repairs weren't completed. Second, Brasfield had sent a number of his e-mail messages to customer service at Asus's headquarters in Taiwan (the address had a .tw top-level domain instead of .com). Brasfield told us that he had obtained the address by navigating to a page on the Asus Web site.

It's not uncommon for tech companies to have offices in several countries, but it is unusual for tech support e-mail queries from North America to be handled through an overseas address, and Asus says that Brasfield might have obtained better service by directing his messages to the U.S. tech support operation.

If your e-mail support query appears to be going to an overseas address, you may not be sending it to the right place. When seeking assistance, make sure that you're on the support page for the country where you bought your equipment.

### Missing in Action

Stephen Braude of Baltimore ordered a copy of Corel Paint Shop Pro from SoftwareOutlet.com. When it failed to show up several weeks later, he began calling and sending e-mail to the company.

SoftwareOutlet.com didn't respond to any of Braude's inquiries, so he sent a

follow-up e-mail canceling the order—but the charge on his credit card was never reversed. That's when he turned to us.

Unfortunately, we had no better luck: We tried calling and e-mailing SoftwareOutlet.com a number of times, but we received no answer.

The company currently has an "F" rating with the Better Business Bureau due to unanswered complaints. SoftwareOutlet.com is also the subject of similar complaints on several consumer sites such as Complaintsboard.com.

### Extended Warranty Date

Joseph F. Ryan of West Medford, Massachusetts, got less than he bargained for when he purchased what he thought was a two-year extension on his new Gateway laptop's warranty: Afterward he realized that the extended warranty added one year, not two (as he had expected), to the standard included one-year warranty.

The warranty's terminology is standard for the industry, as made clear in the fine print on Gateway's Web site. As usual, it pays to read service agreements carefully and to ask any questions before you buy.

## Most Returned Products Work Fine, Study Says

ONLY 5 PERCENT of consumer electronics products returned to retailers are malfunctioning—yet many people who return working products think they are broken, a new study indicates.

The report by technology consulting and outsourcing firm Accenture pegs the costs of consumer electronics returns in 2007 at $13.8 billion in the United States alone, with return rates ranging from 11 percent to 20 percent, depending on the type of product.

Accenture estimates that 68 percent of returns are products that work properly but do not meet customers' expectations for some reason. "Either they thought it was defective when it wasn't, or there was an expectation gap," says Accenture executive Terry Steger.

The study attributes another 27 percent of returns to buyer's remorse—situations where customers simply changed their minds. That leaves only 5 percent of returns that are attributable to defects or other malfunctions.

Steger believes that the return rates for functional products would decline significantly if vendors and retailers invested more in making them easier to set up and use, and in educating buyers.

"I don't believe the returns issue is the result of lax retail return policies, or customers taking advantage of the ability to return," he says.

Rather, he says, high return rates often point to problems with products.

Complicated setup is one issue: The Accenture report cites a 2006 study by Dutch scientist Elke den Ouden, which determined that the average U.S. consumer spends only 20 minutes trying to make a device work before giving up and returning it to the seller.

*—Yardena Arar*

ILLUSTRATION: HARRY CAMPBELL

AMD 64 Opteron

HP recommends Windows Vista® Business.

# MORE POWER TO YOU. LESS POWER FROM YOU.

THE COMPUTER IS PERSONAL AGAIN.

Help lower your energy costs without compromising performance by choosing HP's ENERGY STAR® qualified desktops with 80 PLUS® power supplies. They run on AMD Opteron™ Processors designed to deliver a high performance-per-watt ratio. It's more, for less. In business terms: efficiency.

Learn more about 80 PLUS® power supplies at hp.com/go/powersupply6

**HP xw4550 Workstation**

AMD Opteron™ processor Model 1212[2,3]
Genuine Windows Vista® 32-bit; downgrade to Genuine Windows® XP Professional 32-bit installed*†
80 PLUS® Power Supply
ENERGY STAR® qualified

$599 Was $986
Price reflects $387 instant savings[1].

**SmartBuy** PN: RB489UT#ABA

HP TOTAL CARE

Service redefined to help you get the most from your technology.

**1-888-811-9575** | hp.com/go/lesspower6 | Find a reseller: hp.com/go/reseller

Prices and promotions are subject to change without notice. Supply is limited. Visit our site or call for the latest deals. All offers available from HP Direct and participating resellers. Prices shown are HP Direct prices, are subject to change, and do not include applicable state and local sales tax or shipping to recipient's destination. Simulated screen. Photography may not accurately represent exact configurations priced. Associated values represent HP published list price. *Windows Vista Business disk also included for future upgrade if desired. To qualify for this downgrade an end user must be a business (including governmental or educational institutions) and is expected to order annually at least 25 customer systems with the same custom image.†Certain Windows Vista product features require advanced or additional hardware. See www.microsoft.com/windowsvista/getready/hardwarereqs.mspx and www.microsoft.com/windowsvista/getready/capable.mspx for details. Windows Vista Upgrade Advisor can help you determine which features of Windows Vista will run on your computer. To download the tool, visit www.windowsvista.com/upgradeadvisor. 1. Instant savings available through HP Direct and participating resellers. Offer valid through August 31, 2008. For details, visit www.hp.com/go/specials. 2. This system requires a separately purchased 64-bit operating system and 64-bit software products to take advantage of the 64-bit processing capabilities of the AMD 64 processor. Given the wide range of software applications available, performance of a system including a 64-bit operating system will vary. 3. AMD's numbering is not a measurement of clock speed. © Copyright 2008 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein shall be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein. Microsoft and Windows are U.S. registered trademarks of Microsoft Corporation. Windows Vista is either a registered trademark or trademark of Microsoft Corporation in the United States and/or other countries. AMD, the AMD Arrow logo, AMD Opteron and combinations thereof are trademarks of Advanced Micro Devices, Inc. ENERGY STAR® is a registered mark owned by the U.S. government.

hp

# We can put all your equipment in one place. So you can go to work instead of going for a walk.

**HP LaserJet® M1522nf MFP**

- Monochrome laser printer, copier, scanner and fax
- Mfr. speed rating: up to 24 ppm
- Print resolution: 600 x 600 dpi with HP ImageREt 2400
- Optical scan resolution: 1200 x 1200 dpi
- Duty cycle: 8,000 pages per month
- USB 2.0 and Ethernet ports

$399.99
CDW 1422504

**HP LaserJet® M2727nf MFP**

- Monochrome laser printer, copier, scanner and fax
- Mfr. speed rating: up to 27 ppm
- Print resolution: 1200 x 1200 dpi
- Optical scan resolution: 1200 x 1200 dpi
- Duty cycle: 15,000 pages per month
- USB 2.0 and Ethernet ports

$599.99
CDW 1341029

**HP Color LaserJet® 2840 AiO**

- Color laser printer, copier, scanner and fax
- Mfr. speed rating: up to 20 ppm black, 4 ppm color
- Print resolution: 600 x 600 dpi with HP ImageREt 2400
- Optical scan resolution: 1200 x 1200 dpi
- Duty cycle: 30,000 pages per month
- USB 2.0 and Ethernet ports

$899.99
CDW 762969

**We're there with the printing solutions you need.**

Your fax machine is on one side of the building and your printer is on the other. Maybe it's time you simplified things. With CDW, you'll have a personal account manager that can help you find a multifunction printer to take care of all your faxing, printing, scanning and copying in one place. That way, you'll be able to save time. And with one device handling everything, you'll be able to save money too. So call CDW today and start doing a lot more with a lot less.

CDW.com | 800.399.4CDW

CDW

The Right Technology. Right Away.®

Offer subject to CDW's standard terms and conditions of sale, available at CDW.com. ©2008 CDW Corporation

# Search Engine Optimization, Advertising 101

BY RICHARD MOROCHOVE

Your business's visibility at the major search engines, whether in search results or in ads, can have a marked effect on your sales.

YOU CAN'T SIMPLY open a new Web site, sit back, and expect a horde of visitors to show up at your virtual storefront. You must promote your site. Search engine optimization (SEO) and paid advertising on search engines, if done right, can strengthen your online business and your bottom line.

## Maximizing Search Position

SEO is the practice of modifying Web pages to enhance their visibility in search engine results. If your business sells, say, left-handed widgets, your goal is to be listed near the top of the results if someone performs a search using the keywords "left-handed widgets." If your site isn't within the top 30 search results, research shows, very few visitors will click through to it.

To reach a high rank in a search engine, you must learn to think like the robots (also called *spiders* and *crawlers*) that search engines such as Google use to find and catalog Web pages. First, learn to describe your products and services at your Web site using words that your prospective customers will likely use in a search (most search engines understand words, not images).

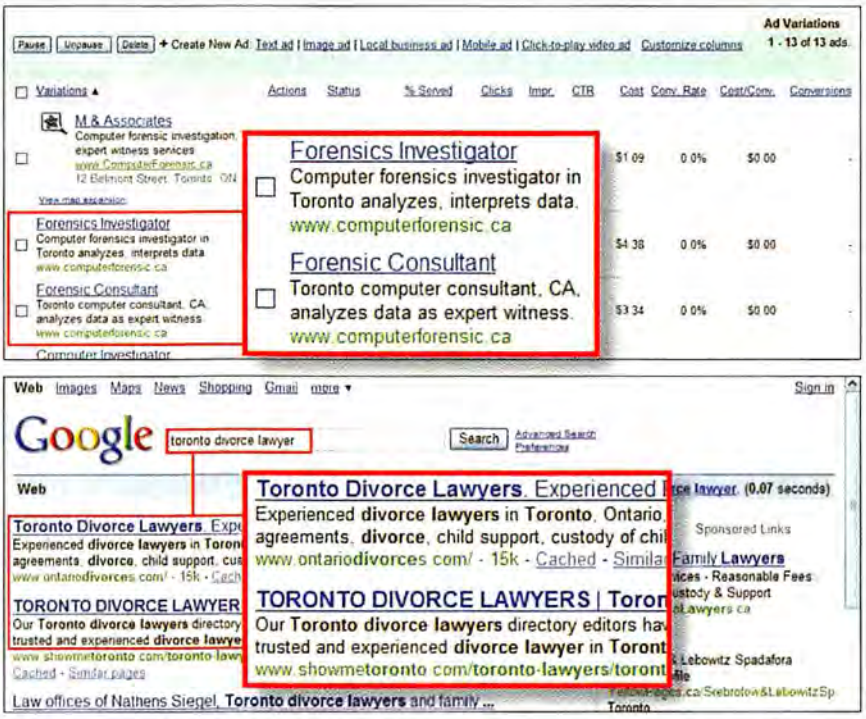
Search-engine robots give certain aspects of a Web page, such as its title and its major headings, special emphasis. So don't squander the potential benefit by using a nondescript title like "Home Page of Rick's Online Store" (search bots won't even notice that). Instead, devise a detailed title that reinforces the primary anticipated search term for the page, such as "Left-Handed Widget Superstore, San Francisco, CA."

Links to your site from other, well-regarded sites can boost your search-result rankings, too. I recommend contacting the Webmasters of related (but not competing) sites for link opportunities. Contact them personally, not via an annoying automated link spammer (which most recipients will ignore).

How can you tell whether a potential link partner site is generally well regarded? The Google browser toolbar's PageRank tool rates the popularity of a given site from 0 (worst) to 10 (best).

Monitor your progress by checking your site's "referer log" (yes, that's how it's spelled, typically) to see where your visitors came from and what search terms they used to reach your site.

Don't expect instant results from »




**GOOGLE ADWORDS ENABLES you to create different PPC ads and track the results (top). Carefully selected keywords put this firm up front in searches for 'Toronto divorce lawyers'.**

PCWORLD.COM

**The Downloads Center at PCWorld.com offers free and low-cost software tools (at find.pcworld.com/60801) to help you perform better in what has become an ultracompetitive search marketplace.**

SEO. The robots must comb through millions of Web pages, so you may have to wait three months or longer to see the full benefit of your optimized site.

After implementing basic SEO measures, don't stop. The Search Engine Optimization Forum (www.highrankings.com/forum), run by Boston-based SEO services firm High Rankings, offers many more SEO tips and discussions.

## Search Engine Advertising

If you don't want to wait months for SEO benefits to kick in, consider advertising on search engines. This approach can increase site traffic within a day.

The easiest and most popular type of search engine advertising to set up is the pay-per-click (PPC) text ad. You write short text ads that appear next to the search results for specific terms or keywords that people enter in a search engine; then you pay for each visitor who clicks your ad and jumps to your site.

According to the Web traffic measurement company Hitwise, the most popular search engines in the United States are Google (with a search share of 66 percent), Yahoo (21 percent), and MSN (5 percent). Given Google's dominance, PPC ads on Google AdWords are likely to deliver the greatest number of visitors to your site. Running PPC ads on Yahoo and Microsoft, however, will increase your advertising reach and may cost less for certain search keywords.

The cost can range from a few cents to several dollars per click, depending on advertiser demand for keywords. You may set a daily or monthly maximum charge to ensure that you don't exceed your budget.

Crafting your PPC ad is a bit like writing a two-line classified newspaper ad with a heading. Choose your phrasing and keywords carefully to attract the visitors you want. Test several ads to determine which works best.

Finally, if you sell only locally, don't waste money advertising nationwide. Use the service's geotargeting capability to restrict ads to visitors from a limited area, such as your city or state.

# NET WORK

RICHARD MOROCHOVE

## Make Sure General E-Mail Gets Answered

Email Center Pro collaborates with your existing e-mail system to help manage messages sent to shared inboxes.

HOW DOES YOUR business handle general and sales query e-mail? In many organizations the messages go to a shared e-mail account (such as info@yourdomain.com) that is the responsibility of several individuals.

But how do you ensure that all queries sent to a shared e-mail address are answered in a timely manner? And how do you prevent your employees from wasting their time (not to mention leaving a customer with a bad impression) by giving multiple responses to a query?

Palo Alto Software's new Web-based service Email Center Pro (www.emailcenterpro.com) can help you and your coworkers field queries from customers or partners. It's not a complete e-mail system; rather, it works with your existing service to ensure that your staff doesn't drop the ball in its electronic messages.

Signing up for ECP and creating one or more mailboxes takes just a couple of minutes. ECP recommends that you channel messages to the service by setting up POP retrieval from a specific mailbox (for example, sales@yourdomain.com); but if you prefer, you can forward mail to ECP as it comes in, or simply give out your ECP mailbox address (though adopting this approach will produce a clunkier-looking address—something like sales@yourdomain.emailcenterpro.com).

### Handle Vacation Mail

You can use Email Center Pro for private accounts, too, but this means the account holder's e-mail will no longer be private. Still, when employees take ill or go on vacation or maternity leave, temporarily forwarding their messages to ECP can ensure that important messages don't languish unanswered. Also, to create a more complete record, you can forward pertinent messages from individual accounts that aren't handled by the service.

You can view and search all messages in ECP accounts, and you can arrange for the service to send new message notifications to the team members who are responsible for replying. You can check how long an e-mail has gone unanswered, or append notes to an e-mail thread for internal use.

A drop-down menu lets you assign a message or group of messages to a specific person for reply or follow-up. Alternatively you can use smart folders to organize your e-mail by a filtering criterion you specify—subject line, for example, or messages assigned to you.

A built-in editor lets you create custom message templates, reducing the time needed to generate responses and helping to make answers more consistent.

ECP uses SpamAssassin as an antispam filter; incoming spam doesn't count against your monthly message quota.

A free plan, supported by ads in e-mail footers, provides 1GB of storage, accepts 250 messages per month, and accommodates five users and two mailboxes. Ad-free paid plans start at $19 per month for 5GB of storage, 2500 e-mail messages, unlimited users, five mailboxes, and backup service. The most expensive plan is $149 per month for 30GB of storage, 15,000 messages, secure SSL support, and unlimited users and mailboxes.

ECP isn't the only possible way to manage shared e-mail, but it's easy to use alongside your existing e-mail system.

*PC World* readers can gain access to a three-month free trial of the service's $19-per-month standard plan by entering **pcworld08** in the code box during sign-up.

ILLUSTRATION: HARRY CAMPBELL

Total Protection Security

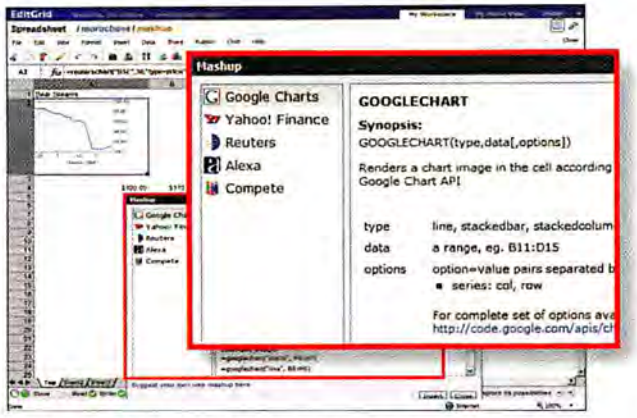
# SPYWARE IS THE DISEASE.

# WE'RE THE CURE.

**Ever feel like you're being watched?** Right now spyware on your computer could be watching your every digital move. Unless you have McAfee. More than just anti-virus protection, McAfee offers continuous security from spyware, hackers, and other threats to you and your family. Learn about our complete range of total protection solutions at **McAfee.com**

McAfee®

# EditGrid Brings Web 2.0 Tricks to Spreadsheets




**EDITGRID ENABLES YOU to insert stock charts and other graphical data from services such as Google Charts and Yahoo Finance.**

EDITGRID, A NEW online spreadsheet service, might convince you that Microsoft's Excel isn't the best spreadsheet product for all jobs. EditGrid, which offers a free Personal Edition (as well as paid subscription and server editions), delivers more and less than Excel does.

Like Google and Zoho spreadsheets, EditGrid lets you collaborate with others in real time, and then share the result easily. A handy chat capability lets you talk to collaborators while you work.

To use EditGrid, you need a broadband Internet connection and a Web browser that supports JavaScript (as most do). After signing up for a free account, you can upload up to 2GB (8GB in the paid version) of existing spreadsheet files created in Excel, OpenDocument, or Lotus 1-2-3.

EditGrid has some tricks that Google and Zoho spreadsheets lack. For one thing, EditGrid lets you insert online stock-price charts, exchange rates, and other financial data from services such as Alexa, Compete.com, Google Charts, Reuters, and Yahoo Finance. You can also integrate EditGrid with your existing apps using an application programming interface the company publishes.

Still, EditGrid is no Excel. EditGrid lacks Excel's macros, pivot tables, data validation, and cell merge, among other features. You'll also wait longer to save your changes than you would working on a local hard drive. All the same, you'll find that most other spreadsheet functions (like copy and paste) operate just as fast as their counterparts do in Excel.

*—Richard Morochove*

**79 GOOD**

EditGrid | Team and Concepts Ltd
Online spreadsheet service is well suited for collaboration, but doesn't have all of the high-end capabilities that Microsoft Excel does. Pricing: Personal Edition free, Subscription Edition $5 per month per user, Standard License Edition (runs on your own server) $1500 and up
www.editgrid.com

# Plustek's $300 Scanner Gets the Basics Right

IF YOU WANT a low-cost document management system that can digitize photos and stacks of paper, and can convert scans into searchable PDFs and editable text files, the reasonably priced $300 Plustek SmartOffice PL806 may have everything you need. But be ready to put up with poky performance.

This 10.5-pound scanner comes with a 50-page automatic document feeder for scanning multipage documents, and its flatbed design lets you use it just as you would a photocopier to scan prints, books, and other large source documents.

**PLUSTEK'S PL806 CAN be a good fit for offices with moderate scanning needs.**

The PL806's biggest limitation is that it's a simplex (single-sided page) scanner, meaning that it can't automatically scan double-sided pages. Consequently, the PL806's performance is significantly slower than that of pricier page scanners. For example, in our performance tests, the PL806 took a sluggish 340 seconds to scan a 15-page, double-sided monochrome text document (at 300 dpi), whereas its sibling, the $399 Plustek SmartOffice PS252 completed the same test in just 107 seconds.

On the upside, the PL806's front panel sports five convenient function buttons for jump-starting common scanning tasks such as scanning pages to a file, copying to a printer, and performing optical character recognition (OCR) to turn printed type into editable text. The PL806 delivered good text and graphics in various color and monochrome documents, and its OCR accuracy was generally impressive, with several converted documents emerging 99 percent error-free.

For undemanding small-office and home-office users who want a low-priced scanner that's versatile enough to handle both photos and documents, the PL806 is a worthwhile candidate.

*—Richard Jantz*

PHOTOGRAPH: MARC SIMON

**73 GOOD**

SmartOffice PL806 | Plustek
Plustek's entry-level scanner can handle prints and has an ADF for multipage documents, but speed is not its strong suit. Street: $300
find.pcworld.com/60813

# We tilted a screen and turned an industry on its head.

AT&T Tilt™

## Winner of the 2008 PC World 25 Most Innovative Products Award.

When you build a smart phone this robust, you're bound to receive a little attention. After all, the vivid, tilting touch screen lets you view and edit documents on the fly. It's also great for watching videos with Cellular Video, playing games, or receiving turn-by-turn driving directions thanks to the integrated TeleNav® GPS*. And with high-speed 3G global connectivity, Wi-Fi®, and Bluetooth® 2.0, you can enjoy these features everywhere you go. Compact, powerful, and capable, the AT&T Tilt by HTC is the new standard in smart mobility.

**To get yours, visit an AT&T store near you, or go to www.att.com/atttilt**

at&t
Your world. Delivered.

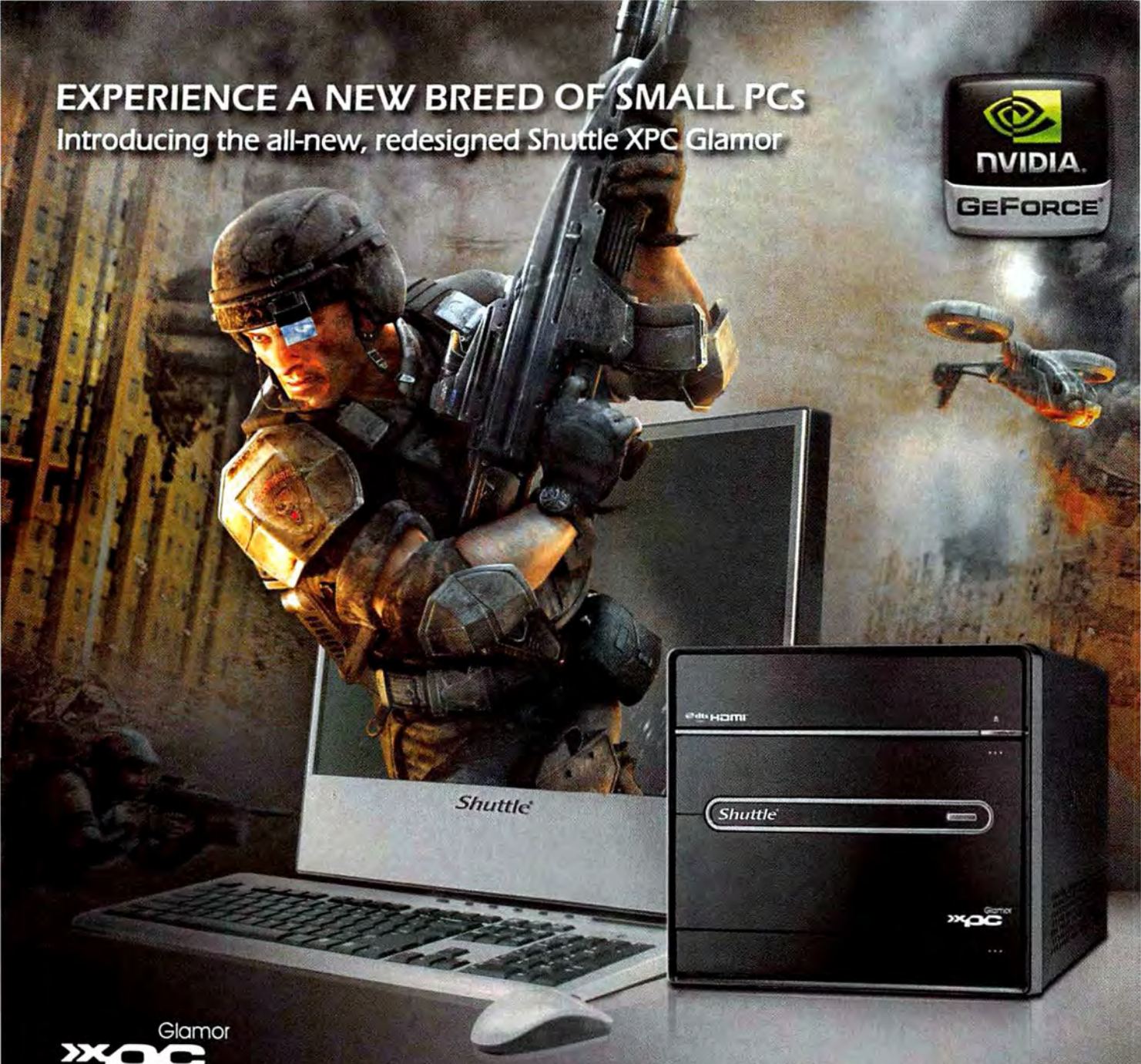
Windows Mobile

htc

©2008 AT&T Knowledge Ventures. All rights reserved. AT&T, the AT&T logo, and all other AT&T marks contained herein are trademarks of AT&T Knowledge Ventures and/or AT&T affiliated companies. All other marks contained herein are the property of their respective owners. The HTC logo is owned by HTC America, Inc., and is used under license. Microsoft and the Windows Mobile logo are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. ©2008 TeleNav, Inc. All rights reserved. TeleNav® is a registered trademark of TeleNav, Inc. *Service subscription required. Additional costs may apply. Consult your AT&T sales representative.

# EXPERIENCE A NEW BREED OF SMALL PCs

## Introducing the all-new, redesigned Shuttle XPC Glamor




Glamor
XPC

## Shuttle Glamor H7 7800

Enjoy full throttle performance in a small form factor desktop with the newly redesigned and much more powerful Shuttle XPC Glamor. The all-new H7 7800 combines Shuttle's world renowned chassis and motherboard design with leading-edge technology to revolutionize the way you live, work and play. Featuring NVIDIA's new Hybrid SLI™ Technology, the H7 7800 allows you to combine NVIDIA® discrete GPUs* with the NVIDIA® motherboard GPU to turbo-charge graphics performance and enjoy intelligent power management.

Learn more about Shuttle XPC, call 1.888.XPC.1818 or visit us.shuttle.com/PCWorld/0807

*On select GeForce GPUs. Visit www.nvidia.com/hybridsli for more information.

FRONTLINES FUEL OF WAR

©2008 Shuttle Computer Group, Inc. All rights reserved. Product specifications are subject to change without notice. Not responsible for photographic or typographic errors. Photos shown may vary from actual look. NVIDIA, SLI, and the GeForce logo are trademarks and/or registered trademarks of NVIDIA Corporation. Frontlines: Fuel of War, Kaos Studios, THQ and their respective logos are trademarks and/or registered trademarks of THQ Inc. All rights reserved. All other trademarks, copyrights and logos are property of their respective owners.

Shuttle® Computers

# Security Alert

## Web 2.0 Sites a Thriving Market for Malware

BY ERIK LARKIN

A WIRY YOUNG man with his head shaved and wearing a tank top points a handgun straight at the camera in a disturbing YouTube video. The man wears what appears to be a wedding ring, and he gazes vacantly away from the viewer.

Though it's an odd image for an advertisement, this video isn't promoting your average company. It's from a not-so-underground Albanian hacker group that's out to make a name for itself in the thriving world of malware and computer crime, says Don Jackson, a senior researcher with managed security services provider SecureWorks. Besides the shot of the gunman, the video showcases images of a computer screen, a table loaded with foreign currency, and plenty of links to the group's Web site.

Malware is big business, and groups like the Albanian hackers are trying to cash in, using the latest Web 2.0 tools: social networking profiles, blogs, and other publicly available media and Web-site pages. The digital desperados are, paradoxically, moving more and more into wide-scale advertising and brand building on public sites and networks in order to grow their underground trade.

But wait a minute—how can people get away with selling programs for breaking into your PC or stealing your identity? Simple: Selling malware is not directly illegal in the United States (or nearly anywhere else). Only using it is illegal.

As the malware underground expands, "it's moving away from technology towards business," says Zulfikar Ramzan, senior principal researcher with Symantec Security Response.

While virus vendors are still quick to jump on the latest security vulnerability or technical trick, "the real innovations are more business and marketing," he explains.

On the face of it, public ads appear to violate the number-one rule of any illegal activity: Don't make yourself known. And it's true, says Ramzan, that "the more sophisticated guys are more quiet." But since the purveyors of Trojan horses and other malicious apps have no real fear of legal repercussions, they have no compelling reason to be shy.

> Malicious software makers are using social networks, video sites, and blogs to peddle their wares to other online criminals.

Another video ad, this one from a Turkish group, hypes a program used to break into PCs. The group's name and logo (a stylized alien face with the Turkish crescent-and-star emblem on its forehead) play front-and-center in the program's graphical interface, and the video's narrator walks the viewer through a 5-minute-plus tutorial on using the program. More than 17,000 people have watched it.

YouTube is a popular venue for ads from malware makers, with videos for supposedly undetectable Trojan horses, "packers" that obfuscate malware payloads, and even password stealers for breaking into Steam online game accounts. (Asked about the trend, a spokesperson said that YouTube doesn't control site content but that it will investigate if viewers report videos as inappropriate.)

Advertisements from Internet bad guys don't stop with YouTube. According to Jackson, many online thugs maintain profiles on hot social networking sites and blogs such as »

ILLUSTRATION STUART BRADFORD

PCWORLD.COM

**Check out our review of the new version of ThreatFire, a free security tool, at find.pcworld.com/60841, and find out how a Firefox language pack became tainted by malware at find.pcworld.com/60843.**

LiveJournal.com to keep in touch with their business partners and customers.

The sites, which often don't have direct references to nefarious malware, provide a harder-to-track way of staying in contact than using one particular underground site. To buy malware, for instance, a crook could look up a known seller's ICQ handle or other contact info on a posted profile.

The pages offer "the capability of hiding in plain sight," says Tom Bowers, senior security evangelist with antivirus-software maker Kaspersky Lab. But thankfully, they're not entirely hidden. Bowers says he works with law enforcement professionals who try to track the

**THIS YOUTUBE VIDEO advertises a group of Albanian hackers for hire.**

criminals through social networks.

All these public ads and profiles can help law enforcement glean useful data for investigations. But they're unlikely to lead directly to prosecutions.

Using malware is clearly illegal, and a Department of Justice spokesperson says it could charge a virus vendor with aiding and abetting, or conspiracy to commit a crime, if it busted someone who used that purchased malware to infect a PC. But the Justice Department would have to prove the seller intended for the code to be used in criminal dealings, instead of, say, security research. The spokesperson says she couldn't find any instances of prosecutions of this type in her initial search of cases.

And that's just in the United States. In many parts of the world, bringing known phishers and malware lawbreakers to justice isn't exactly a priority.

## BUGS & FIXES

STUART J. JOHNSTON

# Install Windows XP SP3 Right

Plus: Step on Vista and IE bugs; block QuickTime and Flash Player risks.

STILL ON WINDOWS XP? Me too. So we'll both want to be sure to install Microsoft's Windows XP Service Pack 3.

SP3 comes via Automatic Updates, and like most service packs, it focuses on must-have bug fixes. Unlike SP2, this third big bundle adds new functionality only for enterprise networks.

You might remember that XP SP1 was an installation nightmare for quite a few people. If you have any trouble this time around, as some folks with AMD PCs reportedly are (find.pcworld.com/60835), Microsoft is providing free technical support at find.pcworld.com/60751 (for XP Home users) or at 866/234-6020 to help you get XP SP3 installed and running. And if you are not using Automatic Updates, look for SP3 at the Microsoft Download Center at find.pcworld.com/60752.

## Summer Brings Out the Bugs

Meanwhile, summer is here, and the bugs are out in full force. Microsoft, Apple, and Adobe each have a long list of creepy crawlies to stomp out.

Microsoft recently released four critical security patches—two for Windows and two for Internet Explorer—that together fix five nasty holes. All could hand control of your PC to a misanthropic hacker.

Four of the holes affect virtually every currently supported version of Windows, including Windows 2000 SP4 through Vista with SP1 installed, as well as IE 6 and 7. What's more, hackers already have proof-of-concept code (often an attack precursor) up online.

As with most attacks these days, all you would need to do is open a rogue file attachment—the security firm Security-Tracker says it would be an HTML file with an unregistered MIME type—or view a booby-trapped Web page to be nailed. If you haven't already received the patches via Automatic Updates, you can garner more details and links to manually download them at find.pcworld.com/60753.

## Flash and QuickTime Holes

Adobe's Flash Player has its own share of bug tussles this month. Flash Player 9.0.124.0 (the latest version) fixes seven bad security vulnerabilities, any of which could open the door to a "bot" infection. An attacker would strike when you view a malicious Flash media (.swf) file, which could happen as a drive-by-download if you simply visit a site. Browse to find.pcworld.com/60755 for more info as well as for links to available downloads.

Not to be outdone, Apple has a bushel of fixes that close up 12 security glitches (10 of them critical) in QuickTime. The holes entail the usual risk of losing control of your PC if you break the "be careful where you click" rule and open a poisoned file attachment or click a link to visit a Web page with malicious code.

Security researcher Secunia rates the QuickTime patches as "highly critical"—one step below its "abandon all hope, ye who enter here." worst-case rating.

Apple's patch updates the media player to the fixed version 7.4.5, and is available for Mac OS X as well as Windows operating systems. Get the download and more information at find.pcworld.com/60754.

**BUGGED?**

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

ILLUSTRATION: HARRY CAMPBELL

ALTERNATIVE THINKING ABOUT SERVER MANAGEMENT:

# You don't have to be in your server room to manage your servers.

The HP ProLiant DL385 G5 Server, featuring efficient Quad-Core AMD Opteron™ processors, lets you manage it from your office in San Diego while it sits in Boston. Remote Management (iLO2) lets you control, reboot and troubleshoot from practically anywhere, even when the server is off.

**Technology for better business outcomes.**

HP ProLiant DL385 G5

**$2525 (Save $1420)**

Lease for as low as $63/mo[1] for 48 months

Smart Buy (PN: 464211-005)

- 2 Quad-Core AMD Opteron™ processors
- Supports small form factor, high-performance SAS or low-cost SATA hard drives
- Redundant Power
- Integrated Lights-Out (iLO2), Systems Insight Manager, SmartStart

**Get More:**

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

Smart Buy Add 2 GB additional memory (PN: 408851-S21) $159

HP StorageWorks Ultrium 448 Tape Drive SAS Bundle

**$1649**

Lease for as low as $41/mo[1] for 48 months

Smart Buy (PN: AG739A)

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

AMD Opteron 64

10,000,000 I.T. folks can't be wrong.

To learn more, call 1-888-685-9646 or visit hp.com/go/dependable11

hp

Prices shown are HP Direct prices; reseller and retail prices may vary. Prices shown are subject to change and do not include applicable state and local taxes or shipping to recipient's address. Offers cannot be combined with any other offer or discount and are good while supplies last. All featured offers available in U.S. only. Savings based on HP published list price of configure-to-order equivalent ($3945 - $1420 instant savings = SmartBuy price of $2,525). 1. Financing available through Hewlett-Packard Financial Services Company (HPFS) to qualified commercial customers in the U.S. and subject to credit approval and execution of standard HPFS documentation. Prices shown are based on a lease of 48 months in terms with a fair market value purchase option at the end of the term. Rates based on an original transaction size between $3,000 and $25,000. Other rates apply for other terms and transaction sizes. Financing available on transactions greater than $349 through July 31, 2008. HPFS reserves the right to change or cancel these programs at any time without notice. AMD, the AMD Arrow logo, AMD Opteron, and combinations thereof are trademarks of Advanced Micro Devices, Inc. © 2008 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice.

# Microsoft Stats Show Web Attacks Taking Off

ONLINE BAD GUYS changed tactics in the last six months of 2007, dropping malicious e-mail in favor of Web-based attacks, according to data reported to Microsoft by Windows users.

The company saw the number of Trojan-horse downloader programs that it removed from Windows machines jump by 300 percent, according to Jimmy Kuo, principal architect with Microsoft's Malware Protection Center. These programs masquerade as legitimate pieces of software; but once installed, they download malicious applications such as spyware or adware onto the victim's computer. Typically they install via the Internet.

The shift to the Web has been forced on criminals, as system administrators became better at blocking executable files sent via e-mail. "Executables are often being stripped completely, regardless of what they are," Kuo says. So instead of sending their baleful software by e-mail, the crooks now send out spam messages that trick victims into visiting malicious Web sites.

Extent of infected PCs monthly:
- 1 in 123 overall
- 1 in 112 in the United States
- 1 in 685 in Japan

SOURCE: MICROSOFT

Many companies compile data on Web attacks, but Microsoft's collection is the most comprehensive, coming from about 450 million computers that run the Microsoft Malicious Software Removal Tool that ships with Windows Vista, XP, 2000, and Server 2003.

Among the statistics published in Microsoft's Security Intelligence Report (find.pcworld.com/60763):

- The amount of malware that Microsoft's tool removed was up 55 percent from the first six months of 2007.
- Adware is still the most common form of unwanted software, and was up 66 percent in the second half of the year to 34.3 million detections. The top piece of adware in the period was Win32/Hotbar, which installs an Internet Explorer toolbar that spews pop-up ads.
- Between 75 and 80 percent of phishing pages that the Microsoft Phishing Filter tracked were in English, and phishing is now moving from e-mail onto social networks.
- Rogue security software—bogus or malicious programs that pretend to protect PCs—is on the rise. The most widely spotted is Win32/Winfixer.

*—Robert McMillan*

# PRIVACY WATCH ERIK LARKIN

## Phone Companies That Allowed Wiretaps Shouldn't Get Immunity

AT&T AND OTHER telecommunications companies are being sued for allegedly allowing federal authorities to tap phone lines for years without a warrant. President George W. Bush wants Congress to grant the companies retroactive immunity, and the Senate has agreed. But I think such a grant of blanket immunity would be a big mistake.

Here's the main issue: Class-action lawsuits claim that the companies broke the law by allowing the government to wiretap without a warrant or special certification. The companies say they acted in "good faith"—and there's no denying that they acted in response to requests from the highest levels of government. (One company, Qwest, says it refused because of the lack of a warrant.)

Was the surveillance legal? Under wiretapping law, companies have legal cover against lawsuits when they receive a warrant or a certification from the attorney general. But the administration has classified any such documents that it may have given the companies as "state secrets," preventing the firms from showing them.

> They should have to prove they acted legally and in good faith, or face the consequences.

So the Senate Select Committee on Intelligence, which reports that it has reviewed letters given to the companies by the administration (find.pcworld.com/60761), says the businesses involved should receive retroactive immunity because they can't properly defend themselves. That kind of catch-22 logic concerns me.

A rival bill passed by the House has a solution. The House bill (find.pcworld.com/60762) says the businesses involved can present government documents in a secret session before a judge, without the plaintiffs present. If, as the Senate report states, letters and documents given to the telephone companies "stated that the activities had been determined to be lawful by the Attorney General," then a judge could consider that a strong defense, and companies would likely and justifiably escape penalty.

But if these companies broke the law and handed over our data without legal justification, they should pay. I think the courts are exactly the right place to make that determination. ●

ILLUSTRATION: HARRY CAMPBELL


DEFENDING AGAINST VIRUSES, MALWARE, AND HACKERS? I'LL BE YOUR EYES.

Today, 15,000 new internet threats will be created to attack your computer system. Predicting and intercepting future threats is what we do. In fact, ESET® Smart Security, with its patented ThreatSense® technology, provides faster, more precise, proactive protection against viral threats in one fully integrated solution. **For a free 30-day trial, visit www.eset.com.**

ESET
Smart
Security
A New Way To Think Smart

ThreatSense technology

Antivirus + Antispyware + Antispam + Personal Firewall

© 2008 ESET. All rights reserved. Trademarks used herein are trademarks or registered trademarks of ESET. Ad code: PCW

# systor

## systor Duplication Solutions Made Easy

We bring the best product reliability with the latest duplication technology to the demands of our consumers.

Disc Publisher

**Tower CD DVD Duplicator**
for •Blu-Ray •CD •DVD •CD+G Karaoke •LightScribe
Burn "on the fly". Up to 300 copies in minutes. No PC required.

**Disc Printer**
Direct print to CD or DVD. No more stickers. No more labels.

**CD DVD Auto Duplicator**
Up to 1000 disc capacity. Mass production at your finger tips.

**CD DVD Wrapper**
No heatgun. No melting plastic. Just a professional CD/DVD wrap.

**USB Drive Duplicator**
Copy up to 11 copies synchronously. Perfect for mass marketing promotions.

**SD Duplicator**
Copy up to 11 copies synchronously. Mass duplicate images and pictures.

**Multimedia Duplicator**
Back up memory for •MS •CF •SD •MMC to CD or DVD

**Hard Drive Duplicator**
Available in EIDE and SATA. Clone multiple hard drives with reliability and speed.

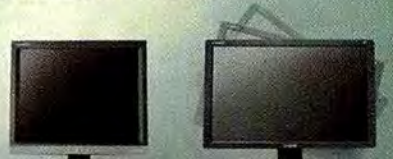
**Systor Systems, Inc.**
**Toll Free 866-582-9561**
www.esystor.com/pcw

***Resellers Welcome!***

# TRIMON

## 2D/3D Convertible LCD Monitor

Zalman's "Trimon" Series 2D/3D Convertible monitor not only has clear 2D image quality, it also allows the users to experience Stereoscopic 3D in Video Games and Movies, as well as broad professional field of Medical Imaging and CAD Designs. With high contrast ratio and easy 2D/3D conversion, and wide viewing angle, you will be able to experience a new level of entertainment.



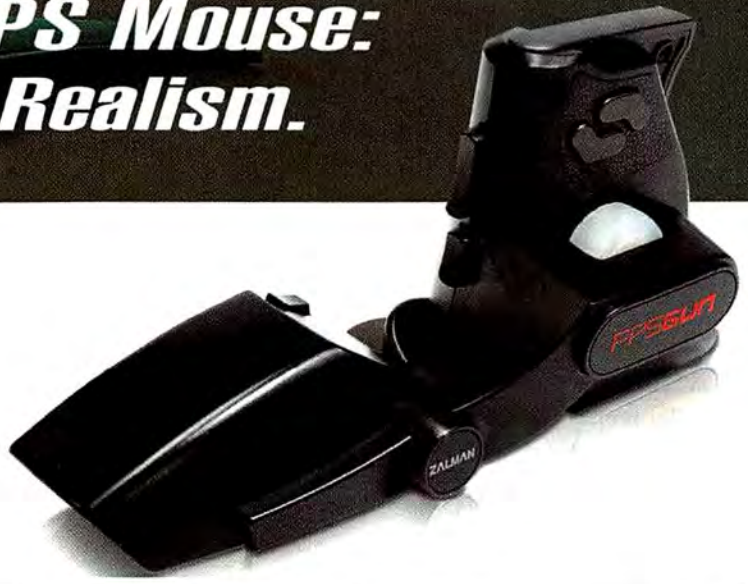
ZM-M190 ZM-M220W

# 3D Monitor & FPS Mouse: A New Level of Realism.

## FPSGUN

Gaming Mouse FG1000

Fast response, smooth action, 5 programmable buttons and upto 2000dpi scan resolution make this FPS Gun an ultimate gaming mouse. With our unique ergonomic design allows long term gaming possible without strain to the wrist and enjoy your favorite FPS game more with added realism.



DUAL HEATPIPE COOLED 1000WATT MODULAR POWER SUPPLY ZM1000-HP

EXTREME GAMING VGA COOLER GV1000

ULTRA QUIET NOTEBOOK COOLER ZM-NC2000

# ZALMAN

COOL INNOVATIONS

10531 Garden Blvd., Garden Grove, CA 92843, U.S.A.
Tel : +1-714-530-0700 / Fax : +1-714-530-0707
Homepage : www.azmanusa.com / e-mail : zalman@zalman.com

# Reviews & Rankings

**WHAT DO SONY and Micro Express's high-performance laptops—the former's VAIO VGN-SZ791N (left) and the latter's IFL9025—have in common? The same CPU.**

## The Best Business Notebooks

PCW Test Center

YOUR NOTEBOOK MEANS business in every sense of the word. The problem is, not everyone defines their work style the same way. Busy professionals crave an equally agile, lightweight laptop to fit their life in motion. Other people need the brute force (and huge screen) that only a desktop replacement "portable" can provide. Then there is everyone else—folks who want to combine reasonable power with the flexibility to go anywhere.

Whether you need an ultraportable, a desktop replacement, or an all-purpose unit, look here.

But most laptop buyers, no matter which kind of machine they favor, want to find a Zen state of balance, a blend of great mobile performance and good battery life.

That's precisely what we aimed to do this month. Poring over reams of data on products in our three laptop categories—namely, desktop replacement, all-purpose, and ultraportable—we chose the one notebook in each tier that offers the best combination of performance and endurance. Everything else was secondary. That meant that the price tag was not a factor in our search for the best workhorse laptops—although the reasonableness of the prices for two of our winning models will likely catch your attention.

### Desktop Replacement

It's hardly a surprise that one of the more recent desktop replacement laptops to enter the Test Center wins out as the best choice. The Micro Express IFL9025 is

PHOTOGRAPHS: MARC SIMON

INSIDE

62 CANON POWERSHOT SD1100 IS

66 SHUTTLE KPC K4500

68 IOGEAR MOBILE Digital Scribe

75 MIO MOOV 310

one of the first notebooks based on an Intel Penryn processor to roll off a factory line and into our offices.

The IFL9025 came fairly well stocked with the hardware to garner high scores on our WorldBench 6 tests. Intel's 45-nanometer-based processor, a 2.5-GHz Core 2 Duo T9300, led the charge. This CPU, while not the fastest member of the Penryn family, had more than enough power to handle any business task we could throw at the machine, delivering a downright impressive WorldBench 6 score of 97—which ties the IFL9025 with Eurocom's D900C Phantom-X (find.pcworld.com/60817) and just edges out Toshiba's high-end multimedia Qosmio G45-AV690, which scored a 94. (Both are comparable desktop replacement machines.) It also has a sizable 200GB hard drive.

Besides business productivity, the other big reason to consider buying a desktop replacement is for its game-playing ability. The IFL9025 relies on an nVidia GeForce 8600M GT graphics card with 512MB of dedicated memory. That board is more than potent enough for running games such as Far Cry that have been kicking around some four years (the IFL9025 cracked 120 frames per second—a good score for an aging title such as Far Cry), while also being capable of dealing with what's on the store shelves today. Just don't expect to play games such as Crysis at top resolutions with all features cranked to "11." Gaming on most notebook computers entails a series of compromises, so tone down your expectations and keep the antialiasing features off.

That said, we expect one upcoming model to surpass the IFL9025 in performance: Alienware's Area-51 m15x. This machine truly feels like a desktop replacement in that, besides having 4GB of RAM and a Penryn CPU, it uses two 8800m GTX graphics cards in Scalable Link Interface mode (SLI). That's right, this laptop is brawnier than the average gaming desktop—no small feat.

As for battery life, you again need to keep expectations in check with this sort of machine, as these PCs soak up power—and the longest we've seen a desktop replacement run on one charge is a little over 4 hours. Micro Express's IFL9025, however, is a close second in this respect, coming in at 3 hours, 53 minutes—about 12 minutes longer than the average for all desktop replacements.

What caught us off-guard, though, was how inexpensive (at $1199) the IFL9025 is, considering how »

## The Winners in Our Three Laptop Categories

NEED LOTS OF horsepower to do your work? These are the top portable performers in each class.

| MODEL | PCW Rating | Performance | Features |
|---|---|---|---|
| **DESKTOP REPLACEMENT**<br>Micro Express IFL9025<br>$1199<br>find.pcworld.com/60823 | 85<br>VERY GOOD | • WorldBench 6 score: 97 Superior<br>• Overall design: Good<br>• Tested battery life: 3:53 | • 2.5-GHz Core 2 Duo T9300<br>• 15.4-inch wide screen<br>• 6.6 pounds<br>• DVD±R DL/DVD±RW/-RAM |
| BOTTOM LINE: This top business performer manages to pack in horsepower without attaching a hefty price tag. | | | |
| **ALL-PURPOSE**<br>Sony VAIO VGN-SZ791N<br>$2500<br>find.pcworld.com/60627 | 71<br>GOOD | • WorldBench 6 score: 94 Superior<br>• Overall design: Good<br>• Tested battery life: 3:50 | • 2.5-GHz Core 2 Duo T9300<br>• 13.3-inch wide screen<br>• 4.0 pounds<br>• DVD±R DL/DVD±RW/-RAM |
| BOTTOM LINE: High fashion joins high performance—and a high price. It runs the same CPU as our desktop replacement pick. | | | |
| **ULTRAPORTABLE**<br>Lenovo ThinkPad X61<br>$1724<br>find.pcworld.com/58289 | 84<br>VERY GOOD | • WorldBench 6 score: 76 Good<br>• Overall design: Very Good<br>• Tested battery life: 6:14 | • 2-GHz Core 2 Duo T7300<br>• 12.1-inch wide screen<br>• 3.6 pounds<br>• DVD±R DL/DVD±RW |
| BOTTOM LINE: Light and long-lasting, this ultraportable can handle complex business tasks without weighing you down. | | | |

CHART NOTES: Prices and ratings are as of 5/8/08. Weight does not include AC adapter, power cord, docking station, or extra batteries.

**MORE ONLINE**

Our Laptops Info Center (find.pcworld.com/60709) has full reviews, specs, and latest prices for all notebooks we've tested.

absurdly costly desktop replacement portables can be. Price may not be a factor in this particular review; nevertheless, it's hard to ignore a such a good deal when you see one.

**LENOVO'S THINKPAD X61 proves that even an ultraportable laptop can do it all.**

## All-Purpose

A not-quite-ultraportable notebook, the VAIO VGN-SZ791N is really a "tweener." Though it has the size and weight of a borderline ultraportable (it weighs 4 pounds and has a 13.3-inch screen), this laptop is a racehorse at the track, and it is built for business.

In fact, when it comes to straight sprints in WorldBench 6, the SZ791N is unstoppable. Scoring 94, it outran the nearest-performing all-purpose notebook, Fujitsu's Lifebook A6120 (find.pcworld.com/60785), by a full 10 percent—and kept pace as well with beefier desktop replacement models. This is thanks in no small part to the combo of an Intel 2.5-GHz Core 2 Duo T9300 CPU and an nVidia 8400GS GPU revving under the hood. If you're paying close attention, you may have noticed that this machine uses the same Penryn-based CPU as our top desktop replacement pick does; Sony fine-tuned the processor for this more mobile unit. And despite this laptop's slight size, it houses a 250GB hard drive.

As for battery life, the SZ791N didn't quite achieve a runaway success, but it did last 3 hours, 50 minutes on a single charge. That's slightly better than the battery life of the average all-purpose notebook. A power management toggle on the keyboard switches between a Speed mode and a Stamina mode; we assumed that this would add more borrowed time to work with, but it didn't do much. This one-step "solution" tweaks a couple of features (lowering the resolution, for example) and forces the computer to reboot. We couldn't help but wonder how much power was killed jumping through all those hoops in the first place.

A couple of notebooks have managed to squeeze out more juice than the SZ791N, but by far the most long-lasting laptop among all-purpose models we've tested recently is HP's Pavilion dv2660se (find.pcworld.com/60786). It was a true marathoner, cranking away for 6 hours, 19 minutes on the 12-cell extended-life battery it shipped with. However, this Pavilion didn't walk away with the top spot because its CPU dragged it below the average of other all-purpose laptops' scores in our WorldBench 6 tests.

Among the "money is no object" set, the Sony VAIO VGN-SZ791N will make a solid choice. Though it may cost a hefty $2500, this pint-size powerhouse can run circles around the competition for nearly 4 hours.

## Ultraportable

Ultraportables make all sorts of sacrifices—such as sporting anemic CPUs—to bust into the welterweight computing class. Not Lenovo's ThinkPad line. Durable, svelte, and geared for business, these PCs perform under pressure. In fact, many Lenovo units regularly enter our ultraportable Top 10.

The ThinkPad X61 isn't the fastest laptop you can find, but thanks to a 2-GHz Core 2 Duo T7300 Intel CPU, it still cracked the top four in our WorldBench 6 test suite, scoring 75—which is not too shabby for an ultraportable machine. It comes in close behind the Lenovo 3000 N200 (find.pcworld.com/60787). The only ultraportable that scored significantly better, the Micro Express JFT2500 (find.pcworld.com/60789), blows away the X61 by a huge 17 percent margin. Also on the plus side, the X61 offers 160GB of hard-drive space.

The problem is that a wide gap exists between ultraportable performance and endurance. Every model that clocked a high score in performance fared miserably in battery tests—and vice versa. For example, the JFT2500—the fastest ultraportable we've tested—sits nowhere near the top of the battery-life pack. That honor goes to the Asus U2E, which ships with both a standard battery and a six-cell extra-life one that lasted an absurd 7 hours, 11 minutes in our tests.

The ThinkPad X61 comes with an extended-life power supply, but it still ran about an hour less than the U2E on a charge (6 hours, 14 minutes, to be precise). Nevertheless, 6 hours is a good amount of time for a laptop to survive our battery tests.

As we said at the beginning, however, this month's quest was for the ideal middle ground, and the ThinkPad X61 delivers in spades as a well-rounded machine in its category. It's aging a little (it came to market last year), but you can't argue with the X61's success. And considering that Lenovo's tricked-out 12.1-inch portable line starts at just a little over $1000, it also happens to offer a lot for your money.

*—Darren Gladstone*

PHOTOGRAPH: MARC SIMON

Microsoft Moneual™ recommends Microsoft® Windows Vista™ Home Premium

Moneual™ LAB

# Welcome To Your Media Playground

## INTRODUCING THE MONEUAL 902 ALI

intel Core 2 Quad inside™

## MONEUAL 902 ALI

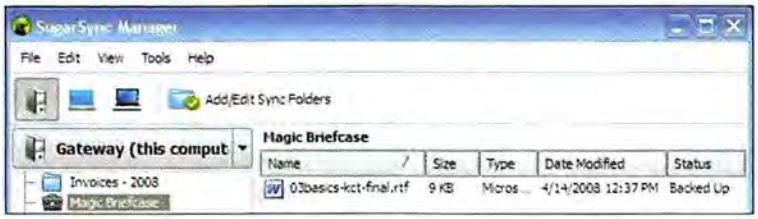
The Moneual 902 Ali is an all-inclusive Home Theater PC, complete with Blu-ray capability and Digital Cable TV Playback. Watch favorite TV shows through Digital Cable on your HDTV while recording episodes for marathon viewings later. Download and store videos and music from the internet, which are then available to you at the touch of a finger through the touch screen LCD. Feel free to unleash your inner child.

**Call toll-free 1.877.450.0105 | MONEUAL.com**

* Pricing and Availability: Prices, availability, and terms of any offer may change without notice or obligation. Taxes, if applicable, are not shown. Moneual is not responsible for price, typographical, photographic or other errors and reserves the right to cancel any order resulting from such errors. Microsoft and Windows are registered trademarks with Microsoft Corporation in the United States and/or other countries. 2008 Moneual. All rights reserved.

# SugarSync's Sweet File-Synchronizing Service

IF YOU USE multiple computers and mobile devices to create and edit documents, keeping different versions of your files in sync can be a chore. A new service called SugarSync can help cure those headaches.




**EACH DEVICE THAT you install SugarSync on gets its own Magic Briefcase folder. If you place a file in this folder, it will appear on all of your devices that run SugarSync.**

SugarSync has both Web-based and downloadable components; together, they give you access to the most current version of a file you want to work on, no matter which device you use. You configure the downloadable application, called SugarSync Manager, to monitor certain folders on your PC. Files in those folders upload to your personal SugarSync Web page automatically, at which point you can access them with any Web browser.

SugarSync excels in handling edited documents. Any time you change a file, the software automatically saves your changes to the prior version of the document on the PC where it was created. For instance, a meeting agenda created on your office PC but later edited and saved on your laptop at home will have the updates automatically saved to your Web storage space, and SugarSync will transmit the alterations to the original document on your office PC as well.

One serious drawback: SugarSync does not archive prior versions of synced files. Only the newest copy of an edited and saved file is preserved for you.

Every device that SugarSync is installed on receives its own Magic Briefcase folder. Any file in this folder appears in the Magic Briefcase on all your other devices that are running SugarSync.

Unlike many online storage services, SugarSync isn't free (except for a 45-day free trial). Five plans are offered, at prices ranging from $25 per year for 10GB of storage to $250 for 250GB.

SugarSync works on Windows PCs, on Macs, and on mobile phones with Web access. A nifty feature permits camera phone users to have any pictures they take with their phones sent directly to their computer.

SugarSync offers a cost-effective and easy-to-use way to manage files on several devices. It's light-years beyond file synchronization with the old Windows Briefcase and floppy disks.

*—Kevin C. Tofel*

**83**
VERY GOOD

**SugarSync | Sharpcast**
Easy-to-use cross-platform service keeps files in sync on multiple devices. List: $25 per year (10GB)
find.pcworld.com/60773

# Canon's Sleek PowerShot Scores

PCW Test Center

LIKE ITS DIGITAL Elph predecessors, Canon's PowerShot SD1100 IS looks great and is comfortable to use. Its $220 price tag pegs it as a mid-range point-and-shoot, but its outstanding image quality lets it compete with more-expensive cameras.

The SD1100 improves on the older SD1000 in various ways, but it shoots a hair slower (though faster than its lower-priced competitors). The SD1100's burst capability is 1.3 frames per second.

**THE SVELTE SD1100 IS fits easily in a pocket, and it's fun to use.**

Though the SD1100 has no aperture or shutter priority per se, its shooting modes and "manual" settings are stellar. Its nine scene modes include an excellent one for Macro, one for Kids & Pets, and a new one for Sunset.

In our lab tests, it scored higher for overall image quality than most competitors. On the sharpness scale, a handful of tested cameras (including Kodak's EasyShare V1253, Fujifilm's FinePix F50fd, and Casio's EX-Z1080) bested the SD1100, but all of them cost more.

Despite a few minor shortcomings, the SD1100 IS is a joy to use, and it produces superb photos for its class.

*—Danny Palmerlee*

**82**
VERY GOOD

**PowerShot SD1100 IS | Canon**
Sleek design, superb image capability, and intuitive controls make the SD1100 IS a solid buy. Street: $220
find.pcworld.com/60681

PHOTOGRAPH: MARC SIMON

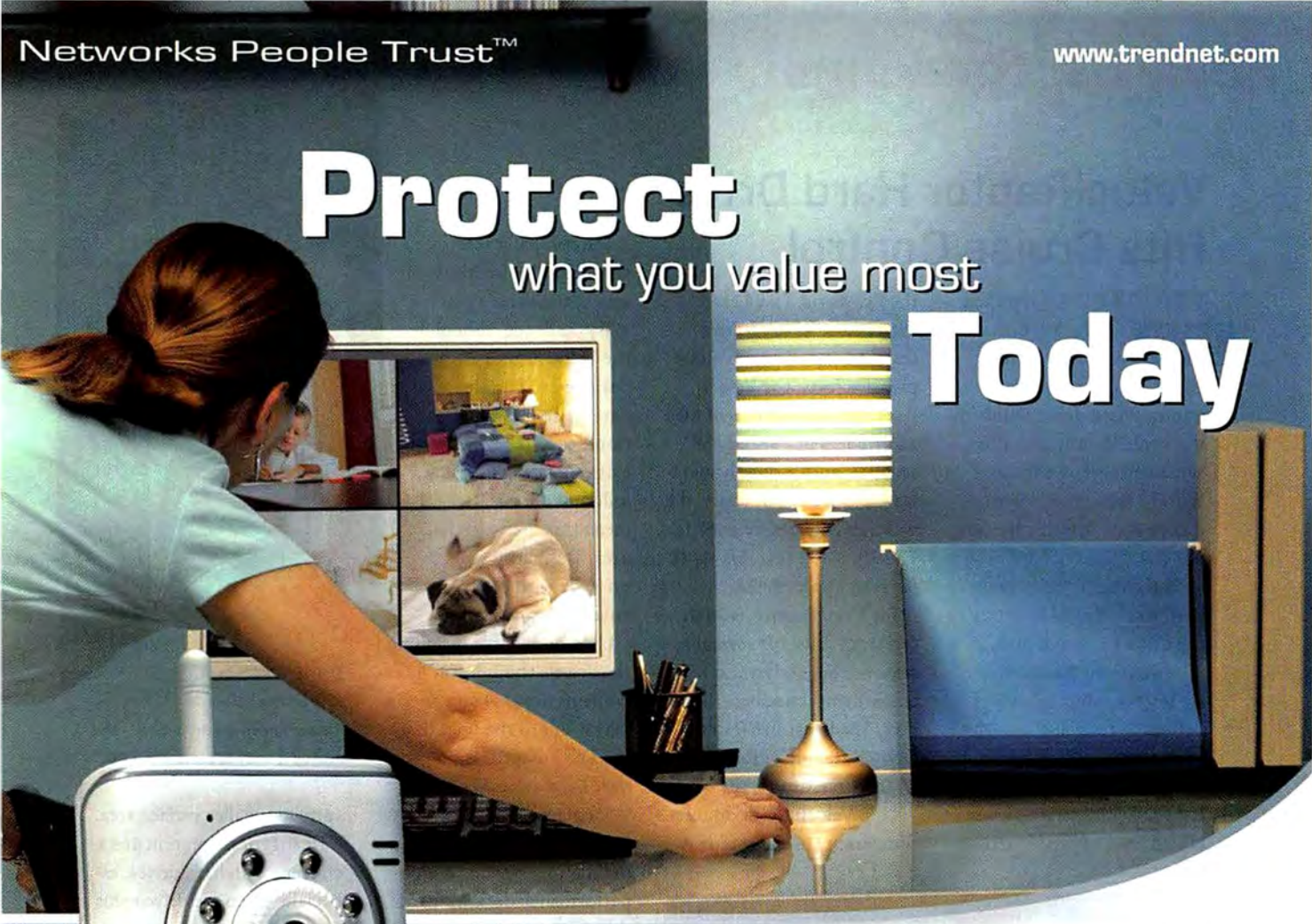
Networks People Trust™

www.trendnet.com

# Protect

## what you value most

# Today



**Win an Internet Security Camera at www.trendnet.com/giveaway**

Use promotional code MP03W008 to double your prizes

**Wireless Day/Night Internet Camera Server with 2-Way Audio**
TV-IP312W

### Easy to Setup and Use

Monitor multiple locations with complimentary SecureView software featuring email alerts, motion detection and 3x digital zoom

### Night Vision Protection

See, hear and talk to people day or night with two-way audio and infrared night vision

### Remote Viewing

View cameras from anywhere over the Internet or from your compatible 3G mobile phone

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

No purchase necessary to win. Void where prohibited by law. Sweepstakes is open to legal residents of the United States who are at least 18 years of age. Entries must be received from March 15, 2008 to September 15, 2008. One entry per person. For a complete set of rules, visit www.trendnet.com/giveaway.

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

TRENDNET®

© 2008 TRENDnet. All rights reserved.

# VelociRaptor Hard Drive Hits Cruise Control

PCW Test Center

WESTERN DIGITAL picked a very appropriate name for its new 10,000-rpm (rotations per minute) hard drive. Dubbed the VelociRaptor, this drive screamed through the PC World Test Center's performance tests, handily besting our tested field of hard drives to become our top overall performer. Speed is clearly the drive's raison d'être.

Unlike many hard drives we review, which alternate between crests and troughs of strength and weakness in our tests, the $300 VelociRaptor demonstrated a sustained level of power across the PC World Test Center's entire suite of hard-drive tests. In one of its most impressive feats, the VelociRaptor wrote 3.06GB of files and folders in a speedy 89 seconds, surpassing the next-fastest drive in our chart, the Western Digital Caviar SE16 750GB, by 32 seconds—a 26 percent improvement.

The VelociRaptor is an interesting drive for several reasons that go beyond its performance numbers, however: The latest in Western Digital's family of Raptor 10,000-rpm drives, the 300GB VelociRaptor doubles the capacity of the company's previous-generation 150GB Raptor drive.

The company sees gamers and PC enthusiasts as the drive's primary audience, though the VelociRaptor is designed to handle enterprise-class applications, too. The drive carries a rating of 1.2 million hours as its mean time between failures. That rating puts it on a par with other enterprise-grade drives.

I had no trouble installing the drive—though you'll certainly notice, as soon as you take it out of the box, that the VelociRaptor is no ordinary hard drive. With the VelociRaptor, Western Digital introduces an innovative approach to achieving a high-performance desktop hard drive. The company squeezed its 10,000-rpm drive into a 2.5-inch chassis; traditionally, desktop hard drives—whether 7200 rpm or 10,000 rpm—use a 3.5-inch chassis. (Though the drive itself measures just 2.5 inches, the VelociRaptor is designed to fit in a 3.5-inch drive bay.)

Western Digital says that it chose the 2.5-inch form for two reasons. First, a smaller drive is better mechanically: The disk undergoes flutter at its outer edges when it spins at the higher rotations per minute, and a 2.5-inch drive produces less of this flutter than a 3.5-inch one does. Second, advances in disk platter design made it possible for Western Digital to give the VelociRaptor a competitive capacity—double the capacity of the previous (150GB) Raptor drive despite its smaller surface area.

**THE ICEPACK heat sink on the VelociRaptor keeps the drive cool—and makes it easy to mount in a PC.**

Heat generation remains a concern with hard drives, especially when the drive spins as rapidly as it does on a 10,000-rpm model. To mitigate heat issues, Western Digital mounts the 2.5-inch VelociRaptor drive on a heat sink sled dubbed the IcePack. The IcePack helps the VelociRaptor to run about 5 Fahrenheit degrees cooler than the previous-generation Raptor did, Western Digital says. The sled doubles as the VelociRaptor's mounting adapter for a 3.5-inch drive bay.

*—Melissa J. Perenson*

**79**
GOOD

**VelociRaptor | Western Digital**
This superfast performer leaves competing hard drives—including previous Raptor models—in its wake. List: $300
find.pcworld.com/60701

**TECH TREND**

## Desktop Hard Drives Shrink

WHEN YOU SAY "3.5-inch hard drive," most people think of desktop PCs. But that presumption is changing as 2.5-inch hard drives find their way into desktop PCs and servers.

The trend first took hold with servers and enterprise hard drives, as 2.5-inch drives achieved high rotations per minute—10,000 or 15,000 rpm—and better performance while generating less heat than 3.5-inch drives.

Now, consumer PCs are moving to 2.5-inch drives as well. A push toward smaller, design- and energy-conscious systems underlies manufacturers' inclusion of 2.5-inch drives in desktops. Mainstream desktop manufacturers use laptop components to build the compact PCs of the future, so it makes sense that some compact PCs have 2.5-inch hard drives inside. Even power desktops can get into the 2.5-inch game with Western Digital's VelociRaptor hard drive (reviewed above), which zips at 10,000 rpm. Capacity is no longer an issue: 250GB to 320GB 2.5-inch drives are commonplace, and 500GB drives have begun shipping. But 2.5-inch drives won't take over on the desktop: Since 3.5-inch drives offer a better price/capacity ratio, 3.5-inch drives will continue to prevail.

*—Melissa J. Perenson*

# Meet The Samura1. This cyber-criminal gained fame hacking office networks from deep within his mom's basement. But suddenly he was blocked from his cyber dojo, and the master is now the student.

Tough on Threats. Easy on You.

70 million people switched to AVG 8.0 because it protects from online threats without slowing PC's or networks to a crawl. That put a lot of hackers, and their threats, out of business. But we're dedicated to the rehabilitation of every lost soul defeated by our award winning software. To help us help them, visit **hugsforhackers.org.** Do it now, because somewhere there's a hacker who needs a hug.

AVG
www.avg.com

# 46- and 47-Inch HDTVs: Spend Less, Get More

THE SAMSUNG LN46A550 delivers great image quality; its features include a USB port, easy-access inputs, and a swiveling stand.

WHEN IT COMES to buying electronics, a great rule to respect is that "you get what you pay for." But in our most recent roundup of 46- and 47-inch HDTVs, we found that the priciest sets did not offer the best picture quality.

The most expensive sets we tested were the 46-inch Misubishi LT-46244, the 46-inch Toshiba 46XF550U, and the 47-inch LG 47LBX, each of which costs about $2500. In our performance trials (which account for 50 percent of the overall PCW rating), they finished fourth, fifth, and eighth (out of nine HDTVs in all), respectively. Meanwhile, a trio of much more affordable models—the 46-inch Samsung LN46A550, the 47-inch Syntax-Brillian Olevia 747i, and the 47-inch Vizio VO47LF—earned the top three performance scores in the group, despite costing nearly $1000 apiece less than the more expensive units.

The Samsung LN46A550 earned our Best Buy award for this size class, thanks to its high performance, low price, and outstanding design. This set also deserves praise for its clear, easy-to-read on-screen menu; an explanation of what each menu item does appears at the bottom of the screen.

In contrast, the menu for the Syntax-Brillian Olevia 747i was among the least intuitive and most impractical we've ever seen. For example, though the set has some advanced features, such as primary-color controls, the menu displays only one video option at a time when you try to adjust the picture.

Despite this drawback, the set's good performance, strong specifications, and appealing price helped it finish in a virtual tie for third place with Vizio's VO47LF.

The VO47LF delivers a fantastic picture and yet still undercuts the competition on price. On the downside, this HDTV lacks such useful extras as a swiveling stand and multimedia-capable USB ports; it can also be needlessly difficult to set up and operate. The Vizio's on-screen menu is nothing to rave about, either.

The second-place model on the chart is the Westinghouse TX-47F430S. Though neither the best performer nor the best-designed or -configured, at $1300 it was the least expensive set we tested. An adequate but unspectacular HDTV at a very good price, the Westinghouse is a good bargain.

*—Greg Adler*

**PC WORLD TOP 5 46- AND 47-INCH HDTVs**

| | MODEL | PCW Rating | Performance | Features and specifications |
|---|---|---|---|---|
| 1 | BEST BUY Samsung LN46A550<br>$1500 NEW<br>find.pcworld.com/60730 | 84<br>VERY GOOD | • HDTV: Good<br>• DVD: Good<br>• Overall design: Superior | • 1920-by-1080-pixel screen (1080p)<br>• Primary color controls<br>• Inputs: 3 HDMI, 2 component<br>• Swivel |
| | BOTTOM LINE: This 46-inch model is an all-around excellent television—it's easy to use and a delight to the eyes. | | | |
| 2 | Westinghouse TX-47F430S<br>$1300 NEW<br>find.pcworld.com/60723 | 80<br>VERY GOOD | • HDTV: Good<br>• DVD: Good<br>• Overall design: Good | • 1920-by-1080-pixel screen (1080p)<br>• No primary color controls<br>• Inputs: 4 HDMI, 2 component<br>• No swivel |
| | BOTTOM LINE: Westinghouse's passable but unspectacular 47-inch HDTV set carries a very appealing price. | | | |
| 3 | Vizio VO47LF<br>$1400 NEW<br>find.pcworld.com/60726 | 78<br>GOOD | • HDTV: Very Good<br>• DVD: Very Good<br>• Overall design: Fair | • 1920-by-1080-pixel screen (1080p)<br>• No primary color controls<br>• Inputs: 4 HDMI, 2 component<br>• No swivel |
| | BOTTOM LINE: Terrific image quality and a great price make this 47-inch HDTV set impossible to overlook. | | | |
| 4 | Syntax-Brillian Olevia 747i<br>$1600 NEW<br>find.pcworld.com/60728 | 78<br>GOOD | • HDTV: Good<br>• DVD: Good<br>• Overall design: Fair | • 1920-by-1080-pixel screen (1080p)<br>• Primary color controls<br>• Inputs: 2 HDMI, 2 component<br>• No swivel |
| | BOTTOM LINE: This 47-inch television has a poorly designed menu, but it compensates with quite good picture quality. | | | |
| 5 | Mitsubishi LT-46244<br>$2500 NEW<br>find.pcworld.com/60725 | 74<br>GOOD | • HDTV: Good<br>• DVD: Good<br>• Overall design: Very Good | • 1920-by-1080-pixel screen (1080p)<br>• No primary color controls<br>• Inputs: 4 HDMI, 3 component<br>• Swivel |
| | BOTTOM LINE: An okay high-definition TV encumbered with an exorbitant price is not a winning proposition. | | | |

CHART NOTES: Prices and ratings are as of 4/23/08. For more information on the HDTV models ranked in this chart, including details about how we tested them, go to find.pcworld.com/60738.

**MORE ONLINE** For reviews of all HDTV models tested and for more information on HDTV, go to find.pcworld.com/60821.

PHOTOGRAPH: ROBERT CARDIN

©2008 Milestone AV Technologies. Sanus, the Sanus logo, the Sanus Foundations logo, AV Foundations and Speaker Foundations are trademarks of Milestone. Sanus Systems is a division of Milestone.

## Make room for life

With Sanus Systems, you'll always get smart design, high quality and patented technology. Our new, innovative products are easy to install and easy to use, giving you more time to enjoy cherished moments with friends and family. Learn more at www.SANUS.com.

SANUS | SYSTEMS™

# SageTV Extender Can't Cut the Cord

YOU MAY HAVE lots of high-def multimedia content—things that you downloaded or recorded with your TV-tuner card—sitting on your PC's hard drive, but viewing it on your HDTV can be hard. SageTV's HD Media Extender handles that transfer, but setting up the device takes plenty of patience—and perhaps a long ethernet cord, as it lacks Wi-Fi capabilities.

**69**
**FAIR**

**HD Media Extender | SageTV**
Offers a handy way to view your PC content on your TV—if you can ever get it installed. List: $250
find.pcworld.com/60864

To use the HD Media Extender, you must install the SageTV software on your PC. SageTV sells the HD Media Extender separately for $200; a package containing a copy of the software costs $250.

Connecting the HD Media Extender to my network and my television was more of a challenge than it ought to have been. I linked the box to my router via ethernet, and I attached it to my TV set with the included component audio/video cord. Then I turned on the TV—and nothing happened. The power light indicated that the SageTV box was on, but my TV didn't recognize it.

**THE SAGETV HD Media Extender lacks Wi-Fi connectivity, so your router and your TV must be fairly close together to work with it.**

When I used an HDMI cord to link the box to my TV, I was able to establish a connection, but only after fiddling with the firewall settings on my Vista PC and rebooting the SageTV box.

At long last, I was sitting in front on my TV, browsing through the multimedia files from my PC. Using the included remote, I found that I could navigate the software as if I were in front of my PC. My library of videos—both high-def and standard-definition—looked great.

If you already use SageTV software, the HD Media Extender is worth a look. On the other hand, if you need a wireless product, you're better off looking elsewhere.

*—Liane Cassavoy*

# Shuttle's Extremely Compact, Semi-Green PC

SHUTTLE'S $199 KPC K4500 looks like a standard breadbox-size system—a type of PC whose insides tend to be a rat's nest of cables, riser cards, and supports. But despite its small exterior, the K4500 has a roomy interior.

The secret to all the space is the KPC K4500's compact, integrated motherboard, which packs in HD audio, gigabit ethernet, and Intel 950 graphics, and yet still manages somehow to fit snugly into the bottom of the 11-by-7.5-inch chassis. This design gives you easy access to the motherboard's free memory slot, ATA-100 port, and single free SATA-300 port—a pleasant surprise. You can even reach the motherboard's available PCI slot without endangering your fingers.

**THE SHUTTLE KPC K4500 has an interior as neat and well-designed as its sleek exterior.**

Alas, neither drive bay is externally accessible, so you can't add an internal optical drive. When the K4500 functions as a corporate PC or a kiosk machine, this isn't a problem; but if you want to install a copy of Windows (the K4500 runs Linux), plan to do it via an external drive.

Shuttle markets the K4500 as eco-friendly, and it is—to a certain extent. It draws far less power than a gaming system but more power than other desktops we've tested, including the Linux-based Zonbu Onbox. Running a 1.8-GHz Celeron 430 CPU with 512MB of DDR2 667 RAM, the K45 drew 1.8 watts when powered down, 3.7 watts in standby mode, and 48.4 watts at idle (with the OS running but no apps grinding away). By comparison, the Onbox with its Via 1.2-GHz C7 CPU drew a parsimonious 1 watt while off and 9.6 watts at idle. The Onbox's 4GB solid-state drive may account for some of its superior power savings.

This system may not be as green as advertised, but it is a reasonably configured machine at a bargain price.

*—Jon L. Jacobi*

**84**
**VERY GOOD**

**KPC K4500 | Shuttle**
An excellent kiosk or office PC if you don't need an optical drive. List: $199
find.pcworld.com/60771

PHOTOGRAPHS: MARC SIMON

# Small. Shared. Storage.

***Ultra Compact***
Dual 2.5" Hard Drives

***Ultra Silent***
No Loud Fan

***Ultra Reliable***
Creates 2 Copies of Your Data

## LinkStation Mini

Whether you hide it in your entertainment center or tuck it behind your desk, the LinkStation Mini from Buffalo is the ideal shared storage solution for small spaces. Finally, a large capacity external drive that lets you share your data, with a practical, put-it-anywhere footprint.

**Features:**

RAID 0 for maximum capacity
RAID 1 for data security
TwonkyVision DLNA Media Server
Silent Operation (No Fan)
Web Access Feature for Remote File Access

| **Capacity** | **1.0TB** |
|---|---|
| Songs | 250,000 |
| Photos | 200,000 |
| Movies | 500 |

MFR SKU - LS-WS1.0TGL/R1

Play content from your **LinkStation Mini** directly on your entertainment center using Buffalo's **LinkTheater HD**!

BUFFALO™

www.buffalotech.com

Call your Ingram Micro Representative today at (800) 456-8000 to learn more about Buffalo's LinkStation Mini

INGRAM MICRO Partner Smart

© Buffalo Technology (USA), Inc. Buffalo Technology,Buffalo logo and LinkStation are either trademarks or registered trademarks of Buffalo Technology (USA), Inc. The names and logos of other companies mentioned herein belong to their respective owners.

# Iogear Digital Pen Manages to Impress

IOGEAR'S MOBILE Digital Scribe looks just like a normal ink pen.

MANY NOTE TAKERS today must lug a laptop everywhere or write everything down by hand and then manually enter their notes into a computer. Iogear's $130 Mobile Digital Scribe is an innovative alternative: an ink pen with a digital component.

The Digital Scribe comes with a receiver, and it saves everything you write to plain paper as a digital file. When you plug the receiver into a Windows PC, the device lets you upload your handwritten notes and convert them into text documents via the bundled My Script Notes 2.1 Lite optical character recognition (OCR) software.

You can use the Mobile Digital Scribe while the receiver is not connected to your PC and then upload what you've written when you're back at your computer. Or you can use it while the receiver is connected to your computer, watching on screen as it captures your scribbles in real time.

Another option, when the Mobile Digital Scribe is hooked up to your PC, is to swap in the included inkless cartridge and use the pen as a stylus mouse. The receiver (which is about the size of an old pager) connects to your computer via an included USB cable. It saves up to 50 notes at a time; three small clips on the back of the receiver let you attach it to the piece of paper or notepad you plan to write on.

The pen itself uses standard ink cartridges; however, whenever its tip meets the paper, the receiver senses the pressure. In my tests it captured everything I wrote, as long as I pressed down.

The biggest weakness of the Mobile Digital Scribe package is its bundled OCR app. My Script Notes 2.1 Lite did a less-than-stellar job of converting handwritten notes into text documents. After I uploaded my digitized handwritten notes and launched My Script, the converted text usually came out garbled and had inappropriate paragraph breaks.

Having to remember to press the receiver's lone button every time you move the Mobile Digital Scribe on to another page can try your patience. In the real world, switching to a new sheet of paper leaves no doubt that you're done with the preceding sheet; but in the digital realm, failing to signal leads to writing over notes that you took earlier. And of course the overwriting further confuses the OCR software.

At $130, the Mobile Digital Scribe may be a bit too pricey for casual buyers, which is a shame. Seeing what you write on a piece of paper appear on your PC's screen is more gratifying—and mind-boggling—than it might sound.

*—Tim Moynihan*

**84**
VERY GOOD

**Mobile Digital Scribe | Iogear**
Pricey input device needs better bundled software, but it's a lot of fun to use. List: $130
find.pcworld.com/60767

# LG's Glimmer Phone Looks Good

PCW Test Center

THE IPHONE HAS spawned many imitators—some relatively successful, others less so. As an iPhone rival, the LG Glimmer falls into the latter category. But judged on its own merits (and not weighed against Apple's groundbreaking device), the LG Glimmer offers a lot.

THE GLIMMER slides open to reveal its keypad.

It's a good-looking slider phone with a big 2.8-inch touch screen. When closed, it's slightly smaller than an iPhone, but a bit thicker.

Navigating the phone via its touch screen is easy, but the screen is far less responsive than the iPhone's; often I had to tap it repeatedly to get the response I wanted.

The Glimmer supports Bluetooth 2.0 and the high-speed EvDO network. It also has GPS, a media player, and a 2-megapixel camera that takes very attractive snapshots.

Voice quality was good during calls, but the battery lasted just 5 hours, 8 minutes in our lab tests; that's only fair compared with other phones we've tested.

The Glimmer is not an iPhone killer, but in most respects it isn't trying to be.

*—Liane Cassavoy*

**77**
GOOD

**Glimmer | LG Electronics**
Good-looking, feature-packed cell phone isn't quite ready to challenge the iPhone. List: $130 (with a two-year contract from Alltel Wireless)
find.pcworld.com/60739

PHOTOGRAPHS: MARC SIMON

**SmartShedding® Technology**

Allows the master outlet to sense when your computer has either been turned off or has gone into sleep mode, so it can shut off power to peripherals plugged into the controlled outlets–saving you power and money.

# Your data should last forever.

# And so should our planet.

## Save $40* a year on your electric bill with the most efficient battery backup yet.

### Let's protect what's important

What's in your computer? Photos, music, personal files, financial data, broadband access, videos, and more. Your computer has never been more important, and yet it has never been at higher risk for damaging power surges and other disturbances.

So like most people, you need to protect your assets. But like most people, you'd also like to protect the environment. With our new energy conscious products, you can do both. Energy efficient by design, our new smart products protect the power going in your computer, at a cost that is quickly offset by big energy savings. How? Not only do the new Back-UPS ES® and SurgeArrest® use power very wisely, they also boast a master/controlled outlets feature, which automatically powers down idle devices to conserve energy.

**APC power protection products are available at:**

BEST BUY · CDW · city · STAPLES (that was easy) · Office DEPOT

*"The price tag on the new UPS is $99.99. While I'm not in the habit of endorsing products in this blog, if you're in the market for a workstation-class UPS, why not opt for the greener option?"*

*- Heather Clancy*
*ZDNet.com*

In fact, while protecting your power supply, we're up to 5 times more energy efficient than any other solution. By saving you $40 a year in energy costs, our Back-UPS ES pays for itself in 2 short years. The high frequency, low copper design has a smaller transformer and environmental footprint. Even the packaging has been carefully selected and manufactured to maximize use of recycled materials and minimize waste.

In this world, every decision you make counts. So protect your power with a battery backup that works to protect the environment. It conserves power, it pays for itself, and it's backed by APC's 20-plus years of legendary reliability. For more information on this or our other great products, or for information about environmentally responsible disposal of your old battery, visit ***www.apc.com***

INNOVATIONS 2008

## Energy Efficient Solutions for Every Level of Protection:

Save $25 per year* on your electric bill!

### Surge Protection

Starting at $34

Guaranteed protection from surges, spikes, and lightning.

7 outlets, Phone/Fax/Modem Protection, Master/Controlled Outlets

SurgeArrest® P7GT

Save $40 per year* on your electric bill!

### Battery Back-UPS®

Starting at $99

Our most energy efficient backup for home computers.

10 outlets, DSL and Coax protection, Master/Controlled Outlets, High Frequency Design, 70 minutes of runtime†

Back-UPS® ES 750G

*APC can help with your other power protection needs. Visit apc.com to see our complete line of innovative products.*

## Enter to Win a Back-UPS® ES 750G! (a $99.99 Value)

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

**Visit www.apc.com/promo Key Code c449w or Call 888.289.APCC x9550 or Fax 401.788.2797**

APC® Legendary Reliability®

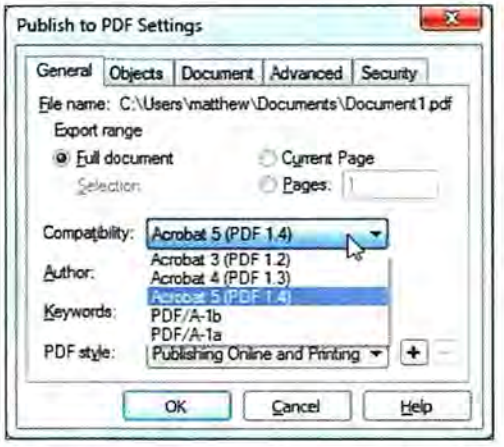
©2008 American Power Conversion Corporation. All rights reserved. All trademarks are the property of their respective owners.
e-mail: esupport@apc.com • 132 Fairgrounds Road, West Kingston, RI 02892 USA • 998-0968 †Runtimes may vary depending on load.
*Average savings are based on comparable competitive models, and are comprised of two energy saving features: An ultra efficient electrical design, and the master/controlled outlets feature.

# Corel's WordPerfect Office Update Does Just Enough

WHEN MICROSOFT Office 2007 hit the streets, its new user interface—topped by a supersized toolbar called the ribbon—delighted some and frustrated many. Longtime WordPerfect users, though, can sigh with relief: The latest release of Corel's suite doesn't have similarly drastic user interface changes.

While the suite keeps its traditional looks in the new X4 version, it does beef up support for both PDFs and Office 2007 file formats. Existing WordPerfect users will find the new version worth the upgrade, but Microsoft Office users will see few compelling reasons to switch suites.

I looked at the $299 WordPerfect Office X4 Standard Edition, which includes the WordPerfect word processor; the Quattro Pro spreadsheet app; Presentations; the Visual Intelligence data-analysis software; WordPerfect Lightning, a Web-connected note-taking program; and WordPerfect Mail for managing e-mail messages.




**THE IMPROVED PDF support in WordPerfect Office X4 goes beyond what Microsoft Office provides.**

The core WordPerfect applications support an impressive range of file formats, including Open Document Format (ODF), the very oldest WordPerfect versions, and a few ancient Microsoft Office formats (Word for DOS, anyone?) that even Microsoft doesn't support anymore. Most important, WordPerfect Office can open the latest XML file formats from Office 2007 (those that have the -x extensions, such as .docx, .xlsx, and .pptx).

WordPerfect's compatibility is extremely good—but not perfect. Most of the Word documents I tested imported without a hitch; however, richly formatted documents had a few problems, such as missing or mangled pictures.

One of the most hyped new features in WordPerfect Office is its PDF support, which goes several steps beyond what Microsoft Office provides. It includes a host of additional options for configuring PDF creation, allowing an author to control such details as font subsetting, picture compression, PDF compatibility level, and even password-protection of a document.

Still, WordPerfect's ability to edit PDFs is overstated. Yes, the software can open PDF files and convert them to WordPerfect documents. But in some cases this process fails (ending with hopelessly scrambled text), and in other cases it works but leaves you with an altered layout. As a result, although the open-PDF feature is a great way to rescue text in a pinch, it's never as good as working with the original files.

Impressively, however, this WordPerfect Office introduces an ability to use optical character recognition when attempting to read PDFs that contain scanned-in images instead of text. Once again, it's not flawless, but no other office suite provides anything close.

WordPerfect Office is cheaper than Microsoft Office, but not by much. Price-conscious buyers are more likely to look at completely free competitors such as OpenOffice.org. Nevertheless, WordPerfect does just enough to keep current users satisfied—and its increased compatibility with Microsoft Office is worth the $160 upgrade fee.

*—Matthew MacDonald*

**74**
**GOOD**

**WordPerfect Office X4 Standard Edition | Corel**
Has just enough new features to satisfy current users. List: $299
find.pcworld.com/60775

**ASK OUR EXPERTS**

## Connect a Network Printer

I HAVE TWO computers on a wired network; one is running Vista, and the other is running XP SP2. I want to share my printer; does it matter which PC the printer is connected to?

*charlie1, from the PC World forums*

**Contributing Editor Lincoln Spector responds:** I recommend you connect your printer to the PC that is more likely to be on all the time. Say you want to print from Computer 1, and you have the printer attached to Computer 2. If Computer 2 is off, you'll have to it boot up before you can print from 1. That gets annoying fast. However, as noted in the PCW forums, connecting the printer to the Windows XP PC may be the easier option in some cases. XP must be password-protected to see a printer connected to the Vista computer. The reverse, though, is not true: The Vista PC will see the printer on the XP computer—regardless of whether the XP machine is password-protected.

For more information, see "How do I share a printer over a network?" at find.pcworld.com/60809.

*E-mail your questions to askourexperts@pcworld.com, or post them online at forums.pcworld.com.*

# Cyberpower recommends Windows Vista™ Home Premium

intel Core™ 2 Extreme inside™

Extreme Performance

from $ 999

GAMER

## XPLORER X5-7800

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

Black + 6 Custom Colors to Choose From

**Intel® Core™2 Duo Processor**
(6MB L2 Cache, 800Mhz FSB)

| | | | |
|---|---|---|---|
| T9500 2.60Ghz | $ 1345 | T9300 2.50Ghz | $ 1125 |
| T8300 2.40Ghz | $ 1045 | T8100 2.10Ghz | $ 999 |

from $ 1409

GAMER INFINITY

## 8800 PRO SE

- NVIDIA® nForce® 750i SLI™ Chipset MB Supporting 2 Way X16 SLI™
- Genuine Windows Vista™ Home Premium
- Corsair® 2GB PC6400 DDR2 800 Dual Channel Memory
- 500GB 7200RPM SATA-II 3.0Gb/s 16MB Cache Hard Drive
- NVIDIA® GeForce® 8800 GT 512MB DDR3
- 22" Widescreen Gaming LCD
- LG 20X DVD+-RW Drive & 16X DVD-ROM
- High Definition 7.1 Surround Sound
- Logitech 5.1 Speakers System
- Logitech Keyboard & Optical Wheel Mouse
- CoolerMaster Cosmo Sport Gaming Tower Case 600Watt SLI™ Power
- CoolerMaster Aquagate S1 Liquid Cooling System
- Free 802.11G Wireless PCI Network Adapter

**Intel® Core™2 Duo Processor**

(12MB Cache, 1333Mhz FSB)

| | |
|---|---|
| Extreme QX9650 3.00Ghz | $ 2249 |
| Quad Q9450 2.66Ghz | $ 1559 |

(6MB Cache, 1333Mhz FSB)

| | |
|---|---|
| Quad Q9300 2.50Ghz | $ 1505 |

(8MB Cache, 1066Mhz FSB)

| | |
|---|---|
| Quad Q6600 2.40Ghz | $ 1459 |

(6MB Cache, 1333Mhz FSB)

| | |
|---|---|
| E8500 3.16Ghz | $ 1515 |
| E8400 3.00Ghz | $ 1429 |
| E8300 2.83Ghz | $ 1409 |

from $ 929

GAMER INFINITY

## SLI™ GS

- NVIDIA® nForce® 750i SLI™ Chipset MB Supporting 2 Way SLI™
- Genuine Windows Vista™ Home Premium
- Corsair® 2GB PC6400 DDR2 800 Dual Channel Memory
- 500GB 7200RPM SATA-II 3.0Gb/s 16MB Cache Hard Drive
- (2) NVIDIA® GeForce® 8600 GT 512MB
- LG 20X DVD+-RW Drive & 16X DVD-ROM
- High Definition 7.1 Surround Sound
- 600Watt Subwoofer Speakers
- Logitech Keyboard & Optical Wheel Mouse
- Thermaltake M9 Tower Case w/ See Through Window
- 600Watt SLI™ Power Supply
- Raidmax Maxcool Silent & Overclocking Proof CPU Cooling System
- Free 802.11G Wireless PCI Network Adapter
- Add ViewSonic Q19WB 19" 5ms Active Matrix SXGA Gaming LCD Display for $199

**Intel® Core™2 Duo Processor**

(12MB Cache, 1333Mhz FSB)

| | |
|---|---|
| Extreme QX9650 3.00Ghz | $ 1809 |
| Quad Q9450 2.66Ghz | $ 1085 |

(6MB Cache, 1333Mhz FSB)

| | |
|---|---|
| Quad Q9300 2.50Ghz | $ 1029 |

(8MB Cache, 1066Mhz FSB)

| | |
|---|---|
| Quad Q6600 2.40Ghz | $ 985 |

(6MB Cache, 1333Mhz FSB)

| | |
|---|---|
| E8500 3.16Ghz | $ 1045 |
| E8400 3.00Ghz | $ 955 |
| E8300 2.83Ghz | $ 929 |

from $ 915

GAMER INFINITY

## SLI™ GT

- NVIDIA® nForce® 750i SLI™ Chipset MB Supporting 2 Way SLI™
- Genuine Windows Vista™ Home Premium
- Corsair® 2GB PC6400 DDR2 800 Dual Channel Memory
- 320GB 7200RPM SATA-II 3.0Gb/s 16MB Cache Hard Drive
- (2) NVIDIA® GeForce® 8500 GT 1GB
- LG 20X DVD+-RW Drive & 16X DVD-ROM
- High Definition 7.1 Surround Sound
- 600Watt Subwoofer Speakers
- Logitech Keyboard & Optical Wheel Mouse
- X-Jupiter Jr. Mid-Tower Case w/ 600Watt SLI™ Power Supply
- Raidmax Maxcool Silent & Overclocking Proof CPU Cooling System
- Free 802.11G Wireless PCI Network Adapter

Black + 3 Custom Colors to Choose From

**Intel® Core™2 Duo Processor**

(12MB Cache, 1333Mhz FSB)

| | |
|---|---|
| Extreme QX9650 3.00Ghz | $ 1789 |
| Quad Q9450 2.66Ghz | $ 1069 |

(6MB Cache, 1333Mhz FSB)

| | |
|---|---|
| Quad Q9300 2.50Ghz | $ 1015 |

(8MB Cache, 1066Mhz FSB)

| | |
|---|---|
| Quad Q6600 2.40Ghz | $ 965 |

(6MB Cache, 1333Mhz FSB)

| | |
|---|---|
| E8500 3.16Ghz | $ 1025 |
| E8400 3.00Ghz | $ 935 |
| E8300 2.83Ghz | $ 915 |

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

Intel®, Intel® logo, Intel Inside®, Intel Inside® logo, Intel® Core™ 2 Duo, Intel® Core™ Duo, Intel® Centrino®, Intel® Centrino® logo, Celeron®, Intel® Xeon™, Intel® SpeedStep®, Itanium®, Pentium®, and Pentium® III Xeon™ are trademarks or registered trademarks of Intel® Corporation or its subsidiaries in the United States and other countries. NVIDIA®, nForce®, SLI™ are trademarks or registered trademarks of NVIDIA Corporation or its subsidiaries in the United States and other countries. All prices are subject to change without notice or obligation. CyberPower is not responsible for any typographical and photographic errors. Copyright © 2008 CyberPower. All rights reserved. NVIDIA®, nForce®, GeForce®, SLI™ are trademarks or registered trademarks of NVIDIA Corporation or its subsidiaries in the United States and other countries. CyberPower PCs use genuine Microsoft® Windows® www.microsoft.com/piracy/howtotell

# Canon's $50 Inkjet Offers Plenty for the Price

YOU KNOW HOW cheap inkjets work: You buy the box for a small amount, and then you end up spending enough on replacement ink to overtake the cost of the machine. But if your print volume is fairly low, if you're looking to supplement a monochrome printer, or if you're a parent shopping for a back-to-school gift, a cheap inkjet can fill your needs competently.

Consider Canon's new Pixma iP2600. Currently the least-expensive inkjet we've tested, it's bare-bones and somewhat slow. Using plain paper, however, it produces precise, deep-black text and surprisingly good-looking photos. If you shell out the dough for special paper, its images look even better. The Pixma iP2600 joins two Canon cousins in our current Top 5; Canon's better-than-average performance in our recent Reliability and Service survey buoys all three.

Two other new low-cost models we tested didn't make the chart. Epson's $70 Stylus C120 deserves credit for its fast print speeds: 15.1 ppm (pages per minute) printing text, and up to 6.2 ppm printing graphics. But before you print your novel on this machine, note that its output on plain paper is light-colored and a bit fuzzy. You'll need special paper to achieve the best results.

**CANON'S $50 PIXMA iP2600 is slow but produces surprisingly good prints.**

Lexmark's $80 Z2420 Wireless boasts integrated Wi-Fi and extremely user-friendly help to walk you through the installation. Its middling print quality and speed make it difficult to recommend as your sole printer, but it would be a good, photo-centric second unit.

Meanwhile, the $399 price tag of HP's Officejet Pro K8600dn played a role in keeping that unit off our chart, but it has what offices want—namely fast speeds, cheap ink, and automatic duplexing (two sided printing). It also provides a wide-format capability for printing graphics that stretch beyond letter and legal sizes.

Why buy a plain old printer when you can get a multifunction for the same price? An MFP does impose tradeoffs. If you need to make copies or to scan documents to e-mail, you may not mind wrestling with a multifunction printer's scanner or its button-busy control panel. But to cut costs, an MFP's core printing technology might be older or less capable than that of a like-priced stand-alone printer. So if printing remains your primary activity, don't compromise on that core function just to save a little money.

*—Melissa Riofrio*

## PC WORLD TOP 5 INKJET PRINTERS

| | MODEL | PCW Rating | Performance | Features and specifications |
|---|---|---|---|---|
| 1 | BEST BUY Canon Pixma iP3500<br>$80<br>find.pcworld.com/59043 | 84 VERY GOOD | • Text quality: Very Good<br>• Graphics/photo quality: Good/Superior<br>• Tested speeds (ppm): 8.3 text/3.2 graphics | • 25 ppm text<br>• 17 ppm graphics<br>• 4800-by-1200-dpi maximum resolution |
| | BOTTOM LINE: The Pixma iP3500 offers impressive speed, very good output, and useful features for a low price. | | | |
| 2 | Canon Pixma iP4500<br>$130<br>find.pcworld.com/59044 | 83 VERY GOOD | • Text quality: Very Good<br>• Graphics/photo quality: Good/Superior<br>• Tested speeds (ppm): 11.7 text/3.7 graphics | • 31 ppm text<br>• 24 ppm graphics<br>• 9600-by-2400-dpi maximum resolution |
| | BOTTOM LINE: Faster than even some low-end lasers, the Pixma iP4500 prints great text and photos. | | | |
| 3 | Canon Pixma iP2600<br>$50 NEW<br>find.pcworld.com/60716 | 81 VERY GOOD | • Text quality: Very Good<br>• Graphics/photo quality: Very Good/Superior<br>• Tested speeds (ppm): 8.5 text/1.9 graphics | • 22 ppm text<br>• 17 ppm graphics<br>• 4800-by-1200-dpi maximum resolution |
| | BOTTOM LINE: Home and student users should love the prints and the price, but they'll need a little patience. | | | |
| 4 | HP Photosmart D7460<br>$150<br>find.pcworld.com/58731 | 80 VERY GOOD | • Text quality: Good<br>• Graphics/photo quality: Fair/Superior<br>• Tested speeds (ppm): 6.9 text/2.7 graphics | • 34 ppm text<br>• 33 ppm graphics<br>• 4800-by-1200-dpi maximum resolution |
| | BOTTOM LINE: Ethernet, 802.11b/g wireless, and a large touch screen make this printer progressive but pricey. | | | |
| 5 | HP Photosmart D5360<br>$90<br>find.pcworld.com/59045 | 80 VERY GOOD | • Text quality: Good<br>• Graphics/photo quality: Good/Superior<br>• Tested speeds (ppm): 7.4 text/2.4 graphics | • 32 ppm text<br>• 24 ppm graphics<br>• 4800-by-1200-dpi maximum resolution |
| | BOTTOM LINE: This printer deftly balances photo-printing features with perks for office and school users. | | | |

CHART NOTES: Prices and ratings are as of 5/8/08.

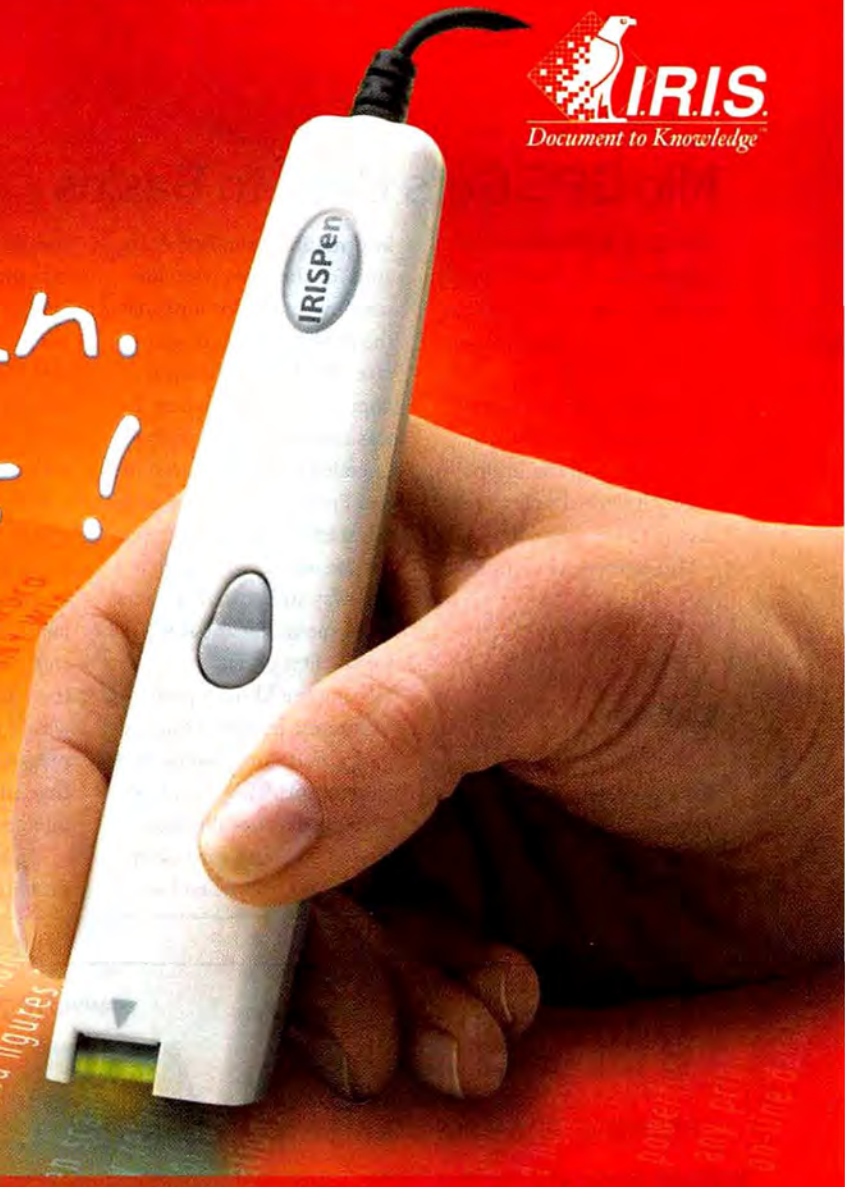
**MORE ONLINE** Visit PC World's Printers Info Center (www.pcworld.com/ic/printers) for in-depth reviews, test results, and specifications.

PHOTOGRAPH: MARC SIMON

# IRISPen 6

I.R.I.S.
Document to Knowledge

# You scan. It types!




World's #1 Pen scanner

*Instantly enters* **text, numbers and images** *into ANY Windows or Mac application*

The IRISPen 6 is the smallest Pen Scanner ever designed for text recognition.
Avoid keying printed information manually. Highlight words, numbers, sentences, barcodes, hand printed text with the IRISPen 6 and they are *automatically* and *instantly* retyped into your application with **mind-boggling speed and accuracy**.

*Easy-to-use* *Fast!* *Accurate!* *Portable*

Visit **www.irislink.com/pcworld** to learn more about the 3 different models and to take advantage of a special introductory offer!

IRISPen Express ~~$ 129~~ **$ 99** IRISPen Translator ~~$ 149~~ **$ 129** IRISPen Executive ~~$ 199~~ **$ 169**

C070705-4

# Mio GPS Gets Back to Basics

DESPITE ITS LOW price, the Moov 310 has a sleek design.

PHOTOGRAPH: MARC SIMON

THE $250 MIO Moov 310 lacks extras that you'll find on higher-end GPS devices, but it's a good buy as an entry-level GPS unit.

Although it's inexpensive, the Moov doesn't look or feel cheap, and the bright 4.3-inch-wide touch screen is easy to see while driving.

Mio obtains its mapping information from Tele Atlas, and, for the most part, the turn-by-turn directions that the device gave were accurate. The Moov 310 always appeared to know where I was and how to get where I needed to go. And even in San Francisco, a city of complicated streets, it never sent me the wrong way down a one-way street. It also offers real-time traffic updates (free for the first year).

Using the Moov's points-of-interest feature, I located parks, museums, banks, and gas stations. However, I experienced noticeable lags when I searched for a point of interest; and when I set the device to take me to a nearby convenience store, it said the store was on my left when in fact it was on my right.

Another minor glitch: Occasionally when I pressed an option in the Moov's main menu, I would hear a beep signaling that I had pressed the button, but nothing would happen. After I pressed the button a second time, though, the unit recognized my selection.

The Mio Moov 310 lacks premium features such as Bluetooth connectivity and FM transmission to your car stereo. But if all you require is a reliable GPS unit, this is one of the best navigation devices you can buy for a very affordable price.

*—Greg Adler*

**85**
**VERY GOOD**

Moov 310 | Mio

This simple, no-frills unit is a great buy as an entry-level GPS device.

List: $250

find.pcworld.com/60769


VersaJette™ M300.v8
PAYMENT PROCESSING SYSTEM

www.FreeQuickWire.com and www.VersaJette.com

Your Cash Register & Printer in ONE!

IDEAL FOR:
- Consumers & Businesses
- Merchants & Charities
- eBay Users
- Institutions & Utility Companies

INCLUDES:
- VersaCheck® Check Creation Software
- VersaCheck® Security Blank Checks
- VersaInk™ Magnetic (MICR) ink

Free QuickWire™
Works with FreeQuickWire.com - Free online payment processing and instant live check delivery at no cost!

FREE
VersaJette™ M300.v8 - FREE with minimum purchase.
Visit www.VersaJette.com/pcworld for details, or call
877.872.1189

# A Fresh Take on Tech Support

SUPPORTSPACE HOPES to do for tech support what Amazon.com did for buying books: complete the entire process, right from your desktop. SupportSpace allows you to browse nearly 130 tech-support specialists' profiles before hiring a person to fix your PC. In my testing, I found both the selection and the abilities of the technicians impressive.

To use the service, you simply type in an explanation of the computer problem you want to solve. You then receive a list of profiles that state each person's areas of expertise, technical certification, customer ratings, and fees. Each technician sets their own prices.

Every profile includes an icon that indicates whether the technician is currently online; the goal is to provide immediate assistance, so you can contact only the technicians who aren't otherwise occupied. Technicians walk you through a fix via a text-based chat window or a phone call, and they may ask your permission to take control of your desktop remotely.

I asked a technician to help me correct a conflict between an older application and a DVD video encoder; he and I solved my difficulty quickly through text chat. One issue I encountered: My technician wanted to negotiate his advertised rate when he agreed to fix my specific problem.

Payment to technicians goes through SupportSpace, which acts as an escrow service and holds payment until you are completely satisfied.

If you're frustrated by telephone tech-support hassles, consider SupportSpace.

*—Tom Spring*

**YOU COMMUNICATE WITH technicians via text chats or phone calls.**

**75**
**GOOD**

**SupportSpace**

A refreshing alternative to telephone tech-support hassles.

List: From 75 cents per minute to $99 per session

www.supportspace.com


Special Advertising Supplement

# Business continuity solutions made easy

***R-Studio and other PC utilities from R-Tools get new features and functions***

With newly added storage support, **R-Studio**, the Vista-ready business continuity solution, is better than ever.

**R-Studio** now features support for non-typical RAID configurations and can explicitly specify parameters like block size and order, offsets, and even the number of stripe blocks.

Recently **R-Studio** was also enhanced to include HFS and HFS+ file systems support, UFS/BigEndian support, GPT partition layout schema support and Apple partition map support. These and other features make **R-Studio** the most comprehensive solution available for IT specialists and advanced users who need to recover or undelete lost data on a local or remote computer or server.

PCWorld Advantage Marketing

Other business continuity solutions in the R-Tools lineup include improved **R-Drive Image**, which enables users to quickly, confidently and totally restore their systems after a major crash, attack or hardware failure. A new implemented technology gives users gains of up to 300% in speed for image creation and disc copy operations.

Continuing to make improvements across key products, R-Tools has also buffed up **R-Wipe & Clean**, which automatically keeps applications free and clear of harmful clutter. **R-Wipe & Clean** now supports all recent versions of Internet Explorer, Mozilla/Mozilla Firefox, Opera, NETSCAPE, AOL, MSN, and BT Yahoo browsers as well as Google and MSN toolbars, while removing traces from more than 200 third-party applications, including Microsoft Office 2007.

Other superb utilities and solutions from R-Tools include:

- **R-Mail for Outlook** and **R-Mail for Outlook Express**, which reconstruct inadvertently deleted email messages or damaged .pst and .dbx files
- **R-Word** and **R-Excel**, which recover damaged Word or Excel files that have been corrupted or attacked

To learn more about the latest release of R-Studio and the rest of the exceptional solutions from R-Tools, all designed to keep your business up and running efficiently, visit **www.r-tt.com**.

**SPONSORED BY:**
R-Tools Technology Inc.
www.r-tt.com

# Big Sound From Small Speakers

IF YOU'RE SERIOUS about music, check out Audioengine's $199 A2B speakers. They can fill a room with sound without taking up much physical space.

Powered by an integrated amp in one speaker, the A2Bs fit nicely on your desk and emit a big sound that belies their small size (4 by 5.25 by 6 inches). The speakers also offer remarkable imaging

**THE A2Bs SPORT a clean design and fit easily on your desk.**

and excellent transparency.

The A2Bs produce a good amount of bass without a subwoofer, but they won't rattle your teeth. Still, this petite desktop speaker set should be on the short list of anyone who values good musical reproduction over chest-thumping bass.

*—Tom Mainelli*

**87**
**VERY GOOD**

**A2B Black Desktop Speakers**
**Audioengine**
Excellent music reproduction in a small, well-priced package.
List: $199
find.pcworld.com/60815

# DOWNLOAD THIS LAURA BLACKWELL

## Simple Upgrades, Sophisticated Helpers

SOMETIMES A SIMPLE fix can do the job, and other times you need the works. This month we look at an easy-as-pie mouse utility, a tweaking program, and an arcade-style game.

### Teach Your Mouse New Tricks

Your mouse's scroll wheel can be handy, but it's a one-trick animal. KatMouse lets you keep your keyboard focused on a given window while allowing your mouse to scroll other open windows. If you IM or e-mail with a Web browser window open, it's balm to your aching hands.

Another nifty feature: Click the scroll wheel, and KatMouse sends the window on which your pointer rests to the back of a group, which can make locating a hidden window easier.

KatMouse doesn't promise to work with every program; in my tests, however, it functioned perfectly with current versions of both Firefox and Internet Explorer.

KatMouse is free, but developer Eduard Hiti takes donations. find.pcworld.com/60745

### Go Nuts for Pitaschio

Most PCs could stand a number of usability upgrades—but who wants to spend hours, or a fortune, getting them? Pitaschio (yes, that's how it's spelled) lets you make dozens of Windows tweaks by checking boxes.

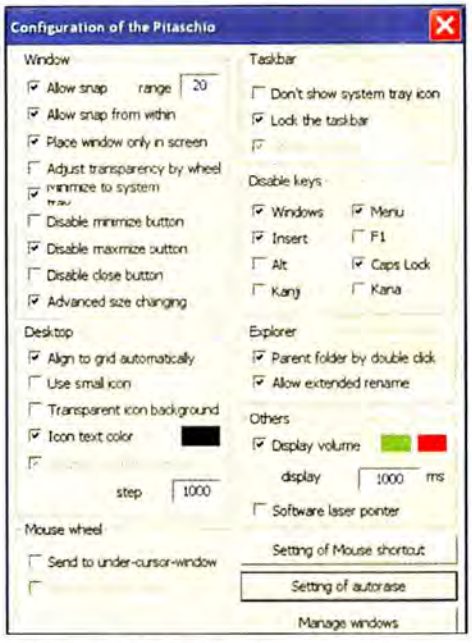
The check boxes in the program's first window, for example, let you tweak the taskbar, disable keys (such as <Caps Lock> and <Insert>) or the maximize/minimize buttons on windows, and more. An Autoraise function pulls to the top any window you mouse over.

Mouse shortcuts activate different functions depending on where you click (desktop, taskbar, title bar). You can customize each mouse or mouse-and-key combo by assigning options such as turning off the monitor, opening Control Panel, and changing virtual desktops.

Japanese developer Ara hands out Pitaschio for free. Yum. find.pcworld.com/60747

### Don't Let 'em Bug You

Stopping an insect infestation is a blast—no, make that a loud implosion. In the seemingly simple arcade-style game Cosmic Bugs, armored insects have invaded your space station and stripped it down to the girders. Your mission: Repair your ravaged and tattered station while crushing the evil enemy bugs.




**PITASCHIO HELPS YOU tweak Windows six ways to Sunday simply by checking a few boxes.**

Grasping the basics is easy. You're under no time limits, and you rarely target bugs directly. Instead, you shoot lines that seal off sections of the station. If you trap bugs inside, the bugs get smooshed—but if the lines don't completely extend before a bug reaches them, your lines become insect chow.

As you sanitize the station, the levels grow more complicated. Some insects crawl along the girders, and others sail through open spaces; each moves at its own rate and in a distinct style, so sealing them all up is a challenge.

Various power-ups give you an edge if you use them wisely. But be warned: The advancing bugs get power-ups, too.

Cosmic Bugs can start your heart pumping, but the lack of time limits lets you proceed at your own pace. I defeated a satisfying 25 levels by the time the hour-long demo expired. Twenty-five down, only 500-odd more to go after paying for the full game. A 1-hour demo version is free; the full game will set you back $20. find.pcworld.com/60748 ●

PHOTOGRAPH: ROBERT CARDIN

# UPTIME COMES STANDARD.

## IBM System x3550 Express

## $2,205

OR $56/MONTH FOR 36 MONTHS[1]

IBM System x3550™ Express. It's designed to stay up and running and help reduce system downtime. In fact, it can even identify a potential problem before it becomes one. And if you ever have to replace a component, you can do that without having to shut down. Just one more way the x3550 Express keeps downtime down.

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

**RUN YOUR CRITICAL APPLICATIONS WITH CONFIDENCE.**

PN: 7978EJU

- Hot-swap redundant cooling for high availability
- Includes IBM Director and PowerExecutive to help manage power consumption, increase uptime, reduce costs and improve productivity
- 3-year on-site limited warranty[2] on parts and labor

### IBM SYSTEM STORAGE™ DS3400 EXPRESS KIT

**$13,793**

OR $352/MONTH FOR 36 MONTHS[1]

PN: 1726-42U

- All-in-one kit makes it easier to migrate from your DAS network to SAN
- Includes IBM System Storage DS3400 Dual Controller, four IBM Emulex 42C2069 4Gb/s PCI Express HBAs, Brocade SAN 8 Port Fibre Channel switch (16 total ports), twelve 4Gb/s SFPs, and eight 5-meter optical LC cables
- Emulex EZ Pilot™ installation/management software included

### IBM TIVOLI® CONTINUOUS DATA PROTECTION FOR FILES

**$42 per user**

PN: D613ALL

- Save and recovery technology enables file recovery to any point in time
- Continuous Data Protection (CDP) protects your data from the aftermath of a virus attack or user error
- Up to 3 backup/replication areas help protect against corruption, file loss or system loss

### COMPLIMENTARY SYSTEMS ADVISOR TOOL

Want to find the right server or storage system for you? Our Systems Advisor Tool can help. Just give the tool a little input, and it will identify products that can help meet your business needs. Get started now at **ibm.com**/systems/uptime

IBM express advantage™

**ibm.com/systems/uptime**
**1 866-872-3902** (mention 6N8AH04A)

1 IBM Global Financing offerings are provided through IBM Credit LLC in the United States and other IBM subsidiaries and divisions worldwide to qualified commercial and government customers. Monthly payments provided are for planning purposes only and may vary based on your credit and other factors. Lease offer provided is based on an FMV lease of 36 monthly payments. Other restrictions may apply. Rates and offerings are subject to change, extension or withdrawal without notice.

2 IBM hardware products are manufactured from new parts, or new and serviceable used parts. Regardless, our warranty terms apply. For a copy of applicable product warranties, call 1-800-IBM-SERV (426-7378) or write to: Warranty Information, PO Box 12195, RTP, NC 27709, Attn: Dept. BWAA/905. IBM makes no representation or warranty regarding third-party products or services, including those designated as "ServerProven®" or "ClusterProven®". Telephone support may be subject to additional charges. For on-site, depot, IBM will attempt to diagnose and resolve the problem remotely before sending a technician. Other warranty upgrades and extensions are optional. Optional same-day service is available for an additional charge. IBM, the IBM logo, IBM Express Advantage, System x and System Storage are trademarks of International Business Machines Corporation in the United States and/or other countries. For a complete list of IBM Trademarks, see ibm.com/legal/copytrade.shtml. All other products may be trademarks or registered trademarks of their respective companies. All prices are savings estimates are based upon IBM's estimated retail selling prices as of 01/24/2006. Prices and actual savings may vary according to country, customer and reseller. Results will be determined individually by customer and actual savings may vary. Products are subject to availability. This document was developed for offerings in the United States. IBM may not offer the products, features, or services discussed in this document in other countries. Prices are subject to change without notice. Starting price may not include a hard drive, memory or may require other features. Contact your IBM representative or IBM Business Partner for the most current pricing in your geography. © 2006 IBM Corporation. All rights reserved.

# Mobile Bonanza for the SMB

***Manufacturers and service providers bend over backwards to support high-growth organizations***

WIRELESS OPERATORS AND MOBILE DEVICE MANUFACTURERS are converging on the small to medium-size business (SMB) market in more ways than one.

Market research firm IDC says mobile service providers are expanding SMB efforts through investment in direct sales, improvement in product packaging, and advances in customer support. Device manufacturers are also waking to the realization that "provisioning and managing these devices is especially challenging for smaller businesses that lack IT resources," says IDC.

This means that mobile operators will roll out mobile device management and mobile security functions "that address the SMB needs for software inventory and updates, device wipe, lock and provisioning," says IDC.

Forrester Research reported last year that SMBs are spending more than a quarter of their telecom budgets on mobile services, but less than 30% of SMBs are using cellular data and Wi-Fi hotspot networks. "To drive the next wave of mobility, tech marketers at telcos and cable companies must push more bundles with mobile data, link mobility with [unified communications] sales, and build solutions that help SMBs adopt line-of-business apps on mobile devices," according to Forrester.

**SPONSORED BY:**
**AT&T**
**www.att.com**
**Wilson Electronics Inc.**
**www.wilsonelectronics.com**

### *RACE TO THE MONEY*

It's those line-of-business applications that make mobile device management so important. ABI Research, in a recent report, forecasted that mobile device management services will grow from $583 million in 2007 to over $20 billion by 2013, for a compound annual growth rate of 80%.


## *Tilt from AT&T adds new dimension to mobile communications*

NOW THAT WE'RE ACCUSTOMED TO WIRELESS PHONES THAT PACK THE POWER OF a laptop, we want easier access to the power stored within.

Tilt from AT&T will take the next leap forward with the addition of Microsoft Windows Mobile 6.1 and new software features intended to make information more readily available, easier to share and easier to manage. AT&T also plans to release this new free software upgrade in 3Q 2008 for existing Tilt users.

AT&T is adding a new "tabbed" Today screen that provides ready access to a number of different views, including a standard phone view, dynamic weather view, contacts shortcut, favorite applications and an audio profile tab with the nifty capability of shifting your ring automatically to vibrate mode when your calendar has a meeting scheduled.

AT&T Tilt now features AT&T Video Share Service to share live video even while on a voice call. There's also Microsoft Voice Command, which lets you control the device by voice to look up contacts, make calls, get calendar information, start programs and play and control your music.

For IT managers, Microsoft System Center Mobile Device Manager enhances on-device security and over-the-air policy enforcement for AT&T Tilt, including remote device wipe.

at&t


PCWorld Advantage Marketing

# We tilted a screen and turned an industry on its head.

PC World
25 MOST INNOVATIVE PRODUCTS

AT&T Tilt™

## Winner of the 2008 PC World 25 Most Innovative Products Award.

When you build a smart phone this robust, you're bound to receive a little attention. After all, the vivid, tilting touch screen lets you view and edit documents on the fly. It's also great for watching videos with Cellular Video, playing games, or receiving turn-by-turn driving directions thanks to the integrated TeleNav® GPS*. And with high-speed 3G global connectivity, Wi-Fi®, and Bluetooth® 2.0, you can enjoy these features everywhere you go. Compact, powerful, and capable, the AT&T Tilt by HTC is the new standard in smart mobility.

**To get yours, visit an AT&T store near you, or go to www.att.com/atttilt**

at&t
Your world. Delivered.

Windows Mobile

htc

©2008 AT&T Knowledge Ventures. All rights reserved. AT&T, the AT&T logo, and all other AT&T marks contained herein are trademarks of AT&T Knowledge Ventures and/or AT&T affiliated companies. All other marks contained herein are the property of their respective owners. The HTC logo is owned by HTC America, Inc., and is used under license. Microsoft and the Windows Mobile logo are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. ©2008 TeleNav, Inc. All rights reserved. TeleNav® is a registered trademark of TeleNav, Inc. *Service subscription required. Additional costs may apply. Consult your AT&T sales representative.

**Workers need information to *find them* no matter where they are or which device they are utilizing at that particular moment.**

Those types of dollars have device manufacturers, carriers and Microsoft rushing to be in line to offer SMBs a helping hand. Microsoft System Center Mobile Device Manager 2008, combined with the release of Windows Mobile 6.1, provides IT with "a flexible, end-to-end solution for single-point access of line-of-business (LOB) applications and corporate data on Windows Mobile devices," the company says.

Utilizing Active Directory/group policy, IT can use Mobile Device Manager to set and control policies, including the ability to lock down communications for compliance and confidentiality purposes, and disable functions such as Bluetooth, SMS/MMS, WLAN, infrared, POP/IMAP email and camera.

It probably won't surprise anybody that much of the focus for accessing LOB applications revolves around customer relationship management (CRM). Forrester, in a separate report, says that more than 40% of SMBs were piloting, rolling out or using mobile applications to support their sales apps. Companies with less than $50 million in sales should be looking for customer-facing mobile CRM capabilities such as on-the-spot demos and sales calculators, urges Aberdeen Group.


## The end of the line for dead spots

***Amplifiers from Wilson Electronics make weak cell signals a thing of the past***

**EVERYBODY'S GOT A "FAVORITE" DEAD SPOT.**

The flip side of mobile wireless technology is that you quickly come to learn the places on your most traveled routes or endpoints where you can't get a signal, or the signal is so weak that you sound like you're warbling under water.

As we become more reliant on the transmission of data, the problem of wireless dead spots can be more frustrating. It's one thing to lose a voice call—it can be even worse to lose a signal when you're in the process of uploading or downloading a sizable document.

Signal problems often result when distance from the transmission tower becomes great, or natural and man-made obstructions create interference.

Wilson Electronics, a leader in wireless communications for 40 years, has developed a wide product line of cellular signal boosters for mobile and in-building applications. Wilson's amplifiers and antennas detect and amplify weak incoming signals your cell phone would miss, while broadcasting a much stronger signal back to the cell site.

With the highest receiver sensitivity and output specifications in the industry, the company's 100% tested microprocessor-controlled amplifiers provide bidirectional signal gains that ensure you can communicate wherever you go, while eliminating oscillation and cell site overload.

**Wilson®**
**Electronics, Inc.**


### *DEVICE DEPENDENCY*

For many workers, though, the main issues continue to be phone, email and Web access. Converged devices that combine these functions have far outpaced traditional PDA-type devices.

But the jury is still out whether a smart phone with a relatively tiny screen provides the ultimate mobile user experience. That's largely what has recently been driving a proliferation of ultra-mobile PCs (UMPCs), which are Windows-based devices about the size of a paperback book, small enough to fit into a purse or backpack, but boasting a screen size of from 4 inches to 7 inches and weighing 2 pounds or less.

Will most users want to deal with a laptop, a UMPC and a mobile phone? In all likelihood some will. That's certain to drive small company IT support batty, and amplify the need for a mobile unified communications strategy that factors in any user's end points, whether on the desktop, remote or on the go.

As the workforce becomes increasingly mobile, being tied to one particular form of communication—traditional voice, fax or email—becomes increasingly frustrating. The workers need information to *find them* no matter where they are or which device they are utilizing at that particular moment.

For many organizations at the transport level, that requires the ability to use Wi-Fi local area networking while in the office and seamlessly transfer to a cellular-based broadband while out of office. For the individual user, it means presence and location-based services that deliver messages, calls or videos in the right format to the mobile device being used at the time of delivery.

---

***Written by Pete Bartolik, a freelance writer in Hopkinton, Mass.***

# NO MATTER WHAT PHONE YOU CHOOSE,

# WILSON MAKES IT BETTER.

Wilson amplifiers and antennas for in-building and mobile applications dramatically increase the quality and strength of your cellular signal.

Wilson products virtually eliminate dropped calls and dead spots wherever you use your phone or data card.

For more information or to find a Wilson dealer near you:

www.wilsonelectronics.com
or call: 1-866-208-5398

Wilson 801231 SignalBoost™ Mini-Amp kit shown-offering 6x the power of a typical cell phone.

Wilson® Electronics, Inc.
*Improving your Cellular Signal*

# The 10 Most Annoying Habits of Technology Companies

BY RICK BROIDA ~ ILLUSTRATIONS BY EDWIN FOTHERINHAM

**Fed up with rebate hassles, nagging software, and skimpy support? So are we! The everyday practices of hardware, software, and Web firms can drive their customers bonkers. Here's how to fight back.**

MAY WE VENT FOR A MINUTE? Much as we love technology, sometimes we get fed up with the companies that provide it. Maybe it's the notice saying that important features of our perfectly good money-management software no longer work just because it's a couple of years old. Maybe it's the new PC we just bought, so loaded with unwanted junkware that it takes minutes to boot and runs like molasses. Or maybe it's the way we're forced to switch to a certain behind-the-times carrier if we want to buy a certain way-cool phone. (Oh, and that fairly new operating system we don't like, don't want, and can't escape? Don't even go there.)

Yeah, we're fed up, all right. And we're not the only ones: We surveyed readers at PCWorld.com and found that you've had your fill of such annoying »

AIR
EXPR

policies and practices as well. (See find.pcworld.com/60765 for more on the results of our informal poll.) Hoping for a little retribution—or at least some explanations—we went knocking on the doors of Apple, Intuit, Sony, Symantec, and other perpetrators of bad behavior. We didn't always receive good answers (or sometimes *any* answer—Apple didn't bother to return our calls), but we did put these companies on notice: Annoyed customers frequently turn into ex-customers.

Who got served? Here's our list of some of the most annoying practices (and practitioners), along with suggestions for working around the hassles or avoiding them altogether.

## Software Sunset Policies

**Major offenders:** Intuit, Microsoft

**The problem:** For Quicken 2005 users, April 30 must have been an incredibly annoying day. That's when Intuit pulled the plug on that version of its money manager, in accordance with the company's discontinuation policy (also known as sunsetting). Consequently, owners of that product can no longer use Intuit's online bill-pay services, download financial data from their banks, access Quicken.com investing features, get live technical support—shall we go on? Sure, the software still functions, but with only a fraction of its former capabilities. Your sole recourse is to upgrade to a newer version with features you may not want, an interface you don't recognize, and other changes. On your dime.

What gives? Why can't you keep using the software you already know, love, and paid for? To hear Intuit tell it, out with the old and in with the new. "Retirement of online services and live support in older versions of Intuit desktop products allows Intuit to focus its resources on innovation and resources for current and new offerings," says company rep Jodi Reinman. Microsoft Money—Quicken's biggest competitor—sunsets even faster, after just two years, and a Microsoft spokesperson offered us a very similar explanation.

In plain English, it costs a company money to maintain and support older products—and of course, someone who is using one of those products isn't spending money on a new one. Sorry, but we can't sympathize. Just as Windows XP users want the option of keeping their OS instead of having to invest in Vista, finance-software users want more than two or three years' worth of functionality from their programs.

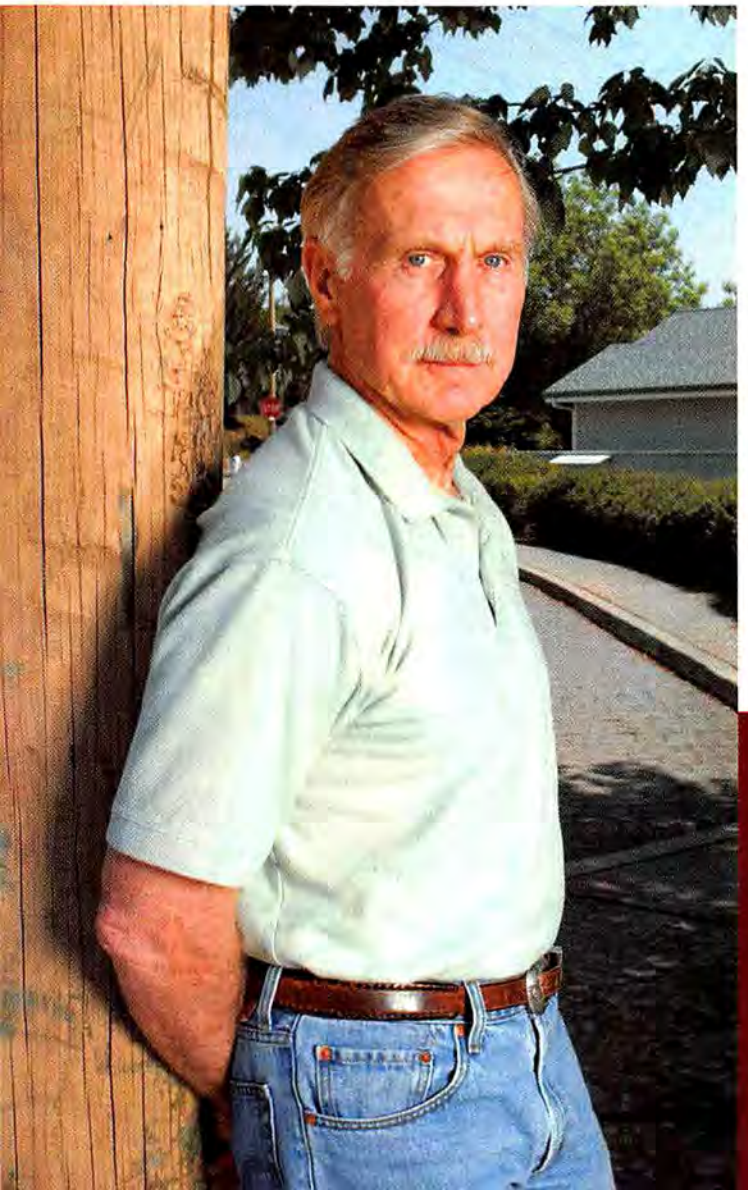
**The fix:** Unfortunately, you can't do much about sunset policies if you want to use the software. Web-based alternatives such as Mint.com, Mvelopes, and Quicken Online aren't nearly as full-featured, and all but Mint.com charge monthly fees, so you're not much better off financially than you would be by upgrading every few years. In the meantime, if you're a Quicken 2008 user, mark your calendar for April 30, 2011—the likely discontinuation date for that version.

## Rebate Runarounds

**Major offenders:** Buy.com, Office Depot

**The problem:** An oldie but goodie. You buy a sweet little home-office laser printer that costs all of $49—after a $50 rebate, that is. After filling out and mailing in the paperwork, you wait four to six weeks: nothing. You wait another two weeks: still nothing. Finally you realize that your $49 printer has cost $99 after all. Welcome to the rebate runaround.

Horror stories about Buy.com rebates involving Wintergreen Systems and the now-defunct Connect3D abound. Office Depot, meanwhile, had the most gripes on Rebate Report Card (rebatereportcard.com) at press time. But even small, reputable firms can incur a customer's wrath when a rebate goes sour.



**'I think rebate deals are an enormous scam...and should be outlawed.'**

—JAMES STEWART, SANTA ROSA, CALIFORNIA

PHOTOGRAPH: ROBERT CARDIN

James Stewart, owner and operator of a videography company in Santa Rosa, California, is still trying to figure out exactly what Primera was looking for when it asked for a copy of his "receipt" in the instructions for a $150 rebate on a disc duplicator he had bought online from retailer J&R. Stewart sent a copy of an e-mail labeled "J&R Order Receipt" that included the billing address, the shipping address, the payment method (his credit card), and details about the price; some five and a half weeks later, he received snail mail from Primera saying he had not provided the required "invoice," but offering to review his claim if he could send it.

Perplexed, Stewart contacted J&R to ask for a copy of whatever Primera needed; J&R sent him an electronic document that he printed and mailed to Primera—but he heard nothing back. When we contacted Primera, the company said that while neither document met its requirements (put in place to avoid fraudulent claims by people who order products and then return them once they get the rebate), it had verified Stewart's purchase with J&R and the rebate was on its way—well within the eight-to-ten-week time frame required to process a properly documented claim. But Stewart (who says he learned that the rebate was coming only when we told him) is still angry. "I think that rebate deals are an enormous scam on the consumer and should be outlawed," he says.

Of course, instead of offering rebates, tech vendors such as Primera could simply lower their prices—but companies say there are solid business reasons for rebate programs.

**The fix:** Before you jump on a rebate deal, check the company's customer ratings at the Rebate Report Card site. When filing a rebate, make sure to follow the instructions to the letter (which means reading every inch of the fine print). Keep copies of everything you mail in and of every piece of paperwork involved. And send the rebate via registered mail so that you can prove the fulfillment company received it.

## Crapware on New PCs

**Major offenders:** HP, Gateway, Sony

**The problem:** PC vendor logic must work something like this: "Mammoth hard drives are the norm, so there's ample room for stuffing new systems with trialware, adware, junkware, and other 'ware nobody asked for and hardly anybody ever wants." Note to computer vendors: Your logic stinks. Let users install the software they want, okay?

Loading a new PC with trialware made a certain amount of sense in the prebroadband days, when downloading an antivirus utility or game demo took longer than 30 seconds. Now there's simply no excuse for it.

Some vendors are getting the word. Dell, once one of the worst offenders, now gives customers more control over software preloads. But Sony, whose products received the worst "junk" rating of the 11 vendors in last year's "Junkbusters!" story (find.pcworld.com/60749), in March began charging customers an extra $50 to remove excess apps from new laptops. (Sure, Sony, how about we wash your car for you, too?)

Following a public outcry, the company wisely reversed course, offering its Fresh Start "software optimization" feature (read: crapware remover) for free. Regrettably, the offer is currently limited to the VAIO TZ notebook line, though Sony says it will expand the offering this summer.

And, like its competitors, Sony doesn't seem ready to admit that junkware is, in fact, junk. "We bundle industry- »

# Five Company Habits We Love

NOT ALL TECH companies and practices annoy us. In fact, we found five examples of downright exemplary behavior, the kind we wish other businesses would emulate.

1 **Credit is due:** In February, movie-rental pioneer Netflix suffered a one-day service outage that delayed its DVD shipments. Although probably few customers were even aware of the problem, the company issued all its customers a 5 percent credit on their monthly bill. That kind of proactive service is rare indeed.

2 **Feeling Blu:** Earlier this year, when Blu-ray Disc emerged as the victorious high-def media platform, owners of HD DVD players were left holding the pricey, soon-to-be-useless bag. Oh, well, that's the risk of being an early adopter, right? Not necessarily. After Circuit City offered to let customers return (for store credit) HD DVD players purchased up to 90 days earlier, Amazon and Best Buy stepped up with $50 store credits, and Wal-Mart issued a full refund to recent purchasers. We're pleased—if puzzled—by the generosity of these stores; after all, they had absolutely no obligation to bail out customers who could simply have waited for a high-def victor.

3 **Fab freebies:** We continue to tip our hats to software developers that offer fully loaded versions of their programs free for home users, including Avast Antivirus Home Edition, the cross-platform instant messaging program Trillian, and, of course, Google's Google Earth and Picasa. You'd expect an ad-supported company to pack the latter two freebies with, well, ads, but neither program has so much as a banner.

4 **Hot for teachers:** Much as we love free stuff, we also love companies that help educate consumers without making a sales pitch every step of the way. A fine example is Samsung's HDTV Guide (find.pcworld.com/60766).

5 **Download and go:** Those of us who buy most of our software online appreciate the ability to download programs again—for example, when we migrate to a new PC. Adobe, for instance, lets you access your online purchases simply by logging in to your account. The same goes for games bought on Valve's Steam site: "Your games are associated with your account, not your computer." That's how it should be for all software ordered and delivered online.

leading applications to offer an all-encompassing value proposition to our end users," a company spokesperson says. In other words, garbage is in the eye of the beholder.

Yes, some preloads, such as disc-authoring software and security suites, are worthwhile. But wouldn't it be nice if vendors let you decide?

**The fix:** Before you attempt to manually uninstall unwanted programs, try the aptly named PC Decrapifier (pcdecrapifier.com). This freeware utility, born of one user's frustration with a junkified Dell notebook, quickly scans for and optionally uninstalls many common trialware applications. Our "Junkbusters!" feature has additional PC-cleanup instructions. Other than that, let your wallet do the talking: Don't buy PCs from vendors that go crazy with the crap—and tell them why you're shopping elsewhere.

**Lost music files you paid to download? You might not be able to get them back.**

## Exclusivity Deals for Cell Phones

**Major offenders:** Apple, AT&T

**The problem:** When Apple unveiled the iPhone, geek hearts everywhere sang in joyous anticipation—only to be crushed by the news that AT&T would be the device's sole carrier for the foreseeable future. Not only did the handset limit users to AT&T's poky EDGE network, but Apple's decision also left Sprint, T-Mobile, and Verizon customers with noPhone.

Perhaps that wasn't so surprising. Apple exclusivity has existed for years in the form of the iTunes store, which sells songs, TV shows, movies, and the like for playback only on Apple-branded hardware.

When we asked Apple reps why the company elected to stick with a single carrier when it could easily land more customers by supporting others, they referred us via e-mail to a year-old press release touting AT&T's (then Cingular's) advanced network, jointly developed visual voice mail, yada yada yada. We received no reply, either, to our query on when Apple would allow iPhone buyers to use other carriers (without "jailbreaking" their phones).

**The fix:** Rewrite the rules—unlock your iPhone so that it will work with other GSM/GPRS/EDGE carriers. Adam Pash, coauthor of *How to Do Everything with Your iPhone*, recommends ZiPhone (ziphone.org), an open-source utility that makes simple work of unlocking the handset. Once you've removed the AT&T shackles, you can pop in a SIM card from any GSM carrier. Of course, you could also thumb your nose at Apple and buy a phone from another manufacturer. Have you seen the latest BlackBerry units? Most of them are available from multiple carriers.

## Unrecoverable Music

**Major offenders:** Amazon, iTunes

**The problem:** Your hard drive just went to the great storage heap in the sky, taking your entire music collection along with it. Reripping songs from your CDs is easy enough, but what about the music you purchased and downloaded from online stores such as AmazonMP3 and iTunes? You paid for those songs, so surely you can just redownload them when necessary, right? Wrong—neither store permits return trips to the well.

Admittedly, you wouldn't expect a brick-and-mortar seller to replace your CDs if your house burned down. But CDs are tangible goods that cost money to manufacture, ship, and store. Music downloads are mere bits and bytes that require only bandwidth, and there's plenty of that to go around. Why shouldn't you be able to download your songs a second time—or a thirty-second time—after you've paid for them?

When we asked, AmazonMP3 spokesperson Heather Huntoon said only that "we recommend customers create a back-up copy of their music." She also noted that because all of Amazon's music is sold in MP3 format, you don't have to reauthorize a computer when restoring your tunes. In contrast, iTunes makes you jump through some authorization hoops to restore even those purchases you've backed up.

And speaking of iTunes, Apple utterly ignored all our inquiries on this subject. We've heard anecdotal evidence that the company's customer-service reps will sometimes replace lost purchases, but that isn't the same thing as a store policy that tells customers, "Don't worry, we've got your back."

**The fix:** As Amazon's Huntoon says, back up your music. You can store up to 25GB worth of stuff online for free at MediaMax or 50GB at ADrive, though you should be prepared to invest considerable time uploading everything. And consider shopping elsewhere: Napster and Rhapsody have no problem letting you redownload music you've purchased. Both services also offer a subscription option that allows unlimited downloads from their substantial libraries—another worthwhile insurance policy against lost music collections.

## Software That Nags You to Buy or Upgrade

**Major offenders:** Intuit, McAfee, Symantec

**The problem:** Talk about irony—McAfee Internet Security and similar applications aim to simplify your life by protecting your PC, but they annoy the heck out of you in the process. They never stop nagging you to upgrade to a bigger, better

version or to renew your subscription (even though it doesn't expire for another six months). It's like dealing with a pesky little kid who's always demanding your attention.

Larry Campbell, a retired Air Force captain from Fairview Heights, Illinois, recently found himself nagged to distraction by software maker McAfee. Though his antivirus utility's subscription wasn't due to expire until May of this year, the company started campaigning for a renewal last October, sending no fewer than eight e-mail alerts—enough to prompt his decision: "I am not renewing," he says, "but will switch to another company in May."

If such nonstop nagging can actually drive customers away, why do companies do it? McAfee's explanation was about what you'd expect. "McAfee sends promotional offers to subscribers that feature discounts on the current product they have subscribed to and/or discounts on suites that offer additional levels of protection," said a company rep. "We want consumers to remain protected and not experience any lapses in protection." The rep went on to note that customers can easily opt out of such offers by unsubscribing. She also apologized for annoying Campbell with all the e-mail.

**The fix:** Unfortunately, nagging seems to be a part of modern computing. Any company that has taken your money once will work hard to take more of it. You can always try freeware alternatives—Avast 4 Home Edition and Avira AntiVir Personal offer robust virus protection, for instance—but don't be surprised if you get nagged to buy their commercial counterparts.

## Full-Screen Ads Precede Home Pages

**Major offenders:** CareerBuilder, Forbes, Monster

**The problem:** You head to your favorite site in search of the latest news, only to be stopped cold by some lame splash-screen advertisement. (Okay, PCWorld.com is guilty here, too, as are our major competitors. But at least we don't call it a Welcome Screen, as Forbes.com does.) Or you visit a jobs site to peruse the latest postings, but a come-on for a resume builder or an online degree program intervenes—and it isn't just a pop-up, either, but a full-screen blockade.

Sure, these "interstitial" or "transitional" ads pay for your free content and services. "They're no different than commercial breaks, and most users are willing to accept advertising to not pay for content," says Pesach Lattin, CEO of New York–based ad agency Vizi. But can't marketers wait until we get to the site before bombarding us?

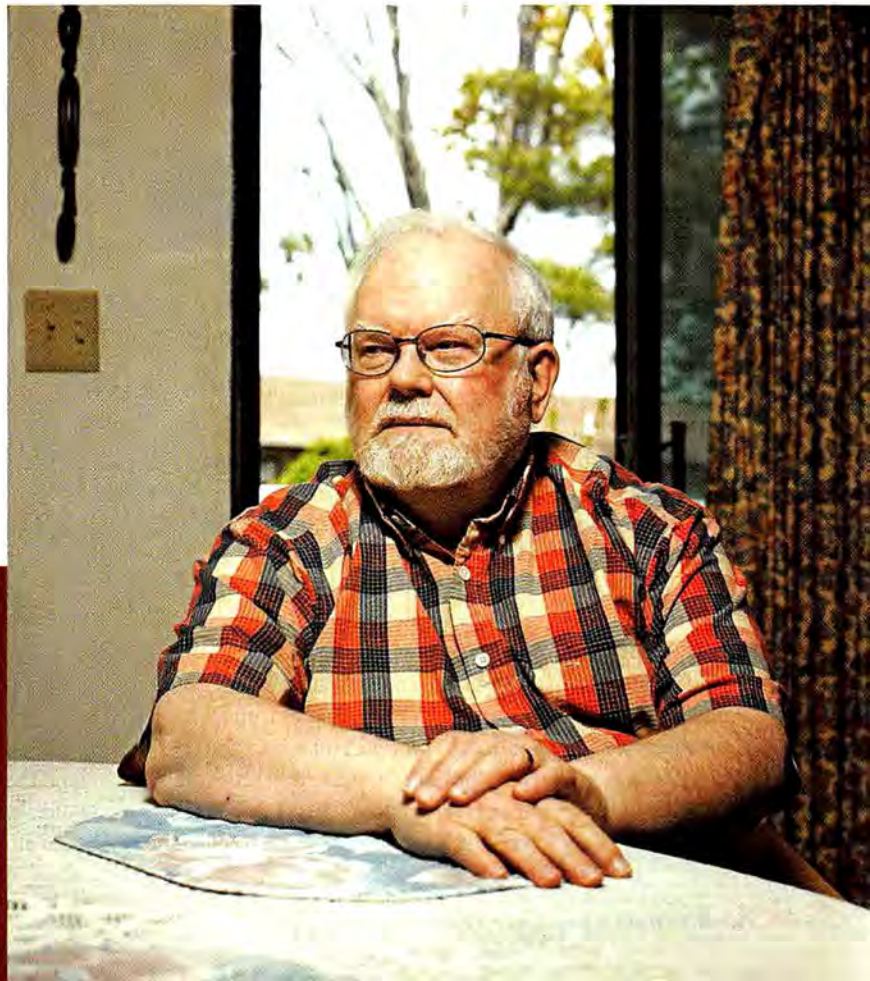
**The fix:** Firefox users should try the Adblock Plus extension (find.pcworld.com/60781), which suppresses not only button and banner ads but also transitional ads. Internet Explorer 7 users can find similar capabilities in IE7Pro (find.pcworld.com/60782). Meanwhile, advertisers take note: You could grab more eyeballs by creating ads that make us want to watch. Show us something funny or surprising. Offer a freebie. Visitors may click past the ad anyway, but at least make an effort!

## Canned E-Mail Responses

**Major offenders:** Too many to list

**The problem:** The scan function on your multifunction printer won't work. You fire off an e-mail to the manufacturer's tech-support department, and a few minutes later a reply lands in your inbox. Wow, fast service! Suspiciously fast, in fact: Turns out it's just an automated response acknowledging receipt of your message. Or a boilerplate list of common questions and answers—none of which apply. Talk about tossing a boat anchor to the man who has just fallen overboard.

Bob Cameron, a systems administrator from Lawrenceville, Georgia, needed Yahoo's help with an e-mail problem: The »



PHOTOGRAPH: STEFAN HESTER

**"I am not renewing, but will switch to another company."**

—NAG-WEARY MCAFEE CUSTOMER LARRY CAMPBELL, FAIRVIEW HEIGHTS, ILLINOIS

service was blocking messages sent from his church to members with Yahoo accounts. So he visited Yahoo's support site, spent considerable time collecting the information that Yahoo requires for reporting an issue, and submitted his help request. In return, he received a canned response "asking me for the same information that I had already spent all that time collecting and editing." When he tried again, another response promised a personal answer within 48 hours (it never came) and directed him to the very site where he'd submitted the support request in the first place.

Seems like tech companies are doing more canning than Campbell's Soup. We contacted Yahoo—and received no response. We also got the silent treatment from HP, another company that dispatches canned replies to requests for help.

**The fix:** Believe it or not, we're willing to cut companies a little slack on this one, as support departments receive huge volumes of help requests, and a canned response at least assures you that your mail arrived. But when companies promise a personal follow-up, they'd better deliver. If the company doesn't answer your queries, you can always call tech support—or try a live online-chat session, if that's an option. In fact, both alternatives should yield much faster and more efficient results than e-mail.

## Preferential Support for Business Customers

**Major offender:** Dell

**The problem:** You buy a PC from a vendor's home-user division, only to discover that the support reps barely speak English, know less about the product than you do, and fail to help you solve your problem. That's what happened to *PC World* contributor Dave Johnson, who has been living in tech-support hell since he purchased a high-end Dell XPS 720 desktop last fall.

The system blue-screens "at least once per day," Johnson says. Although Dell has replaced the system twice, each new machine behaves the same, and help seems nowhere to be found: "Every time I call tech support, a level-one rep walks me through the same basic troubleshooting steps, even if they've been tried a dozen times before." Promises to escalate the problem to a higher level never pan out.

Too bad Johnson didn't buy from Dell's business division. Ben Popken of consumer-advocacy site The Consumerist (consumerist.com) says there's "a world of difference" in the level of support that Dell's business customers receive. "Dell's small-business department is still in the U.S., and the techs are friendly, fast, and knowledgeable. They've even called me days after the tech call was over to check in and make sure everything is okay." But on the occasions when Popken inadvertently dialed the "home" support line, "the reps read off scripts, didn't listen, and didn't solve problems," he says.

The company refuses to acknowledge any disparity in support for its home and business lines. "Dell provides quality support for all our customers all over the world," says rep Tara Giovinco, adding that Dell has United States–based support centers for consumers as well as business customers. We don't think that's going to make Johnson feel any better.

**The fix:** Don't buy PCs from companies that have poor support ratings (see the results of our latest Reliability & Service survey at find.pcworld.com/60783). And don't automatically head to an e-tailer's home/home-office pages; you may find identical (or nearly identical) products in the small-business section of the site at comparable prices.

**Business customers often get better support than home users.**

## Small Product, Big Box

**Major offenders:** Amazon, Dell, NewEgg, Wal-Mart

**The problem:** You buy a flash drive, a memory card, a Bluetooth headset, or some other small item from a mail-order company, and the box that arrives on your doorstep looks large enough to accommodate a laser printer. But it's no mistake: You find your item inside—amidst a boxful of packing material.

Talk about wasteful! Not only are the oversize boxes excessive, they also consume an inordinate amount of space on the planes and trucks that are used to deliver them. That leaves less space for other packages, meaning fewer packages per delivery vehicle, more overall trips, more wasted fuel, and, consequently, higher shipping prices for you.

What's up with the big boxes? NewEgg didn't respond to our inquiries, but Amazon rep Patty Smith admits that it's a problem that needs fixing. "We know consumers are frustrated by [oversize] boxes, and we're working on it," she says.

To that end, Amazon recently developed software designed to determine which box size is appropriate for any given item, and claims a "significant decrease" in the number of purchases shipped in "wrong-size" boxes. Let's hope other sellers follow suit, because using man-size boxes for mouse-size items is just plain wrong.

**The fix:** Let your voice be heard! E-mail the offending companies and tell them you're done shopping there until they mend their environmentally unfriendly ways. Of course, you could always buy from a local retailer and avoid shipping boxes altogether. (While you're at it, skip the bag, too.) ●

ATEN
Simply Better Connections™

# All the power of the data center
# On your desktop.

| 2-Port | 4-Port | 8-Port | 16-Port | 32-Port |
|---|---|---|---|---|
| | | | | |
| CS62DU<br>2-Port USB DVI<br>KVM Switch | CS1744<br>4-Port USB Dual-View<br>KVMP Switch | ACS1208A<br>8-Port PS/2<br>KVM Switch<br>$249.95 | KH1516<br>16-Port Cat 5<br>KVM Switch<br>$399.95 | KM0432<br>4-Console 32-Port<br>Matrix KVM Switch |

ZONES · newegg.com · TigerDirect.com · Buy.com The Internet Superstore · COMP-U-PLUS · KVMs.com · DALCO ELECTRONICS

For a complete line of our 2 to 32-Port KVM switches, visit www.aten-usa.com/2to32KVMs

www.aten-usa.com | 1-888-999-ATEN

# The 100 Best Products of the Year

Online video good enough to make you give up cable. A featherlight, full-featured laptop. Innovative phones, desktops, cameras, and more. This year's tech gems—as picked by PC World editors and readers—will leave you more productive, connected, and entertained.

EDITED BY MARK SULLIVAN • PHOTOGRAPHS BY MARC SIMON

AFTER A GOOD deal of—ahem—lively discussion, the editors at *PC World* have completed this year's list of the 100 best technology products available today. How did we do it? After nominating hundreds of devices, apps, sites, and services we knew to be good, we rated each one on its design, functionality, performance, and impact; the ones garnering the highest total scores made our list. Note that we chose not to rate products specifically on their price or value, focusing instead on their overall quality. After the scoring was over and the dust had cleared, we had a list that served, among other things, to remind us of what an exciting time in tech this truly is, with game-changing product development happening on many fronts. »

For links to further information about all of the products that appear in this year's Best Products list, visit find.pcworld.com/60847.

**CLOCKWISE from top: Apple Cinema HD Display with Adobe Photoshop CS3, Windows XP, Electronic Arts Rock Band Guitar Controller, Data Robotics Drobo, Lenovo ThinkPad X300 with Facebook**

**1 Hulu (video site, free/ad-based)** Hulu may offer the best-looking, most watchable Web video to date, rivaling the standard-definition content of regular TV. A well-financed joint venture of NBC Universal and News Corporation, Hulu is ultimately a one-stop on-demand repository for high-quality programming—the holy grail of online video.

Hulu's content includes current prime-time shows from Fox, NBC, MGM, Sony, Warner Brothers, and others, plus TV reruns new and old. Hulu's list of full-length movies has burgeoned since the site's debut last October. The high-def content gallery is mostly a clipfest so far, but it should blossom as video compression and broadband speeds improve.

Hulu also lets you cut and share clips with friends as you watch. If Web video is destined to clobber cable and satellite by giving us more control over our TV viewing experience, Hulu represents easily the best attempt yet at that ideal.

**2 Apple iPhone (smart phone, $400 with two-year AT&T wireless contract)** Rarely have handsome industrial design and breakthrough technology (including the supercool multitouch interface and visual voicemail) mated so happily.

**3 Facebook (online social network, free)** Facebook is a very popular way to stay in touch with your friends' status, photos, plans, events, and more. But it lands at number 3 on our list because the application development platform it created last year is beginning to spawn some truly useful third-party-developed tools.

**4 Microsoft Windows XP (operating system, not sold separately)** It has been discontinued except as an option for certain low-end PCs, but XP is leaner, meaner, and less bloated than Vista. Despite the outcry from users, however, at press time Microsoft still planned to retire the OS on June 30, 2008.

**5 Lenovo ThinkPad X300 (ultraportable laptop, $2500)** As everyone swooned over Apple's hot Air, Lenovo snuck in the back door with a business-centric notebook that answers most of the Air's shortcomings. It has processing power to burn, plenty of ports—and a paper-thin optical drive. Stick that in your manila envelope, Steve.

**6 Flock (browser, free)** Sick of having to surf to all your favorite sites and services? Flock integrates Facebook updates, Twitter feeds, YouTube videos, Flickr photo streams, Gmail and Yahoo Mail, and blogging tools into a single navigation (and browsing) interface.

**7 Eye-Fi (wireless camera memory card, $100)** The 2GB Eye-Fi card converts any digital camera's Secure Digital slot into a Wi-Fi–enabled device, so you can upload photos directly from your camera to your PC or to sites like Flickr.

## Reader Favorite PC World **Readers' Favorite Tech Products** (by Category)

FROM MARCH 14 to April 14, we asked our readers to participate in a survey in which they rated their favorite products in more than 60 technology categories. Here are the ones that they rated highest in 15 of the most popular categories. To find a list of reader favorites in all of the categories, visit our Web site (find.pcworld.com/60845).

- **MEDIA PLAYER** Apple iPod Touch
- **SMART PHONE** BlackBerry Curve 8300
- **DIGITAL CAMERA** Canon TX1
- **OFFICE SUITE** Google Docs & Spreadsheets
- **SECURITY SOFTWARE SUITE** Kaspersky Internet Security 7.0
- **OPERATING SYSTEM** Apple Mac OS 10.5 "Leopard"
- **BROWSER** Mozilla Firefox
- **PHOTO-SHARING SITE** Flickr
- **DESKTOP PC** Apple iMac
- **POWER LAPTOP** Apple MacBook Pro
- **23-INCH OR LARGER LCD MONITOR** Dell UltraSharp 3007WFP-HC
- **INKJET MULTIFUNCTION PRINTER** Canon Pixma MX700
- **DIGITAL MUSIC SITE** iTunes
- **PLASMA TV** Sony KDL-52XBR4
- **GAME** Crysis

**8 Casio Exilim Pro EX-F1 (digital camera, $1000)** The 6-megapixel EX-F1 captures video at up to 1200 frames per second at its lowest image-quality setting and shoots full-resolution (1920-by-1080-pixel) images at 60 fps.

**9 Harmonix Rock Band (game bundle, $170)** All you need is your PS3, Xbox 360, or Wii to get the band back together. Really, Rock Band is Guitar Hero times four: It puts you on tour as a guitarist, singer, or drummer.

**10 Wikipedia (open-source encyclopedia, free)** This online trove of information has more than 1.6 million volunteer-contributed articles on everything from Britney to biochemistry. It becomes more credible and reliable as more people check and edit the entries.

**11 Netflix (DVD rental and online video site, $5/month and up)** Though it started as a DVD-by-mail service, Netflix offers an ever-widening array of movies, TV shows, and documentaries that you can stream instantly to your PC. With any of the service's DVD-by-mail plans you can watch as much streaming video content as you want.

**12 Microsoft Xbox Live (online service, $59/year)** You can download a lot more than game demos from Xbox Live. Other options are full retail software, independent and homebrew games, expansion packs, music, weekly video updates for gamers, TV shows, and HD movies.

Flock integrates well with social media tools, though it's still a little buggy.

–READER MICHAEL S.

**13 Apple iPod Touch (media player, $299–$499)** Its beautiful design, 3.5-inch (and 480-by-320-pixel) multitouch screen, built-in Wi-Fi, and useful apps (such as Mail, Maps, Stocks, Weather, and Notes) outweigh quibbles over audio quality.

Reader Favorite

**14 Craigslist (online classifieds and discussion, free)** In many cities, Craigslist is the best way to get a job, find an apartment, buy furniture, or get a date. It's not flashy or slick, but you won't see any commercial ads here, and the Best Of section is not to be missed.

**15 Scrabulous (PC game, free)** This exceedingly Scrabble-like game, created by brothers Rajat and Jayant Agarwalla, has become such a popular Facebook application that Scrabble's trademark holders, Hasbro and Mattel, threatened to sue to have it removed.

**16 Nintendo Wii (game console, $250)** The Wii is a gateway addiction for people who don't think of themselves as gamers. The Wii's controllers encourage players to get up off the couch and move around—and soon, to engage in actual exercise! (Watch for the new WiiFit balance board coming soon.)

**17 Apple Mac OS X 10.5 'Leopard' (operating system, $129)** Vista's woes may be evidence of a general decline in the popularity of Microsoft Windows; meanwhile, Apple's new Leopard operating system has users buzzing over the Mac yet again.

Reader Favorite

**18 Apple Cinema HD Display (23-inch LCD monitor, $899)** This 1920-by-1200-pixel-resolution monitor renders text sharply, and images and video beautifully. It looks pretty good on the outside, too, with its cool industrial design.

**19 Twitter (social networking site, free)** Imagine a hybrid of blogging and text messaging—that's Twitter. People seem polarized over this quirky »

tool, either loving or hating it, but Twitter has helped pioneer an age of social networking in real or near-real time.

**20 Pioneer Kuro PDP-5010FD (50-inch plasma HDTV, $3500)** The Kuro's great design, vivid color, and deep black levels impress us mightily. Too bad you have to take out a loan to buy one.

**21 Mozilla Firefox 3 (browser, free)** Reader Favorite Firefox 3, in beta, builds on its predecessor's strengths by adding better security and new tools for storing and accessing your bookmarks and your browsing history.

34

32

**22 Safari (mobile browser, free)** This browser may be the true killer app of the iPhone and iPod Touch. United with the iPhone's multitouch gesture support, the spacious Safari browser makes surfing the Web on a 4-inch screen feel immersive.

**23 NPR.org (news site, free)** Welcome to the online home of NPR's

lauded national news coverage and commentary, special reports, and documentaries. NPR's site has done a lot in a short time to convey its rich content in compelling digital formats such as podcasts and live and recorded streams.

**24 Photoshop CS3 (image-editing software, $650)** A fresh, simplified interface, new editing tools, and better integration with Adobe's Creative Suite help Photoshop remain the gold standard in image editing programs.

**25 Google Maps Street View (mapping software, free)** Google's Street View brought a new dimension to mapping this year, offering users real-life images from ground level.

**26 Apple MacBook Pro (Penryn) (Laptop** Reader Favorite **series, from $1999)** What a difference a chip makes: With Intel's Penryn processor inside, the new MacBook Pros handily outperform not only older Mac laptops, but also many Windows-based notebooks.

**27 Google Docs & Spreadsheets (Web-based productivity suite, free)** Reader Favorite Arguably the best of a new breed of online, collaborative app suites challenging the supremacy of Microsoft Office, Google Docs & Spreadsheets permits users to edit, share, and store word processing, spreadsheet, and presentation documents from any machine—fixed or mobile—that can run a Web browser.

**28 Apple Final Cut Studio 2 (video production suite, $1299)** Available for Mac OS X only, this package includes Final Cut Pro 6.02, Apple's highly rated, de facto industry-standard application for digital video editing.

**29 Linksys Dual-Band Wireless-N Gigabit Router WRT600N (wireless router, $200)** Here's the first router that serves both older 2.4-GHz 802.11b/g gear and newer devices that stream over the 5-GHz band.

**30 Flickr (photo-sharing site, 200 photos free, unlimited photos and storage $25/year)** Reader Favorite Like most photo sharing sites, Yahoo's Flickr makes organizing, sharing, and tagging photos easy. Better, the site's many users translate into a wide array of active user groups—and you won't have to wait long before someone discovers and comments on your photos.

**31 Sony KDL-52XBR4 (52-inch LCD HDTV, $3500)** Sony has a reputation for great design, but what makes this big-screen beauty a real standout is its truly impressive performance.

**32 Intel Penryn (processor line, prices vary)** Starting with its Core 2 Duo design, Intel shrinks its chips to a 45-nanometer core for desktop, server, and mobile CPUs. The result: better performance and larger caches, without any increase in power consumption.

**33 Apple iChat (instant messaging, $129)** Included in Mac OS X 10.5 "Leopard," iChat takes instant messaging to a new level with a slick interface, cool video, custom backdrops, and special effects.

**34 Creative Zen (MP3 player; $130–$300)** Amazingly, the Zen man-

ages to fit all of the functionality of the older Zen Vision M (FM, a built-in microphone, video, and more) into a device the size of a business-card case.

**35 Verizon FiOS (high-speed Internet access, $160/month or less)** Verizon's fiber-powered FiOS is the speediest consumer broadband service available in this broadband-challenged part of the world. The fastest FiOS plan in most markets promises 30-mbps downloads and 15-mbps uploads.

**36 Pandora (streaming music site, free or $36/year subscription)** 1. Enter your favorite artist's name. 2. Click *Create.* 3. Listen as Pandora plays a custom radio station full of well-known and obscure music that's eerily well-matched to your tastes. A paid subscription delivers mobile and home streaming support.

**37 Canon EOS 40D (digital SLR camera, $1500 with kit lens)** Excellent image quality and killer features—such as a burst mode that captures images at up to 6.5 frames per second—make the EOS 40D the digital SLR to beat for enthusiasts and professionals alike.

**38 LG Electronics L196WTY-BF (19-inch LCD monitor, $220)** LG's flat panel comes with a mechanism that permits almost 360-degree swivel—a capability that people who use their monitors as presentation tools will welcome.

**39 TiVo HD (digital video recorder, $300; service, $13/month)** With its excellent user interface and its ability to record high-def programs, the Tivo HD box might be all the DVR you need.

**40 Data Robotics Drobo DR04DU10 (external hard drive, $500 without drives)** This storage device uses disk and storage virtualization algorithms instead of RAID 5 to provide data redundancy.

**41 Google Gmail (e-mail, free)** Google scores another coup by adding IMAP (Internet Message Access Protocol) support to its free e-mail service, enabling users to read Gmail messages on mobile devices and on other desktop mail clients.

**42 Electronic Arts Rock Band Controllers (game controllers, Guitar $60, Drums $80)** Much of Rock Band's success involves the accompanying toy musical gear—a microphone, faux Fender guitar, and a (very fun) plastic drum kit—for playing the game. Electronic Arts manufactures and markets the controllers, which are available both bundled and separately, under a co-development agreement between EA and Rock Band developer Harmonix (which is owned by MTV Networks).

**43 Mozilla Thunderbird (e-mail, free)** Thunderbird 2 has a strong feature set, is easy to customize, and has solid defenses against spam and phishing.

**44 Dell XPS 420 (desktop PC, $2730)** The XPS 420 multimedia computer—with Intel's 2.83-GHz Penryn Q9550 processor inside—handles everyday tasks with aplomb and even lets you indulge in some fairly hard-core gaming.

**45 Washington Post (news site, free)** The Post has made the most of its consistently fine coverage of government, policy, and politics by posting it on an easily navigable Web site—and through narrated slide shows and video.

**46 Yelp.com (online social reviews, free)** At Yelp, customers write critical appraisals of everything from theaters to public restrooms. It's the "wisdom of the crowd" in action. Bravo.

**47 Nikon D60 (digital SLR camera, $750)** This small, easy-to-use »

model supports 10.2 megapixels of detail and offers convenient extras such as in-camera editing and stop-motion animation.

**48 Consumerist (blog, free)** Part news, part activism, and part how-to, this site supplies you with the tools you need to be an informed—and in all likelihood outraged—consumer. Tagline: "Shoppers Bite Back."

**49 AdventNet Zoho (office suite app, free)** Zoho's seemingly endless array of free online office applications has brought sharing and collaboration to business software.

**50 OpenDNS PhishTank (security site, free)** PhishTank is an information clearinghouse where you can report or find data on phishers, spammers, and anybody else who's trying to rip off nice people on the Internet.

**51 Western Digital VelociRaptor (internal hard drive, $300)** Spinning at 10,000 revolutions per minute, this swift and capacious (300GB) hard drive blew away the competition in our PC World Test Center evaluations.

59

**52 NYTimes.com (news site, free)** The Gray Lady of print journalism has crafted a strong, user-friendly online presence spiced with engaging interactive graphics and first-rate news video.

**53 Motorola MotoRokr T505 (car speakerphone, $140)** This Bluetooth gadget not only permits you to dial by voice and to chat hands-free while driving, it also streams music from your phone to your car's stereo system via its FM transmitter. Nice.

**54 SanDisk Cruzer (thumb drive, $60; online backup, $30/year)** When you move your files onto the rugged Cruzer thumb drive via a USB slot, the files automatically upload, for backup, to a BeInSync server on the Web.

**55 Dash Navigation Dash Express (GPS navigation system, $400; service, $10–$13/month)** Offering seamless Internet access via its built-in cellular (GPRS) or Wi-Fi connectivity, the Dash Express can provide real-time traffic data; on top of that, it finds area businesses through Yahoo Local search.

BlackBerrys are amazing; the 8300 is beautiful, and I love its overall feel.
–READER JOSEPH HUNT

**56 Panasonic TH-42PZ700U (42-inch plasma HDTV, $1400)** The first 1080p 42-inch plasma TV, this Panasonic model boasts rich colors, deep blacks, and superb picture detail.

**57 Netgear ReadyNAS Duo (network-attached storage, $400)** In our tests, the ReadyNAS Duo outperformed even its sibling, the top-of-the line ReadyNAS NV+.

**58 Symantec Norton Internet Security 2008 (security suite, $60)** Symantec's suite offers solid security protection. Features include strong behavior-based defense against unknown threats.

**59 RIM BlackBerry Curve 8300 Series (smart phone, $250 with two-year AT&T wireless contract)** Reader Favorite Research in Motion's Curve line delivers both a QWERTY keyboard and RIM's increasingly popular smartphone operating system—the best of its kind for handling corporate e-mail.

**60 Vimeo (video-sharing site, free)** Vimeo invites you to upload and share your wide-screen HD video (up to 500MB per week) with the world for free. Following the sudden departure of Stage6, Vimeo has become a very important site indeed.

**61 SideStep (travel site, free)** SideStep scans more than 200 other travel-focused Web sites, looking for low-priced flights, hotels, rental cars, and cruises. The bottom line: It's surprisingly effective at finding deals.

**62 Alienware Area-51 m15x (gaming laptop, starts at $1500)** Beneath the unearthly glow of its façade, this »

# Millions of Choices for Electronics, One Choice for Power Protection.

## When it comes to power protection, Tripp Lite has all your solutions.

Tripp Lite offers a complete line of UPS systems, surge suppressors, power strips, cable and connectivity products and more. We also introduced the first UPS system designed specifically for personal computers, and today we protect and power electronics in all your environments, including homes, small offices and home theaters. When you want solutions for all your power protection needs, think Tripp Lite.

### Home Solutions Provide:

- UPS protection for your PC, gaming, music and multimedia systems
- Surge suppression to protect all equipment against damaging surges, spikes and line noise
- Premium cables for superior high-speed data transfer between all components

### Small Office Solutions Provide:

- Battery backup support for PCs, small servers, internetworking equipment, small business phone systems and other sensitive electronics
- UPS protection against blackouts, brownouts and surges on both AC and Tel/DSL line connections
- Surge suppression to protect computers and vital system peripherals

### Home Theater Solutions Provide:

- Battery backup, EMI/RFI line noise filtering and surge protection for all components (TVs, DVRs/DVDs, HD source components, receivers, sound systems, PCs/servers and more)
- Vital protection and performance enhancement for all components
- Premium cables for crystal-clear audio/visual connections between all components

**Win a Digital UPS System for your home or small office!**
**www.tripplite.com/pcworld**

85 YEARS Since 1922 Manufacturing Excellence

ISO 9001 Certified Quality Systems

TRIPP·LITE
POWER PROTECTION

www.tripplite.com

# Amazon MP3 has DRM-free music and has had every artist I've searched for.

–READER COREY HAWKER

scary-powerful gaming-oriented notebook houses two high-end nVidia GeForce 8800m GTX graphics boards.

**63 TellMe (mobile search, free)** Mobile search apps with voice recognition have a bright future, and Microsoft's Tellme—which bases the results it returns (including contact data and maps) on your voice requests and location—works better than any competing software we've seen so far.

**64 Amazon MP3 (digital music site, $0.99 per song, most full albums $10)** Amazon's MP3 shop rivals iTunes in the breadth of its music selections—and Amazon sells its files without the confining DRM wrapper.

**65 Samsung SyncMaster 305T (30-inch LCD monitor, $1300)** The wide-screen SyncMaster 305T delivers first-rate image quality and excellent screen resolution (2560 by 1600 pixels) at an appealing price, for its size.

**66 Apple Logic Studio (music production suite, $499)** Apple's OS X–only Logic Studio contains everything you need to record, edit, mix, and produce music, along with software, synthesizers, effects, and 18,000 loop samples.

**67 Gateway XHD3000 (30-inch LCD monitor, $1700)** This wide-screen LCD comes with more input options, more screen adjustment controls, and more extras (like HDCP support) than most other 30-inch LCDs we've seen.

**68 HP Photosmart C5280 (inkjet printer, $150)** At a modest price, the all-in-one C5280 offers a nice package of features (such as CD/DVD printing) and outstanding photo quality. »

# The **Most Anticipated Products** of the Coming Year

A SLEW OF cool tech products emerged this year, but some really interesting ones remain in the offing. Here are a few that we expect to make a big splash when they arrive during the next 12 months.

◆ **A 3G IPHONE:** The Achilles' heel of the iPhone is the not-very-fast wireless network it runs on, AT&T's EDGE network. But now that AT&T has built out its far-faster 3G network, the rumor mill is buzzing that a 3G iPhone may appear soon. The faster network will make existing applications—especially real-time apps like video streaming—look better and work more smoothly.

◆ **THE NEW MACBOOKS:** Many people in the Mac community are putting off buying MacBooks because of speculation that the popular line will undergo an aesthetic and internal overhaul. Apple is likely to apply some of the design themes used on the MacBook Air to the impending MacBook and MacBook Pro revisions. These laptops have long been housed in plastic, but the new ones will probably be covered in environmentally friendlier aluminum, and the older keyboards may give way to the Air's backlit keyboard. The redesigned MacBooks may also carry new, second-generation Intel Penryn chips inside.

◆ **ANDROID DREAMING:** We'll soon see a new class of mobile phones developed on Google's Android, an open-source software platform that includes an operating system. Designed to help mobile devices take full advantage of Net services, Android may seriously challenge Microsoft's Windows Mobile OS. More than 30 companies, including Motorola and Samsung, have joined Google's Open Handset Alliance to develop mobile apps on the platform, and HTC reportedly is already developing an Android phone. Other handset manufacturers are sure to follow.

◆ **WAITING FOR SPORE:** The gaming crowd anxiously awaits the September release of a new Electronic Arts game called Spore, the latest creation of Sim City and The Sims designer Will Wright. In the new game, you control a life form that evolves from a microscopic organism in a tide pool to higher stages of life and eventually embarks into space.

PHOTOGRAPHS: COURTESY OF APPLE

**Unbeatable Performace. Evolved.**

Building off the design of the best-selling Nine Hundred enclosure, the Antec Twelve Hundred delivers even more capacity, cooling, and convenience. With twelve drive bays, six fans, and a stylish frame, the Twelve Hundred truly dominates the competition.

Antec
*Believe it.*

BEST BUY · city · JOR · Fry's · MICRO CENTER · STAPLES · NEWEGG · buy.com · amazon.com · DIRECTRON.COM

69 **USB Safely Remove 3.3 (utilities, shareware)** This shareware program greatly extends the functionality of your Safely Remove Hardware icon.

70 **Samsung LN-T4061 (40-inch LCD HDTV, $1300)** This Samsung model makes our list on the strength of good performance, dual tuners, and a nice array of inputs and outputs, including three HDMI and USB 2.0 ports.

71 **nVidia GeForce 8800 GT (graphics board, $250)** The 8800 GT had a big impact on the market, thanks to its moderate price, low power consumption, and strong gaming performance.

72 **Trillian (instant messaging, free)** A handy, streamlined app for chatting across AIM, ICQ, MSN, and Yahoo, Trillian just gets better with age.

73 **Creative Aurvana X-Fi (headphones, $300)** Fueled by two AAA batteries, Creative's noise-canceling cans rock your dome with deep, rich sound.

74 **Olympus SP-570 UZ (advanced digital camera, $500)** The new king of megazoom point-and-shoot cameras, the SP-570 UZ uses a 20x optical zoom lens to take close-ups to the extreme.

75 **Apple iMac (desktop computer, from $1199)** This model eschews the cheap-looking plastic chassis of earlier entries in the iMac line in favor of a sleek anodized aluminum one. It's a hard worker, too.

Reader Favorite

76 **Samsung 2263DX (22-inch LCD display, $550)** This unique 22-incher sports a side- or top-mountable 7-inch secondary screen that you can use to view instant messaging clients, music or movie players, or photo viewers.

77 **Canon Vixia HF10 (high-definition camcorder, $1100)** The tiny-but-mighty Canon Vixia HF10 records high-def video directly to an internal 16GB flash drive or a high-capacity SD card.

78 **Mint (personal finance site, free)** This smart Web tool details exactly where your money is coming from—and where it's going.

79 **VMWare Fusion (virtualization software, $80)** VMWare edges out Parallels Desktop as the simplest, easiest way to run Windows programs on a Mac.

80 **Apple TV Take 2 (media-streaming device, $229 and up)** A new software update enables Apple's streamer to download movies (standard- and high-def) directly from the Internet.

81 **YouTube (viral video site, free)** Sure, the video quality won't remind you of the Criterion Collection, but the advertising on the site is scarcely noticeable, and the sheer amount and variety of content available for viewing at YouTube are utterly astonishing.

82 **Chestnut Hill Sound George (iPod speaker dock, $499)** Of the many iPod speaker docks clamoring for consumer attention, this one strikes our ears as the biggest-sounding and best.

83 **Microsoft Office 2007 (office suite, $150–$680, depending on edition)** Microsoft's workhorse troika of productivity apps (Word, Excel, and PowerPoint) won't thrill anyone (and we're still waiting for Microsoft to put some of their power online), but the suite's overhaul last year made creating nice-looking documents far easier.

84 **Intel "SkullTrail" Dual Socket Extreme Desktop (motherboard, $650)** Run multiple CPUs or graphics cards on this bad mother...board.

85 **Canon Pixma MX700 (multifunction printer, $160)** The MX700 stuffs a lot of functions into a fairly user-friendly pack- »

Reader Favorite

# Cyberpower recommends Windows Vista™ Home Premium

AMD Smarter Choice

ATI RADEON GRAPHICS

• AMD Phenom™ processors offer multi-core performance for life-like gaming, crystal-clear digital media and serious megatasking.

AMD Phenom X3 64 | AMD Phenom X4 64

from $ 1019

## GAMER ULTRA XPLORER-64 7000

AMD Turion™ X2 Mobile Technology
• AMD PowerNow! Technology
• HyperTransport Technology
• Enhanced Virus Protection Technology
**Genuine Windows Vista™ Home Premium**
4GB PC5300 DDR2 667 Memory
250GB SATA150 Hard Drive; 8X DVD+-RW Drive
NVIDIA® GeForce® 8600 GT 256MB
17" WXGA+ TFT Display 1600x1050 Pixels
1000/100/10 Network Card & 56K V.92 Modem
3-in-1 Built-in Media Reader
1 PCMCIA Type II Slot
1 Firewire IEEE 1394 & 3 USB 2.0 Ports
3 Hours Battery Lifea
Weight only 7.6 Lbs; Free Carrying Case
1 Year Limited Warranty
+ Lifetime Toll Free 24/7 Techsupport

Black + 5 Custom Colors to Choose From

**AMD Turion™ X2 Mobile Technology**

| | |
|---|---|
| TL-68 | $ 1279 |
| TL-66 | $ 1169 |
| TL-64 | $ 1139 |
| TL-62 | $ 1099 |
| TL-60 | $ 1019 |

• All The Desktop Systems Come with 3 Year Limited Warranty + Lifetime Toll Free 24/7 Techsupport

CyberPower Inc.

from $ 1959

## GAMER ULTRA CROSSFIREX™ ULTIMATE

AMD 790X CrossFireX™ Chipset MB with Dual PCI-E
**Genuine Windows Vista™ Home Premium 64 Bits Edition**
Corsair® 4GB PC6400 DDR2 800 Dual Channel Memory
1TB (2x500GB) 7200RPM SATA-II 3.0Gb/s 16MB Cache Hard Drive
(2) ATI Radeon™ HD 3870X2 1GB in CrossFireX™ Mode
LG 20X DVD+-RW Drive & 16X DVD-ROM
HDMI High Definition 7.1 Sound
Logitech 5.1 Subwoofer Speakers
Logitech Keyboard & Optical Wheel Mouse
Nzxt Khaos Full Tower Gaming Tower Case 1200Watt (Dual 600Watt) Crossfire Power Supply
CoolerMaster Aquagate S1 Liquid Cooling System
Free 802.11G Wireless PCI Network Adapter
Add ViewSonic VG2230WM 22" SXGA Active Matrix Gaming LCD Display for $265

**AMD Phenom™ X4 Quad-Core Processor**

| | |
|---|---|
| 9850+ CPU Black Edition | $ 2145 |
| 9750+ CPU | $ 2089 |
| 9550+ CPU | $ 2065 |

**AMD Phenom™ X3 Triple-Core Processor**

| | |
|---|---|
| 8750+ CPU | $ 2059 |
| 8650+ CPU | $ 2039 |
| 8450+ CPU | $ 2025 |

**AMD Athlon™ X2 Processor**

| | |
|---|---|
| 5200+ CPU | $ 1959 |

from $ 815

## GAMER ULTRA 9000 GT

Asus M2N SLI™ nForce® 560 SLI™ Chipset MB with Dual PCI-E
**Genuine Windows Vista™ Home Premium**
Corsair® 2GB PC6400 DDR2 800 Dual Channel Memory
500GB 7200RPM SATA-II 3.0Gb/s 16MB Cache Hard Drive
NVIDIA® GeForce® 9600 GT 512MB
LG 20X DVD+-RW Drive & 16X DVD-ROM
High Definition 7.1 3-D Surround Sound
600Watt Subwoofer Speakers
Logitech Keyboard & Optical Wheel Mouse
Sigma Gaming Unicorn Tower w/ 600Watt SLI™ Power Supply
Raidmax Maxcool Silent & Overclocking Proof CPU Cooling System
Free 802.11G Wireless PCI Network Adapter
Add Viewsonic Q9WB 19" LCD for $199

**AMD Phenom™ X4 Quad-Core Processor**

| | |
|---|---|
| 9850+ CPU Black Edition | $ 999 |
| 9750+ CPU | $ 945 |
| 9550+ CPU | $ 919 |

**AMD Phenom™ X3 Triple-Core Processor**

| | |
|---|---|
| 8750+ CPU | $ 919 |
| 8450+ CPU | $ 879 |

**AMD Athlon™ X2 Processor**

| | |
|---|---|
| 6400+ CPU | $ 889 |
| 5200+ CPU | $ 815 |

from $ 785

## GAMER ULTRA SLI™ ELITE

NVIDIA® nForce® 560 SLI™ Chipset MB
**Genuine Windows Vista™ Home Premium**
Corsair® 2GB PC6400 DDR2 800 Dual Channel Memory
320GB 7200RPM SATA-II 3.0Gb/s 16MB Cache Hard Drive
(2) NVIDIA® GeForce® 8600 GT 1GB
LG 20X DVD+-RW Drive & 16X DVD-ROM
NVIDIA® nForce® 5 7.1 3-D Surround Sound
600Watt Subwoofer Speakers
Logitech Keyboard & Optical Wheel Mouse
X-Jupiter Jr. Mid-Tower Case w/ See Through Window
Raidmax Maxcool Silent & Overclocking Proof CPU Cooling System
Free 802.11G Wireless PCI Network Adapter
Add ViewSonic Q7B 17" Active Matrix Gaming LCD Display for $195

Black + 3 Custom Colors to Choose From

**AMD Phenom™ X4 Quad-Core Processor**

| | |
|---|---|
| 9850+ CPU Black Edition | $ 975 |
| 9750+ CPU | $ 915 |
| 9550+ CPU | $ 889 |

**AMD Phenom™ X3 Triple-Core Processor**

| | |
|---|---|
| 8750+ CPU | $ 889 |
| 8650+ CPU | $ 865 |

**AMD Athlon™ X2 Processor**

| | |
|---|---|
| 6400+ CPU | $ 859 |
| 5200+ CPU | $ 785 |

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

© 2008 Advanced Micro Devices, Inc. All rights reserved. AMD™, the AMD™ Arrow logo, AMD Phenom™, AMD Athlon™, ATI Radeon™, and combinations thereof, and The Ultimate Visual Experience are trademarks of Advanced Micro Devices, Inc. HyperTransport is a licensed trademark of the HyperTransport Technology Consortium. NVIDIA®, nForce™, SLI™ are trademarks or registered trademarks of NVIDIA Corporation or its subsidiaries in the United States and other countries. All prices are subject to change without notice or obligation. CyberPower is not responsible for any typographical and photographic errors. Copyright © 2008 CyberPower. All rights reserved. NVIDIA®, nForce™, GeForce™, SLI™ are trademarks or registered trademarks of NVIDIA Corporation or its subsidiaries in the United States and other countries. CyberPower PCs can genuine Microsoft® Windows® www.microsoft.com/genuine/howtotell

age and offers scads of software to help you along toward MFP proficiency.

**86 AT&T Tilt 8925 by HTC (smart phone, $400 with two-year AT&T wireless contract)** This uber-phone bowls you over with features like a QWERTY keyboard, office apps, Wi-Fi, GPS, and stereo Bluetooth for music headphones.

**87 Canon PowerShot SD1100 IS (digital camera, $250)** This pocketable 8-megapixel camera offers a feature set and a level of image quality that you'd expect of a far more expensive camera.

**88 Vizio GV42LF (42-inch LCD HDTV, $1200)** This roomy 1080p LCD HDTV beats almost the entire plasma television crowd in picture quality—and it does so at a far, far lower price.

**89 Apple MacBook Air (ultraportable laptop, $1799)** No optical drive, no Penryn chip, only one USB port, no ethernet port, and merely average performance. So would you like to own an Air? You bet, because it's cool.

**90 Ubuntu Linux (operating system, free)** Linux isn't just for nerds anymore, thanks to Ubuntu's Microsoft-refugee-friendly distribution. But hard-core (hard-kernel?) Linux devotees will surely note that Ubuntu earns a spot on our list while Windows Vista doesn't.

**91 Electronic Arts The Orange Box (game, $60 PS3 or Xbox 360, $50 PC)** You get five full games—Half-Life 2 and its first two follow-up episodes, plus two other first-person shooters (Team Fortress 2 and Portal)—wrapped up in a pretty orange box. Warning: Extended time off from work not included.

Orange Box, including the fantastic 'Portal,' is the best game value ever. –READER JASON RIXON

**92 Digg (social news site, free)** Digg continues to serve denizens of the Web as the most reliable barometer of must-read news on the Internet.

**93 Asus U2E (ultraportable laptop, $2000)** In its cute/handsome leather shell, this 2.9-pounder bristles with outputs and has more flexibility than most other models in its class.

**94 Meebo (Web-based instant messaging, free)** Ditch your desktop instant messaging client in favor of this sleek Web-based one, which offers access to AIM, Google Talk, MSN Messenger, Yahoo Messenger, and more.

**95 HP Blackbird 002 (desktop PC, $2300 and up)** The stunningly designed Blackbird simply flies when you throw high-performance tasks at it—if, that is, you can stop staring at this PC long enough to hit the power button.

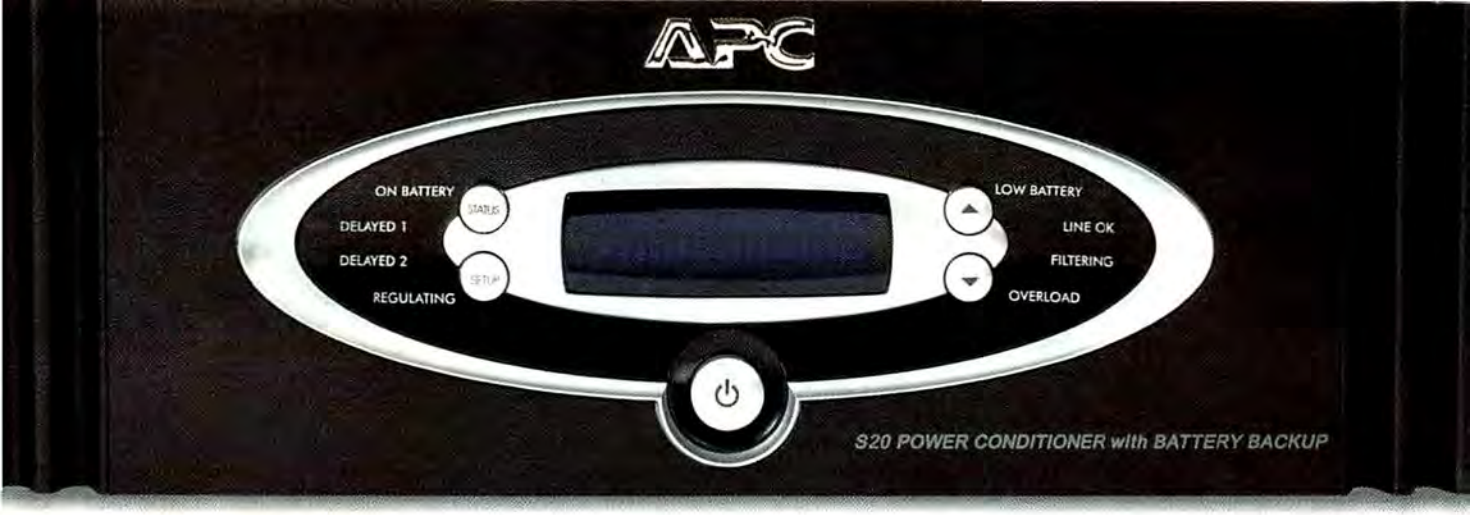
**96 Partition Logic (partitioning software, free)** To shrink existing partitions so you'll have room for a new one, just use the third-party partitioning program Partition Logic.

**97 Palm Centro (smart phone, $150 with two-year Sprint wireless contract)** Sprint's smart phone delivers EvDO mobile broadband in an affordable, contemporary-looking package.

**98 Audacity (audio editor, free)** This all-purpose, open-source multitrack recording application lets you record, play, and edit digital files like a pro.

**99 Lifehacker (blog, free)** Read Lifehacker to glean time-management tricks, productivity downloads, and easier ways to get stuff done.

**100 JingProject (image/video production app, free)** JingProject allows you to create little narrated movies (called "screencasts") of anything that's happening on your PC desktop, and then share them with friends. ●




# Watch your TV... We'll watch your TV's back

**Your home theater is your passion.**
**You've spent thousands of dollars on equipment and countless hours on research and installation...**
**How are you protecting this investment?**

Power fluctuations are a leading cause of equipment malfunction. Unfortunately, the demands on our antiquated power grid increase daily, meaning that the threat of damage from bad power is here to stay. With APC AV Power Solutions, you can eliminate bad power as a source of AV signal degradation by filtering out noise and regulating the voltage. Some advanced models even offer battery backup power to reduce interruptions when the power goes out. The new S20 provides multiple options for managing the unit and monitoring environmental conditions, which can reduce service calls and improve the performance of your system. The S20 is also easily integrated and managed with Crestron, AMX, and any other whole-home automation network or vendor. Designed to maximize your home theater experience, APC AV power solutions boast the engineering expertise to guarantee protection of your investment against the dangers of unstable power.

Over 30 million customers already trust us to protect their PCs from power problems. You can trust us to protect your home theater. Go to **www.apcav.com** for more information.

APC AV™ ENGINEERED POWER SOLUTIONS

CRESTRON Integrated Partner

inconcert

*"I cannot recommend APC enough... ...they live up to their promises."*
*Robert Archer* ***CE Pro magazine***

**Engineered for high performance AV systems by APC power experts, APC AV Power Solutions will:**

- Protect your equipment and presets from harmful power fluctuations
- Eliminate bad power as a source of signal degradation or equipment failure
- Prevent missed DVR recordings and corrupted multimedia server data
- Reduce component and home automation control lock up, reducing intrusive service calls
- Prevent damage to costly projector and display bulbs

Most products are available in black or silver

UNLIMITED PROTECTION GUARANTEE
In the event that APC AV equipment fails to protect your AV equipment, we will guarantee replacement of an unlimited amount

2005 2006

CEDIA CUSTOM ELECTRONIC DESIGN & INSTALLATION ASSOCIATION

ISO14001 c UL

## APC Solutions for Every Level of Protection

**AV Power Conditioners with Battery Backup (1000VA - 1500VA)**
Premium surge protection, isolated noise filtering, automatic voltage regulation, and battery backup for high performance home theater and automation systems.

S Type

**AV Power Conditioners (1000VA - 1500VA)**
Premium surge protection, isolated noise filtering, and automatic voltage regulation for high performance home theater systems.

H Type

**AV Power Filters (2, 10, or 12 outlets with or without a COAX splitter)**
Premium surge protection and isolated noise filtering for high performance home theater systems.

C Type

**The C2 Wall Mount Power Filter is a must-have for every flat panel display!**

Enter to WIN an H15 Power Conditioner - valued at $399 ERP.
Call 888-289-APCC x9552 Visit www.apc.com/promo Enter Key Code c451w

APC Legendary Reliability®

©2008 American Power Conversion Corporation. All rights reserved. APC, the APC logo and Legendary Reliability are registered marks and the AV logo and APC AV are trademarks of American Power Conversion Corporation.
e-mail: esupport@apc.com • 132 Fairgrounds Road, West Kingston, RI 02892 USA AV2B7EF_EN

**NEW**
**GoodSync**
**Version 7!**
**Now with FTP!**

# Synchronize Your Life!

**GoodSync** Award Winning Backup and Synchronization Solution

## Automatic backup and synchronization made easy...

Now you can automatically compare, synchronize, and back up your emails, precious family photos, contacts, MP3s, financial documents, and other important files locally - between desktops, laptops, servers, and external drives, as well as through FTP.

**GoodSync Version 7** will:

- ✓ Automatically synchronize and backup all your data.
- ✓ Prevent file deletion and data loss, remove duplicates.
- ✓ Organize/transfer files between multiple devices.
- ✓ Sync and back up files locally or through FTP.
- ✓ Help you achieve complete **peace of mind**!

**GoodSync's** powerful technology is years ahead of the pack. Excellent reviews by industry experts and customers alike solidify **GoodSync** as a leader in file backup and synchronization.

**PC World Readers**
**Download GoodSync Today**
**It's FREE!**

GoodSync
*Get in Sync with GoodSync*

**www.GoodSync.com/PCW**

# NOW PLAYING: High-Def Movies

BY MELISSA J. PERENSON
TESTING BY JEFFREY KUTA
PHOTOGRAPHS BY ROBERT CARDIN

**PCW Test Center** **Whether you choose a Blu-ray Disc player or opt to access your video from the Web, here are the best options for watching high-definition movies on your TV. Movie aficionados, take note: You no longer have to make compromises when it comes to image quality.** »

SONY'S PLAYSTATION 3 game console (left) and our Best Buy, Philips's BDP7200/37.

# BLU-RAY: New Features to Look For

EARLIER THIS YEAR, Blu-ray Disc emerged the victor in its hotly contested next-generation format war with Toshiba's HD DVD. Though that competitor is gone, the broader war for high-definition supremacy in the home is far from over. Both digital downloads and video streaming will compete with Blu-ray Disc for viewers in the near future—although neither of those alternatives can stand up to Blu-ray today, in image quality or in breadth of content.

Before you shop for a Blu-ray Disc player, you need a crash course in new Blu-ray terminology. The Blu-ray Disc format has gone through some awkward growing pains, which has resulted in the messy situation we have now of different players supporting (or not supporting) different Blu-ray features. The format has been shipping for two full years; for nearly the first year and a half of that time, manufacturers were not required to support BonusView and BD-Live, two capabilities currently influencing what kinds of extra features a player can enable.

For fans of supplemental content like director interviews and making-of documentaries, BonusView is a neat feature—even a must-have one. BonusView (at one time referred to as Blu-ray Profile 1.1) lets you play back picture-in-picture content on BonusView-enabled Blu-ray titles. Players that support BonusView can handle the processing of both a second video stream and a second audio stream. This means that the player can perform audio mixing for sound effects generated within the player (such as menu navigation effects) along with the audio sound track of the film.

The other new feature to look for, BD-Live (also referred to as Profile 2.0), may be used to support Internet-connected activities such as interactive gaming and social networking. Players with BD-Live have, in addition to BonusView, an ethernet port for downloading and streaming content via the Internet, and an internal file system for managing that content. Early examples of BD-Live content have been limited (trailer downloads, for example), but studios are prepping more-complex offerings.

Unfortunately, the Blu-ray specification allows manufacturers to choose whether to include BD-Live's minimum requirement of 1GB of storage in the player. Some manufacturers will provide storage inside the player itself, while others will require you to supply a flash memory card or a USB 2.0 drive to accompany the player.

## FOR THE LIBRARY: Blu-ray Essentials

**ASIDE FROM OUR picks of test discs, you can jump-start your Blu-ray Disc library with these ten films, whose crackerjack video and audio quality will add sizzle to your high-definition TV.**

- *Planet Earth (BBC)*
- *2001: A Space Odyssey* **(Warner)**
- *Ratatouille* **(Disney)**
- *Casino Royale (Sony)*
- *Blade Runner (Warner)*
- *Pirates of the Caribbean* **(Disney)**
- *Close Encounters of the Third Kind* **(Sony)**
- *The Fifth Element* **(remastered) (Sony)**

- *Dave Matthews and Tim Reynolds: Live at Radio City* **(Sony BMG)**
- *Lost: The Complete Third Season* **(Disney)**

### Scheduled releases to watch for:

*Dirty Harry: Ultimate Collection, Heroes (Seasons One and Two), Men in Black, Sleeping Beauty, The Shawshank Redemption,* and *Stargate: Continuum*

## BD PLAYERS: The Current Crop

For this roundup, we corralled six Blu-ray Disc players and herded them into the PC World Test Center. Three units—Pioneer's $1000 BDP-95FD, Samsung's $400 BD-P1400, and Sharp's $550 BD-HP20U—are older models that don't sup-

**PANASONIC'S DMP-BD30 (LEFT) can play back picture-in-picture features on BonusView-enabled Blu-ray discs. Sharp's BD-HP20U had the best image contrast of the six players we tested.**

TOP RIGHT IMAGE: © DISNEY

# Latest Blu-ray Players Add Bonus Features

**PHILIPS'S UNIT SHOOTS to the top thanks to its balance of price and impressive image quality. Sony's PS3 remains a strong runner-up.**

| | BLU-RAY DISC PLAYER | PCW Rating | Performance [1] | Specifications [2] | Extra features | Bottom line |
|---|---|---|---|---|---|---|
| 1 | BEST BUY Philips BDP7200/37 $400 find.pcworld.com/60803 | 84 VERY GOOD | • Overall: Very Good<br>• Color quality: Very Good<br>• Detail: Very Good<br>• Audio: Very Good | • Blu-ray BonusView<br>• HDMI 1.3<br>• Up to 5.1 channels of audio | • Plays DivX, JPEG, MP3, and WMA files | Great image and sound quality makes up for some weak design choices, such as the lack of an ethernet port. One of three BonusView-capable models we reviewed. |
| 2 | Sony PlayStation 3 $400 find.pcworld.com/60805 | 81 VERY GOOD | • Overall: Good<br>• Color quality: Good<br>• Detail: Good<br>• Audio: Very Good | • Blu-ray BonusView<br>• BD-Live<br>• HDMI 1.3<br>• Up to 7.1 channels of audio | • 40GB hard drive<br>• Ethernet port<br>• Media server<br>• Media card slots [3] | Game console doubles as a competitive Blu-ray Disc player. Images look good, but often lack the depth and sharpness of other models. Only BD-Live player of the bunch. |
| 3 | Sharp BD-HP20U $550 find.pcworld.com/60804 | 80 VERY GOOD | • Overall: Very Good<br>• Color quality: Superior<br>• Detail: Very Good<br>• Audio: Very Good | • HDMI 1.3<br>• Up to 5.1 channels of audio<br>• Dolby TrueHD and Dolby Digital Plus decoding | • n/a | Basic model has fast disc-load and response times and terrific image quality, but it lacks support for the newer features that Blu-ray BonusView enables. |
| 4 | Panasonic DMP-BD30 $500 find.pcworld.com/60806 | 75 GOOD | • Overall: Good<br>• Color quality: Good<br>• Detail: Good<br>• Audio: Good | • Blu-ray BonusView<br>• HDMI 1.3<br>• Up to 5.1 channels of audio | • SDHC card slot<br>• Plays AVCHD high-def camcorder video on SD Card | Image quality is generally good, but images often look too bright and washed out. Offers high-resolution audio output over bitstream, but no on-board decoding. |
| 5 | Samsung BD-P1400 $400 find.pcworld.com/60807 | 75 GOOD | • Overall: Good<br>• Color quality: Fair<br>• Detail: Good<br>• Audio: Good | • HDMI 1.3<br>• Up to 5.1 channels of audio<br>• Dolby TrueHD and DTS-HD High Resolution decoding | • Ethernet port (for firmware updates) | Older-generation player consistently displays overly bright images; has on-board decoding of lossless audio codecs, but its audio sounds less full than others. |
| 6 | Pioneer BDP-95FD $1000 find.pcworld.com/60808 | 72 GOOD | • Overall: Very Good<br>• Color quality: Very Good<br>• Detail: Very Good<br>• Audio: Very Good | • HDMI 1.3a<br>• Up to 5.1 channels of audio | • Ethernet port<br>• Media server | Überexpensive Blu-ray Disc player features solid images and top-notch audio, but it lacks newer features such as BonusView, and images occasionally appear too dark. |

FOOTNOTES: [1] We conducted performance tests via HDMI, with video output to a 50-inch Pioneer Elite PRO-FHD1 plasma at its pure/bit-by-bit setting. [2] Audio output depends on the audio encoding on discs and the chosen audio output connection (HDMI, S/PDIF, coaxial, or analog). [3] Media card slots read CompactFlash, Memory Stick, and SD Card media. CHART NOTES: Prices are as of 4/24/08. All Blu-ray players can play standard DVD movies. All Blu-ray Disc players output video at up to 1080p resolution. All models support 24p output, which matches the frame rate of film; for more information, see find.pcworld.com/56792. n/a = Not applicable.

port the Blu-ray BonusView capabilities. Two other players—Panasonic's $500 DMP-BD30 and our Best Buy, Philips's $400 BDP7200/37—feature BonusView support, but not BD-Live. The sixth unit, the $400 Sony PlayStation 3, has undergone numerous changes since we last considered the device as a Blu-ray Disc player, including updates to add support for both BonusView and BD-Live.

We conducted our tests in the PC World Test Center using Pioneer's 50-inch PRO-FHD1 plasma display, Pioneer's Elite VSX-82TXS audio/video receiver, and NHT's Classic series 5.1-channel surround-sound system (we configured the players to handle their own audio processing). Our viewing tests included scenes from several movies: the standard-definition versions of *The Lord of the Rings: Return of the King* and *The Phantom of the Opera*, and the high-definition Blu-ray Disc versions of *Cars*, *Good Night and Good Luck*, *Mission: Impossible III*, *The Phantom of the Opera*, and *The Searchers*.

We also considered video resolution loss and jaggies test patterns from Silicon Optix's HD HQV Benchmark. We conducted our audio-quality tests with the uncompressed PCM audio track (for more, see the discussion of audio codecs under "Advanced Features" on page 108) of *The Last Waltz*, a classic that contains some stellar acoustic tracks.

One thing we noticed very quickly in our comparative tests: Blu-ray players are not all alike. We found a surprising amount of variation in how the six models output our selected movie test chapters to the Pioneer PRO-FHD1 plasma display.

For example, one player, the Pioneer, tended to show crisp, but slightly dark, images. Meanwhile, both the Panasonic and the Samsung generated images that looked a bit washed out, and Sony's multipurpose game console, the PlayStation 3, produced images lacking the three-dimensionality and vibrancy of some of its stand-alone competitors.

The Sharp produced the best image quality overall. It also garnered the only Superior ratings in our jury's evaluation, thanks to its superb handling of colors, brightness, and contrast (especially evident in the opening scene of the black-and-white film *Good Night and Good Luck*, and in a tricky-to-render day-for-night scene in *The Searchers*).

The sixth unit, the Philips, placed a close second to the »

Sharp in our image-quality tests; it produced some of the most even-keeled results across the board, with both pleasing contrast and well-balanced colors.

In audio performance, the Pioneer and the Sharp tied for top honors: Both produced crisp, full-bodied audio. The Philips and the Sony PlayStation 3 landed in a virtual tie with the frontrunners in our jury testing, though I admit that my sonically sensitive ears could hear a clear difference. The remaining two models—the Panasonic and the Samsung—trailed with mediocre audio reproduction on our test track; their sound was thin and lacked the depth and fullness of their rivals.

## ADVANCED FEATURES: Slow Progress

Of the models we tested, three—the Panasonic, the Philips, and the Sony PlayStation 3—offered BonusView. Only one, the PlayStation 3, could handle BD-Live as well. Under the Blu-ray Disc spec, all players should be equipped to handle movie titles packed with fancy, complex menus (authored in BD-Java). One player, the Samsung, failed our BD-Java playback test: It refused to load Disney's *Cars*, so we could not watch the movie (let alone see the Java-intensive extra features); this was the case even after we waited longer than the 3 minutes that the disc itself recommends.

Beyond knowing which parts of the Blu-ray specification a player adheres to, another buying consideration is what audio codecs a player supports. All the players we reviewed output Linear PCM (LPCM), an uncompressed method of encoding Blu-ray audio. Some players have in-unit decoding for the newer lossless Dolby TrueHD and DTS-HD Master codecs being used for some movie sound tracks; others output audio via bitstream; and still others support only the core audio streams within the codecs (which means you're getting something akin to Dolby Digital, for example).

The advantage to having in-player decoding is twofold. First, it means you don't need to use a receiver that supports these relatively new codecs; your five-year-old mainstay receiver should do just fine. Second, thanks to in-player decoding, you'll be able to hear both the audio in the film and the audio on secondary audio-video streams (for example, the sound in a picture-in-picture commentary track). Today's receivers aren't equipped to handle decoding both audio signals, so having a player that can do so is very useful.

In-player decoding of the lossless audio codecs remains fairly rare, though. Of the models here, only the Samsung

## THE DISC ALTERNATIVE: High-Def Movies Delivered via Internet

NOT INTERESTED IN building up a physical disc collection again? Several alternatives to Blu-ray Disc let you watch high-def movies. But be prepared for gotchas.

### Hardware Boxes

Of the hardware alternatives, one of the most well-known is the Apple TV ($229 for 40GB of storage, or $329 for 160GB of storage; find.pcworld.com/60862). Apple's

APPLE TV

update earlier this year made the slim Apple TV appliance more versatile than before—it now works without connecting to your computer—and software enhancements have made it easier to navigate the built-in menus for browsing iTunes to find rental and download content. For rentals, high-definition catalog titles cost $4 and new releases cost $5—one dollar more than their standard-definition iterations.

But you won't know whether a rental or download is available for viewing in high-definition until you drill deeper into the movie description, a flaw that makes finding a high-def film a matter of chance.

Apple currently has about 260 high-def Hollywood titles—half the number of Blu-ray titles currently on the market (www.appletvjunkie.com maintains a list). And you get only Dolby Digital 5.1 sound—no rich, uncompressed audio tracks here.

Image quality remains an issue, too, of course. The Apple TV's 720p high-def downloads look better than its standard-def downloads, but they still lack the clarity and detail of Blu-ray Discs, and can be prone to showing image artifacts.

The Vudu ($295 for a compact box holding up to 100 movies at a time; find.pcworld.com/59966) boasts higher-resolution images than does the Apple TV—1080p, at 24 frames per second. It streams video rentals (movies only; move along if you want your Tony Soprano in high-def), so you do need a bit of a buffer before you can start fast-forwarding or rewinding within a movie. Images look good on the Vudu, but can have artifacting issues and a lack of detail compared with a Blu-ray Disc movie. It also outputs Dolby Digital 5.1 audio.

VUDU

The Vudu service's delivery method has other constraints, too. Currently it has only 116 high-def movies from three studios

and the Sharp support Dolby TrueHD. And no model we tested decoded DTS-HD Master audio within the player. Several of the units—the Panasonic, the Samsung, the Sony, and the Pioneer—output the lossless audio codecs via bitstream to an external receiver.

See find.pcworld.com/60849 for additional information on how the individual Blu-ray players performed in our tests.

**SAMSUNG'S $400 BD-P1400 (left) can decode lossless audio codecs. Pioneer's $1000 BDP-95FD can act as a home media server, too, but its images occasionally appeared dark.**

## COMING SOON: Next-Generation Players

As summer turns to fall, expect a new crop of players to hit store shelves. Panasonic, Pioneer, Samsung, Sharp, and Sony have all announced models scheduled to come out in that period. These new players will, at the very least, support the picture-in-picture capabilities of BonusView.

Some of the updated models will also offer BD-Live. As mentioned earlier, though, not all forthcoming players may have memory built in. For example, Sony bills its $400 BDP-S350 as BD-Live "ready," but that means the device will require both a firmware update and external memory to handle BD-Live features. Sony's $500 BDP-S550, due in the fall, will come with full BD-Live support and will include 1GB of memory in the player. Panasonic's DMP-BD50, expected in early summer, adds BD-Live; but this $700 player lacks the integrated memory that the Sony BDP-S550 will have.

Audio will be another area of improvement. Both of Sony's new players (its third generation), for example, expand audio output to 7.1 channels and support decoding Dolby TrueHD and Dolby Digital Plus inside the player; the BDP-S550 adds on-board decoding of DTS-HD Master Audio, as well.

With all of these new developments on the horizon, should HDTV-owning movie connoisseurs hold off on buying a Blu-ray Disc player today? The short answer is an emphatic no. A Blu-ray player remains the single best way of getting a crisp 1080p image onto a large-screen, high-definition display. Even with up-conversion via HDMI, standard-definition films simply cannot come close to their high-def counterparts when it comes to showcasing color and detail: Today's technology can't replicate such information if it isn't on the disc to begin with.

I'd recommend that prospective buyers aim for a player supporting Blu-ray BonusView, at the least; I say this even though I realize that not everyone bothers to watch the extra features, or covets the picture-in-picture capabilities that BonusView enables.

If your goal is to start enjoying stellar, high-definition image quality today, our Best Buy, the BonusView-capable $400 Philips BDP7200/37, is a solid value, given its strength in producing both pictures and sound. Sony's PlayStation 3 is an excellent choice as well: Its versatility means that you can start enjoying Blu-ray movies today—and play Grand Theft Auto IV, too. ●

(Lionsgate, Paramount, and Universal). Though the company says it plans to add 5 to 15 HD titles per month, Vudu's HD offerings will still lag severely behind the availability of films and TV on Blu-ray.

Also, new HD rentals cost $6, while catalog rentals are $4 (same as a new-release standard-def movie). Finally, you'll need a 4-megabits-per-second connection, which may be doable for many cable users but could be a problem for DSL users limited to 1.5 or 3.0 mbps. The Vudu's bandwidth needs may also impact other network activities.

Microsoft Xbox 360 ($350 with 20GB hard drive; $450 with 120GB hard drive and HDMI out) owners can use their game console for high-def movie and TV downloads, via Microsoft's Xbox 360 Marketplace. The catalog includes about a hundred titles each of movies and TV. The 360 outputs its 720p images via an analog component-video connection on all models but the premium Xbox 360 Elite—the only iteration with an HDMI port. Films cost between $4.50 and $6 for 24-hour rentals, while TV shows cost just $3 a pop to download and own.

### Web-Based Streaming and Downloads

For all the talk of HD movies on demand, streaming and download-to-PC services on the Web remain in their infancy.

Hulu.com, which began streaming standard-definition television shows for free earlier this year, offers only high-def movie trailers at this time.

CinemaNow.com, long a pioneer in the movie download market, has a handful of high-def movies, but none are from the Hollywood majors. The company is currently working with Technicolor to bring big-ticket studio releases to its existing 10,000-title-strong catalog of movies for rent and download.

In addition, users will soon be able to access CinemaNow's movies via Hewlett-Packard's new media adapter, the HP MediaSmart Connect x280n.

# Here's How

## Organize Your Life With Free Online Tools

Overwhelmed by the mere thought of putting your hectic schedule on track? These nine essential Web apps help you get your must-do's done.

BY GINA TRAPANI

WHEN YOU CAN barely make out the note you scribbled on the back of a coffee-stained receipt, and you haven't turned over the wall calendar's page since mid-2007, it's time to get organized with digital tools.

Nowadays, the best place to find personal-organizer software isn't necessarily on the desktop—it's on the Web. You already know that users are opting out of heavy desktop applications such as Microsoft Outlook for the likes of the Web-based Gmail and Google Calendar.

But when it comes to managing your tasks, projects, and notes, the big names don't always have the best offerings. A new crop of rich Web apps offer smart tools to organize your life using any device that has a Web browser or an e-mail client, be it PC, Mac, or smart phone. As the founder of Lifehacker.com, I spend a lot of time trying out new Web-based personal organizers. Here are my choices of some of the best-of-breed options available online now.

### Track Your Tasks

The weekly status report is due every Thursday morning at 10 a.m. You have to collect the dry cleaning next Wednesday after 3. Your business-plan draft has festered unattended for a week now. This afternoon, it's your turn to pick up the kids from soccer practice.

Before your brain blue-screens, take a moment to offload your entire to-do list into Remember the Milk (rememberthemilk.com), a full-featured task manager that categorizes and prioritizes to-do's into convenient lists.

**THE OPENING SCREEN at Remember the Milk lists all the tasks you have due today, so you can check them off your list as you go.**

RTM even makes "honey do" lists easy to manage: Your Milk-using spouse, secretary, boss, or business partner can send task requests directly to your RTM inbox so you can incorporate them into your master plan instantly. If you upgrade to a Pro account for $25 per year, you'll have access to Windows Mobile syncing and an iPhone-friendly interface.

**ADD AND EDIT lists, notes, and dividers on a single page within Backpack, and drag and drop them to reorder them on the page.**

### Store Notes

Collaborate on projects with your colleagues and manage notes and research with the Web-based notebook Backpack (backpackit.com). Whether you're planning your next vacation, drafting The Great American Novel, or just seeking a private place to incubate ideas, you can create an editable page at Backpack and drop in notes, lists, news items, and comments.

Each Backpack page has a unique e-mail address, so when a brilliant insight strikes while you're standing in line at the grocery store, just dash off an e-mail on your phone to add it to your page on the spot. A limited free version of Backpack is available; paid versions start at $12 a month and will buy you file storage space, more pages, a group calendar, and message boards.

### Get a Virtual Assistant

Wake up to a cheery daily agenda from your new virtual personal assistant, Sandy (iwantsandy.com), who communicates with you primarily via e-mail and text messages. Here's how it works: Sign up for a free account, and Sandy will give you a personalized address to send messages to. Then send Sandy an e-mail that reads something like "Reminder: Lunch with Ted on Friday at

STEP-BY-STEP

## Track Your To-Do's With Sandy

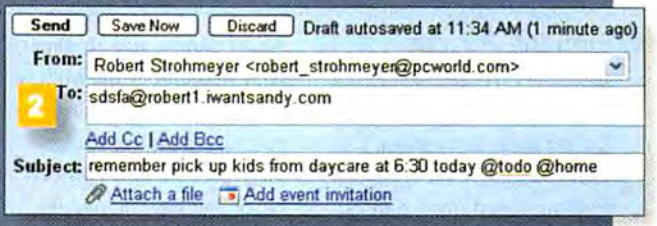
SANDY (IWANTSANDY.COM) MAKES it easy to track your appointments, to-do's, and other scheduled tasks just by sending a quick e-mail. Here's how it works.

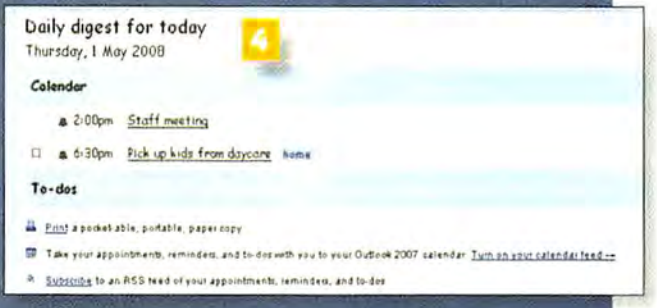
**1.** Sign up for a free account at iwantsandy.com, and verify your account by sending any old message to your personalized Sandy address (you'll find this address in the first verification message that you receive).

**2.** Once you have verified your account, start sending Sandy messages whenever you need to add something to your calendar or to-do list. You can use the subject line to type a simple, telegraphic message like 'remember pick up kids from day care at 6:30 today @todo @home'; Sandy will add this to-do item to your schedule, tagged as a 'Home' responsibility, with a check box for when you've completed the chore.

**3.** To verify that your task has been added, Sandy will reply to your e-mail with a synopsis of the new task.

**4.** After you log in to your Sandy account, you can do such things as view a daily digest of all your calendar items, modify those items, print them in a pocket-friendly format, export them to Outlook, and even share them via an iCalendar-friendly URL that Windows Vista Calendar users can subscribe to.






1 p.m." Sandy will add the appointment to Friday's agenda and send a reminder that afternoon with good-natured aplomb. Sandy can also store, tag, and recall important bits of information, such as a flight number or directions, via e-mail commands.

### Manage Your Money

If the thought of firing up Quicken makes you want to clean out the garage instead, head over to Web-based money manager Wesabe (wesabe.com). Register for a free Wesabe account, and upload your bank account information by hand, or use Wesabe's desktop uploader or its Firefox extension to automatically enter account transactions into Wesabe. (Relax—Wesabe doesn't store your online banking passwords, and it keeps your transaction data safe and secure. Check out the extensive Privacy Policy on the site to see how.)

**WESABE'S SPENDING SUMMARY charts where your money goes, keeping track of all the frivolous things you spend your hard-earned paychecks on.**

You can also skip balancing your checkbook by hand from now on: Wesabe organizes all your account transactions in a single place, translates "bankspeak" into human-friendly transaction descriptions, charts a bird's-eye view of where your money's going, and puts its community of users to work to help you save money and reach your financial goals. »

# Here's How

**AMAZON GIFT ORGANIZER keeps track of loved ones and special occasions, and makes just-in-time gift recommendations via e-mail.**

**TO THE TOP of your Gmail account, the GTDInbox Firefox extension adds a GTD Dashboard that helps you slice, dice, and review tasks.**

## Find the Perfect Gift on Amazon

Never spend the morning of her birthday scrambling for a gift, any gift, ever again. Enter your loved ones' names, birth dates, gender, and Amazon wish list into Amazon's Gift Organizer (amazon.com/gp/gift-central/organizer), plus gift-worthy occasions for each, like birthdays, anniversaries, or graduation. Then sit back and relax. When each big day nears, you'll receive an e-mail reminder with eerily on-target gift recommendations. Order on the spot, and you'll have the perfect present in hand, on time.

## Send Notes to Your Future Self

If thumb-typing text on your mobile phone's keypad isn't your cup of tea, call Jott (jott.com) instead. At its most basic level, Jott is a transcription service—speak a note to yourself, and Jott transcribes your message and e-mails you the text. But Jott goes way beyond that when it acts as a conduit to other Web applications.

For example, using Jott, you can add appointments to your Google Calendar over the phone, e-mail Sandy, add an item to your Remember the Milk to-do list, or even search Amazon for a product you're interested in, all by voice. Once you have signed up and configured your account, you simply call Jott's number (866/JOTT-123), say the name of a service you want to access, and speak your message.

## Capture Web Clips

You have two dozen browser tabs open again, and this time, bookmarking them all just won't cut it. Instead, give Google Notebook (google.com/notebook) a try.

One of Google's lesser-known products, Notebook is an indispensable tool for Web researchers. Save sections of Web pages to your Google Notebook and annotate them with your own notes and comments. Organize your clippings into multiple notebooks that you can break down into sections, rearrange your notes by dragging and dropping them into the appropriate page, and search your notebooks using Google's signature special search sauce you already know and love.

Notebook also turns the clipping of pages into a one-click operation with the Google Notebook browser extension; this add-on is available for both Firefox and Internet Explorer.

## Track Your Travel Itinerary

Rather than letting flight, hotel, and car reservation e-mail confirmations languish in the depths of your inbox, forward them, before you travel, to plans@tripit.com.

Tripit (tripit.com) will parse the messages and pull together a master trip itinerary onto one Web page that includes maps, a weather forecast, directions, and city guides for your destination—you know, all the stuff that you'd look up by hand anyway. Plus, you can add notes to your TripIt itinerary, and share it with friends or colleagues to view, collaborate, and comment on.

## Turn Gmail Into a Personal Database

Dedicated Gmail users who lament its lack of a to-do list will want the GTDInbox Firefox extension (gtdinbox.com). GTDInbox implements the organization techniques that David Allen pioneered in his geek-hit productivity bible, *Getting Things Done*.

With GTDInbox installed, add a star to any message to turn it into a "next action"; list and add tasks inside Gmail; and review tasks by how long they've been around (less than a week, longer than a week, and so on) to see how much of a slacker you've been (or not).

Happy organizing!

**LINK YOUR ONLINE organizers, such as Sandy and Remember the Milk, to Jott, and add appointments, notes, and tasks to those services by voice.**

# CASH REGISTER EXPRESS™

## More Profit! • More Sales! • More Customers!

*Save Time, Reduce Theft, Speed Checkout, Increase Accuracy,*
*Reduce Costs, Make Better Business Decisions by Computerizing your Retail Store*

**The World's Fastest Cash Register**

- RATED #1
- Single or Multi-User
- One Store or Multiple Store
- Credit Card Authorization in 2-3 Seconds
- Gift Cards & Loyalty Cards
- Track Your Inventory and Customers
- Detailed Sales Reports
- FAST and EASY Checkout
- Convenience Stores & Grocery Stores
- Gift Shops
- Apparel / Clothing
- Liquor & Tobacco Stores
- Cellular & Electonics
- Restaurants, Delis
- Any Store Requiring a Cash Register

**Bar Code Scanners** ~~$295~~
Metrologic, Symbol, HHP, PSC

**Receipt Printers** ~~$299~~
Epson, Star, Ithaca, Citizen

**Portable Invoicing, Inventory/Asset Tracking & Data collecton -** ~~$499~~
Symbol, HP Palm

**Cash Drawers** ~~$189~~
MMF, Indiana, APG, Logic Controls

**Bar Code Printers** ~~$499~~
Cognitive Solutions, Fixed & Portable

**Pole Displays** ~~$289~~
Logic Controls

**Touch Screen Monitors** ~~$499~~
ELO Flat Panel, CRT

**Credit & Debit Card Processing** ~~$349~~
PC Charge
**Credit Card Readers, Pin Pads, Signature Pads** ~~$179~~
Unitech, MagTek, Verifone, Topaz, HHP

**Cash Register Express software for Windows $495**
Replace your Cash Register with Cash Register Express in any type of retail store. With over 1,000 of the most desired point of sale features, Cash Register Express will help you compete in a difficult retail environment by controlling your costs, reducing errors, increasing efficiency, increasing your profits and increasing your sales.

***Specializing in Point of Sale since 1985***

**DEALERS WANTED!**
Join our dealer program. It's FREE. It's the fastest way to make money...AND we make it EASY.

**For More Info Call Toll Free!**
1-800-722-6374

**FREE DEMO!!**

# 1-800-PC-AMERICA
# WWW.PCAMERICA.COM

CALL TOLL FREE: 1-800-722-6374 • PH: 845-920-0800 • FX: 845-920-0880
PC AMERICA, 1 Blue Hill Plaza, Second Floor, Box 1546, Pearl River, NY 10965

# Get Driving Directions, Search Google—on the Road

IF YOUR CELL phone lacks GPS and you need to find a way between points A and B, let SMS (Short Message Service) be your guide. No matter how far you are from your PC, you can tap Google SMS for on-the-fly navigation. Create a message with your starting point and destination, and then send it to GOOGLE (dial 466453). You'll receive Google Maps directions in one or more text messages (depending on the length of the route). To get a map, text "map" and your location.

Need directions but don't want to take your hands off the wheel? Dial 800/GOOG-411 for voice-prompted assistance. State your starting address and destination; the service will whip up directions and shoot them to your phone via SMS. And it's free. You pay only standard calling and text-message charges.

Better yet, Google SMS offers more than just driving directions: You can text your way to stock quotes, movie showtimes, currency conversions, and much more. The trick lies in remembering the proper syntax to receive the information you want. To access Google's glossary, for instance, your message should read "Define" and then the word.

**TEXT YOUR STARTING point and destination to Google SMS, and receive turn-by-turn directions on your cell phone.**

Looking for a particular business in your area? Send the business name (or category, such as "pizza") plus the zip code or the city and state. And if you can't remember the proper format for a particular inquiry, just send "help" or "tips" to GOOGLE (as above), and the service will send you a cheat sheet.

4Info (4info.net) offers a similar batch of SMS services but adds helpful extras like package tracking and a Wi-Fi hotspot finder. You'll find fun stuff, too, such as jokes, drink recipes, and pickup lines. You can also sign up for text-message alerts: 4Info will send you the game scores for your favorite sports teams, educate you with a word of the day, and even deliver Craigslist ad updates (so you can swoop in the moment playoff tickets go on sale).

*—Rick Broida*

**ANSWER LINE** **SEND QUESTIONS TO ANSWER@PCWORLD.COM**

## How safe is an unsecured wireless network?

*Dini S., Brooklyn, New York*

SHORT ANSWER: Not very. (Never, for instance, send a credit card number over the Internet via a café's or library's Wi-Fi connection.)

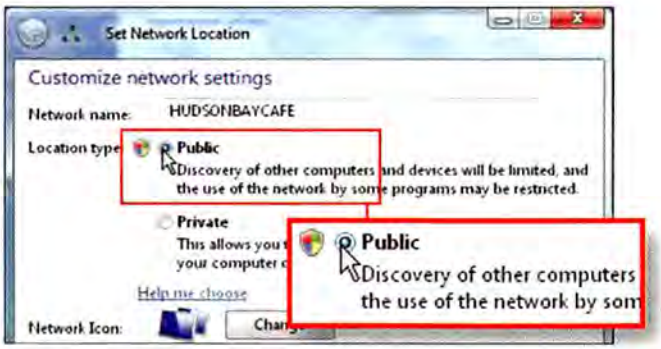
Long answer: If a network is open to anyone, it's open to criminals. In fact, you might not even be connected to the café's server, but to an evil twin—someone else's computer that's acting like a server to gain access to your PC. Fortunately, precautions are available that you can—and should—take.

**Don't go online without knowing it:** Shut off your Wi-Fi if you don't need the Internet. That will save battery power, as well.

**Use the right network:** When you log on to a wireless network, Windows will show you the SSIDs (Service Set Identifiers) of all the networks within range. Make sure you're connecting to the right one (you may have to ask an employee).

**Turn off file and printer sharing:** In XP, select *Start* and right-click *My Network Places*. In the Network Connections window, right-click the network and select *Properties*. In the resulting dialog box's General tab, uncheck *Client for Microsoft Networks* and *File and Printer Sharing for Microsoft Networks*. Click *OK*.

Vista turns off sharing automatically if it recognizes the network's unsecured status—which it always has in my experience. To check and possibly change this setting, do the following: Select *Start•Network*. Click *Network and Sharing Center*. If it says '(Public network)' next to the network name, and you're actually connected to a public network, simply close this window because you're done. If it doesn't, click the *Customize* button across from the network name. Select *Public*, click *Next*, and then click *Close*.




**SETTING YOUR NETWORK type to Public in Vista will help you protect your privacy when you're surfing at a public hotspot.**

**Be careful what you do:** Never make a purchase, use online banking, or enter anything sensitive over a public Internet connection. Avoid using passwords as much as possible.

Go to find.pcworld.com/60811 for a list of info you should be wary of sharing online. Of course, that list is meant for a private Internet connection. On a public network, the word isn't *wary*, it's *never*.

*—Lincoln Spector*

# Clone Away Your Photos' Unsightly Blemishes

HAVE YOU EVER taken a great vacation shot only to realize later that a telephone booth obstructs the middle of an otherwise picturesque duck pond? Or that a tourist in a loud shirt is standing right behind your family? Thankfully, you can eliminate such distractions with a little digital airbrushing.

The tool at the heart of this process is the clone brush, which you can find in almost any photo editing program. It lets you copy pixels from one region of your image to another. With it you can delete unwanted elements—such as power lines, people who accidentally enter the shot, credit card numbers, ugly dogs, and so on—by duplicating a nearby part of the image. Typically, smaller and more-isolated distractions are easier to airbrush away than larger ones, such as objects that cut a swath through the middle of your picture. But if you're patient, you can see great results from photos that otherwise would be bound for the Recycle Bin.

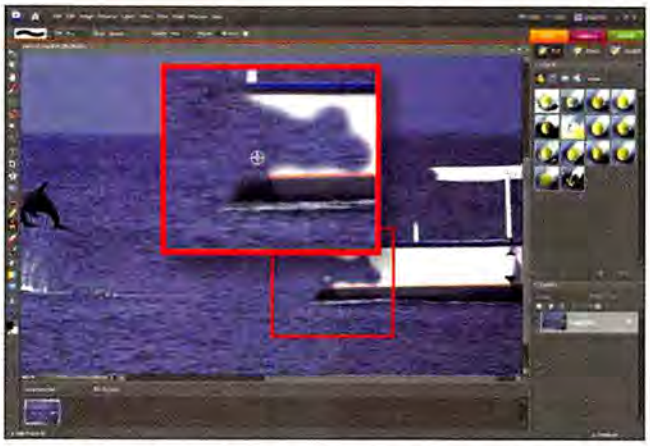
To get started in the popular Photoshop Elements, click the Clone tool in the tool palette on the left side of the screen. It looks like a rubber stamp and is the fifteenth tool from the top.

Next, find a region in your image that's similar to the area you want to cover. To remove a power line that runs through the sky, for instance, look for a patch of sky shaded similarly to the area the power line obscures. This will be our "source" for the clone brush. To set the source, position the pointer over it and then press **<Alt>** while right-clicking.

Move your mouse to the area you want to brush away, and start painting. But don't try to cover the blemish all at once: Paint a little, pick up the mouse, and then paint again. This will reduce the chances of a recognizable pattern appearing. You can see a work in progress in the photo above, where I'm cloning away a boat by painting over it with water.

The tool works best in small areas—you'll start to see a repetitive pattern in your photo if you paint over too large a region. But to help you out, Elements' tool has two different modes, controlled by the Aligned check box in the toolbar at the top of the screen. In one mode—called Nonaligned—you pick up the clone brush and paint elsewhere, and the source stays where you put it. Aligned mode is when you pick up the brush and start painting elsewhere—and the source moves the same relative distance from where you first started.

*—Dave Johnson*



**DON'T LET THAT fishing boat mar your otherwise beautiful ocean shot. Just clone it out to restore the sea's natural beauty.**

LOG-IN SECURITY

# Unlock Vista's Administrator Account

FROM THE PCW FORUMS

DO YOU WANT to tighten up Vista's security? This month, PC World forum member PCWizKid explains how to enable the Administrator account as a log-in option in Windows Vista, making it easy to handle maintenance tasks without giving administrative privileges to every user. Join our online community at forums.pcworld.com. If we use your contribution in print, we'll send you a PC World T-shirt.

## PCWizKid Says:

Here is a sought-after hack for Windows Vista that many people don't know about. (Make a System Restore checkpoint to back up your settings before starting.)

Turning on the Administrator account is straightforward. First, open an elevated command prompt: Either type **cmd** into the Search box on the Start menu and press **<Enter>**, or right-click the *Command Prompt* icon at the top of the Start menu, and then select *Run as administrator*.

Second, enter the command **net user administrator /active: yes** and press **<Enter>**.

From now on, the Administrator account will appear as an option on the Welcome screen, along with other user accounts that you may have set up. Log in to it as you would any other account. Be aware that it won't have a password yet, so be sure to set one for it right away.

If you later want to disable the account and hide it, open another elevated command prompt, type the command **net user administrator /active:no**, and press **<Enter>**.

**ADDING THE ADMINISTRATOR account to the Windows log-in screen gives quick admin access without extending its privileges to others.**

# Choose a Future-Proof Digital Camcorder

**HDV CAMCORDERS LIKE the Canon Vixia HV30 offer a future-friendly blend of impeccable image quality and advanced digital features.**

IF THE ONLY video that you shoot is clips of your dog for YouTube, any camcorder will do. But if you're capturing your baby's first steps or your daughter's wedding, you will want some assurance that it will still be viewable in 20 or 30 years, when you'll get the most pleasure out of it.

While today's digital video formats will undoubtedly be obsolete by then, you can choose a reasonably future-proof video camera by following three key guidelines:

- Buy the best image quality you can afford.
- Capture in a widely supported format.
- Use a long-term storage medium for your images.

To get the highest image quality (and high-quality HDTV playback), you should be thinking HD. Consumer camcorders have two main high-definition formats: HDV, which uses the same kind of cassettes as the original standard-def DV format does; and AVCHD (Advanced Video Codec High Definition), a newer format that can record to DVD, hard disk, or flash memory.

AVCHD has several advantages over HDV: more efficient compression that uses less space, drag-and-drop file transfers from camera to computer, and convenient random-access media. Also, since AVCHD uses MPEG-4 compression, you can play your AVCHD discs in Blu-ray players without having to re-encode them.

However, HDV remains my top choice for three reasons. First, the best consumer HDV camcorders still have better image quality than the best consumer AVCHD models. Second, HDV tape is its own long-term storage medium; AVCHD, by contrast, requires that you either burn to optical disc for storage or have lots of hard-drive space available.

My third reason: AVCHD is still immature. Most video editing software is only just starting to handle AVCHD, and may not support all the features in the latest crop of camcorders. So, although AVCHD will be the better choice in a year or two, today's smart buy is still HDV.

*—Becky Waring*

## ANSWER LINE

SEND QUESTIONS TO ANSWER@PCWORLD.COM

### Why does my PC keep failing with a Blue Screen of Death? *Gael Busson, Montreal, Quebec*

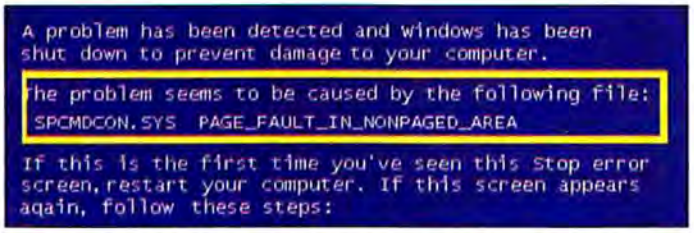
BLUE SCREENS (ALSO known as stop errors) occur when Windows senses a problem that won't let it operate properly.

When you encounter a BSoD, you can't do much except reboot your machine. If you start seeing them regularly, however, your computer has a problem that you must address.

Believe it or not, BSoD screens actually contain some useful information—albeit not much. The next time your monitor and mood suddenly turn blue, jot these items down before rebooting:

- The problem description: Write down whatever text appears between the boilerplate first paragraph ('A problem has been detected...') and the one that begins 'If this is the first time...'
- Technical details: Write down everything that appears under the heading 'Technical information'.

(Note: If your system reboots too fast for you to read the screen, try disabling the auto-restart using Scott Dunn's trick at find.pcworld.com/60819.)




**THE BLUE SCREEN of Death can look like a bunch of gibberish at first glance, but it will usually tell you what files are the source of the trouble.**

Once you've rebooted, use Google to find pages that mention both BSoD and some of the terms you jotted down—especially the statement in all capitals with underscores instead of spaces.

If a Web search doesn't yield helpful information, ask yourself what has changed on your PC lately. Did you add hardware or update a driver just before the problem became common?

Bad drivers often give Windows the blues. If you recently updated a driver, try reverting to an older version.

A bad RAM module is another potential cause of BSoDs. You can test your memory modules easily with Memtest 86, a free program that is available for download from the memtest.org site.

Overheating is another common culprit. Check the PC's air vents for blockage. If it's a desktop, open it and blow out any dust you find. And while the case is open, check that all internal connections are firmly attached.

As with virtually every other major Windows problem, the fault may lie not in your hardware, but in your Registry. Try running a Registry cleaner such as Toni-Arts' free EasyCleaner (find.pcworld.com/60777).

*—Lincoln Spector*

# Rescue Windows With a Downloadable Boot Disc

WAY BACK IN the 20th century, Windows came with a program that formatted a bootable floppy disk, complete with repair utilities. If you had the forethought to create that floppy while Windows was still working, you were ready when it failed. Alas, modern versions of Windows can't make that floppy anymore.

Since Microsoft doesn't supply you with the ability to create an emergency boot disk, a free boot CD called Vista Recovery Disc (find.pcworld.com/60793) can do the job for you.

Vista Recovery Disc downloads as an ISO file that you can burn to disc with Nero Burning or Easy Media Creator. Don't have either of those? Download and install Alex Feinman's ISO Recorder (find.pcworld.com/60794).

Vista Recovery Disc looks and acts like an official Microsoft recovery CD—with good reason. Beta versions of Vista Service Pack 1 came with a modern equivalent of the old Windows Boot Floppy, a Start menu option called 'Create a Recovery Disc' that burned a Windows PE–based emergency CD.

Microsoft removed that feature before SP1 shipped—but not, fortunately, before NeoSmart turned the disc into an ISO file.

Running on the Vista version of the Windows PE operating system, the Recovery Disc is basically a Vista installation disc minus the install files. It even presents an 'Install now' button that asks for a Product Key before failing. But you're better off clicking the *Repair your computer* button. Among its Vista-only options are a tool for diagnosing and fixing startup problems, a version of System Restore that uses restore points on the hard drive, the restore portions of Vista's backup program, and a memory diagnostic tool. You can also use the command prompt to access your hard drive.

*—Lincoln Spector*

**VISTA RECOVERY DISC looks and behaves like an official Microsoft Windows Vista installation CD, minus the actual installation files.**

## FACT CHECK ROBERT STROHMEYER

# True or False: Linux Is Immune to Malware and Viruses

SPEND A FEW minutes listening to any Linux user gush about their favorite operating system, and sooner or later you'll hear them cite their favorite feature: Linux does not get viruses. This bit of conventional wisdom is considered gospel in the open-source community. But is it true?

"That depends on what you mean by 'doesn't get viruses,'" says Ben Greenbaum, senior research manager for Symantec Security Response.

He explains, "There's no technical reason that Linux would be immune to viruses, and [infection] does happen. But not nearly as often."

Obscurity is one of the biggest impediments to malware on Linux, according to McAfee research scientist Marius van Oers. Viral code is designed to work on specific OS kernels, and enough differences exist between all the various Linux kernels to prevent malware from infecting each flavor of Linux in the same way. That, plus the lack of market share for Linux, keeps malware creators from focusing on the platform.

> Don't base the security of your Linux box on a rumor. Here's the straight dope.

The bottom line: Linux users have very few viruses to worry about right now. Both Greenbaum and van Oers peg the current number of Linux malware threats at about 50—most of them consisting of proof-of-concept code that poses no threat in the wild. Compare that with the million-plus threats already identified for Windows, and Linux users may have a right to brag.

Even so, remember that Linux isn't inherently immune to malware. As its popularity grows, so will the threats it faces.

**CAUTIOUS LINUX USERS can scan their PCs with the free AVG Anti-Virus (free.grisoft.com).**

# STEVE BASS'S HASSLE-FREE PC

## More Quick Fixes for Common Windows Annoyances

Dump the <Insert> key, rearrange drive letters, restore your Safely Remove Hardware icon, and get a free tool for easy Registry editing.

IF YOU HAVE a multislot media card reader, chances are you face a mess of drive letters every time you double-click My Computer. I've finally outsmarted the Redmond kids in my battle with the dumb way Windows handles drive letters, and this month I give you the fix. Plus, I share an easy way to restore the fickle Safely Remove Hardware icon to your system tray, and a trick to combat *Insertus idioticus*—by disabling the <Insert> key.

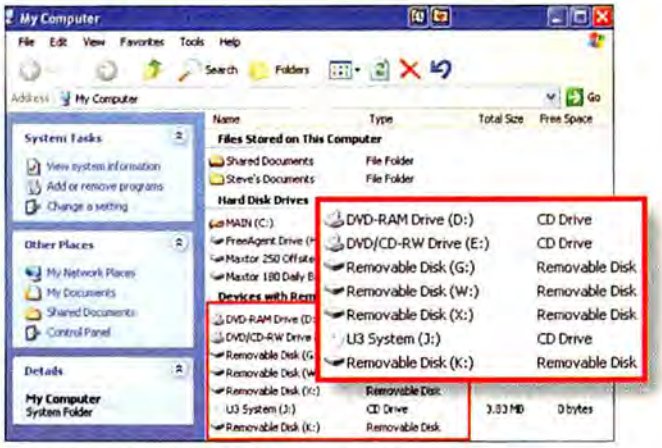
### Disable Unused Drive Letters

**The Hassle:** *My PC has a built-in memory card reader, and the only slots I use are for CompactFlash and SD cards. Yet when I try to find the card I've just inserted in Windows Explorer, I always seem to click the drive letter of an empty slot. Do you have a fix?*

**The Fix:** First, let's start by eliminating the card-reader drive letters you don't use. Log in as Administrator, open Windows Explorer, and insert your memory cards into the card reader slots. Jot down the corresponding drive letters and, using the Safely Remove Hardware icon in the system tray, remove the memory cards.

From the Start menu, run **diskmgmt.msc**. Under Disk Management, find the unused drives in the lower panel—they're listed with a drive letter, a disk number, and a 'No Media' designation. Right-click, select *Change Drive Letter and Paths*, click *Remove*, click *Yes*, and say adios. Cool, no?

I like to push the drive letters of the remaining slots near the end of the alphabet, and to use mnemonics for easier recall: "W" for the wide CompactFlash card and "S" for the SD card. From that same spot in the Disk Management applet, right-click, choose




**CAN'T FIGURE OUT which of these wacky drive letters represents the SD card that you inserted? Reassign them to clean up the mess.**

*Change*, and pick a letter from the end of the alphabet. This reassignment trick also keeps the drive letters of my temporary USB devices—two hard drives, an MP3 player and flash drive, and a GPS unit—all neatly stacked just after my last fixed drive.

### Restore the Safely Remove Hardware Icon

**The Hassle:** *Where's my Safely Remove Hardware icon? One day it's here, the next day it's missing from the system tray!*

**The Fix:** The icon is probably just hidden. Right-click *Start*, select *Properties*, choose the *Taskbar* tab, click *Customize*, scroll to Safely Remove Hardware, and make the behavior *Always Show*. Alternatively you can keep the icon hidden and force it to appear when you need it, by creating a shortcut. Right-click your desktop, choose *New•Shortcut*, insert the line **C:\WINDOWS\system32\rundll32.exe shell32.dll,Control_RunDLL hotplug.dll** in the location field, and click *Next*. Rename the shortcut **USB Remove**.

### Disable the <Insert> Key

**The Hassle:** *Can I turn off the <Insert> key on my keyboard? In Word, I keep hitting it and typing over too many of my golden words.*

**The Fix:** I don't know why it's still around—the <Insert> key is useless, and my giant thumb hits it early and often. You can globally disable the Insert key in any of three ways. If you have the skills, follow the instructions for the one-minute Registry tweak at TechArchive (find.pcworld.com/60779). An easier way: Download my Registry file (find.pcworld.com/60791) onto your desktop; click it and then click *Yes* (it's safe, so ignore any security program warnings).

Unfortunately, Word ignores the Registry tweak, so here's a Word how-to: Click *Tools•Customize*, and choose *Keyboard*. In Categories, scroll to and click *All Commands*, and in the Command panel, select *Overtype*. Highlight *Insert* in the 'Current keys' box, click *Remove*, and click *Close* until the dialog boxes close. ●

TOOL OF THE MONTH

### RegEditX for XP and Vista

HASSLED WHEN SOMEONE (like me) asks you to use the Registry? I have a free add-on that turns the run-of-the-mill Windows Registry tool into a superhandy, power-user utility. Take, for example, the arduous task of fiddling with the Registry's plus and minus icons to reach a specific key. RegEditX instead lets you copy and paste a long Registry key right into the address field, as if you were in a browser, and then whisks you directly to the entry. Heck, you can go directly to the key with one line: Just type **RegEditX** and the starting key in the Run command. (My favorite is Favorites, a way to easily get back to Registry keys you often access.) Download RegEditX from find.pcworld.com/60780.

# Eats power surges for breakfast.

**$5,000**
**etime Connected Equipment Protection**
**(See policy for details)**

**Lifetime Warranty**
**(see packaging for details)**

## Get a SurgeArrest™ Workshop for safe power, and lots of it.

Have a workshop? Be warned – bad power can turn your tools into toast. "Bad power" is all those spikes, surges, and lightning strikes that can take years off the life of your tools. So what are you supposed to do, stop plugging them in? We have a better solution: the SurgeArrest.

SurgeArrest protects your workshop investment by running interference against unpredictable power. It guarantees protection from power spikes and surges, so you get the most out of your tool. And, as a nice little bonus, you get all the extra outlets that your bigger projects demand.

And while the SurgeArrest pampers your tools, its rugged design can hold up to the less-than-cushy environment of your workshop, basement, garage, or wherever you happen to be working. When you buy SurgeArrest, you can relax – it comes with a warranty that protects it and the tools you plug into it. So before you get to work, get a SurgeArrest to work for you.

*Find out why 30 million people don't need to worry about losing their data to power problems*

### APC Solutions for your entire home:

**General Use** Starting at $9
Essential surge protection for computers and home electronics.
4 outlets, phone line protection, wall mount

**Home/Office** Starting at $32
Reliable surge protection for home or office computers and electronic equipment.
8 outlets, phone line protection, up to 2525 eP Joules

**Entertainment** Starting at $99
Complete surge protection for high performance computers and electronics.
11 sequenced outlets, AVR filtering, 3400 eP Joules, coax line protection

**Workshop** Starting at $15
Complete surge protection for power tools.
8 outlets, rugged construction, 820 eP Joules, up to 15' power cord

**FREE shipping when you purchase a 7 outlet APC SurgeArrest Workshop (PDIY7) online for $14.99**

**Everyone who purchases will be registered to win an APC AV Power Filter (model C3)!**

**Visit www.apc.com/promo Key Code c450w or Call 888.289.APCC x9551 or Fax 401.788.2797**

APC
Legendary Reliability®

©2008 American Power Conversion Corporation. All rights reserved. All trademarks are the property of their respective owners.
e-mail: esupport@apc.com • 132 Fairgrounds Road, West Kingston, RI 02892 USA • 998-1245

AmericasPrinter.com
The easiest way to print today.

Presentation Folders starting at only $629
TriFold Brochures starting at only $179
Sales Sheets starting at only $99
Letterhead starting at only $129
Postcards starting at only $79
Business Cards starting at only $39
Catalogs starting at only $339
Doorhangers starting at only $179

To show that our Quality is the Best!
PC World SPECIAL
Get a FREE 1000 Business Cards ($39.00 value)
With your first Postcard or Brochure Order
use promotion code PCW507

16pt we print the Thickest Cardstock in the Industry standard

Mixed & Match Coating Ways
Overall Gloss UV • Spot Gloss UV • Matte Aqueous
on ALL 16pt Cardstock Orders...

We print 24 hours a day Nationwide

- FREE Sample Kit!
- 2,000+ products in our Price Guide
- Great Pricing with Fast Turnaround
- 15,000+ Customers Nationwide
- Full Commercial Heidelberg Printshop
- Print & Ship Anywhere in the USA

We Accept VISA MasterCard
Preferred Shipping Carriers UPS FedEx Federal Express

800.552.1303 toll free
714.521.1100 CA | 714.521.5650 fax
6910 Aragon Circle, Buena Park, CA 90620
www.AmericasPrinter.com

FIND.PCWORLD.COM/60463

NEW LOW PRICE!

$6.99 (Wow!) Qty 3+
Qty 2: $7.99
Qty 1: $8.99
Remanufactured HP 51645a (No. 45) ink cartridge.

More great deals at...
1-800-INKFARM
inkfarm.com
the ink & toner supersite.™

FIND.PCWORLD.COM/60468

World's Most Attractive Logo Design Package

- ✓ $1 deposit to start
- ✓ Unlimited logo concepts & revisions
- ✓ Fastest turnaround time
- ✓ 5 designers assigned to every project
- ✓ Only $259 flat-rate

Logocare
877.918.9188
www.LogoCare.com/pcw
Design . Print . Promote

FIND.PCWORLD.COM/60465

How Green Is I.T. Really?

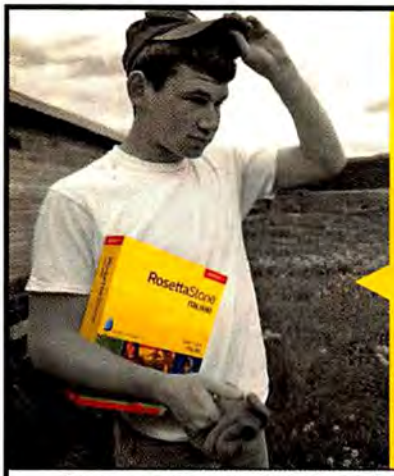
Faronics Power Save delivers desktop computer energy management that doesn't interfere with user or IT needs. Unlock hidden financial savings by reducing workstation power consumption, and discover a rapid return-on-investment through enterprise savings reports—now that's energy management that makes cents.

Faronics POWERSAVE
Available for

Faronics
Intelligent Solutions for Absolute Control

Download a free, fully functional evaluation copy at www.faronics.com/GoGreen
For more information call us at 1-800-943-6422

FIND.PCWORLD.COM/60467




He was a hardworking farm boy.

She was an Italian supermodel.

He knew he would have just one chance to impress her.

Rosetta Stone.® The fastest and easiest way to learn *ITALIAN*.

Discover a whole new world with Rosetta Stone,® the world's leading language-learning software. Only Rosetta Stone uses Dynamic Immersion® to teach you a language quickly and efficiently, without tedious translation and grammar drills.

- You'll experience our **Dynamic Immersion** as you match real-world images to words spoken by native speakers. There is no translation or memorization. Instead, you become quickly engaged, the way you learned your first language... for a faster, easier way to learn.
- Our patent-pending **Voice Recognition Technology** evaluates your speech and coaches you to more accurate pronunciation, so you'll be speaking faster and more naturally.
- And only Rosetta Stone has **Adaptive Software** which tracks your progress and then customizes every lesson based on your individual needs, for faster and more effective fluency.

Discover Rosetta Stone - **The Fastest Way to Learn a Language. Guaranteed.**™

**SAVE 10%**

| | | | |
|---|---|---|---|
| Level 1 | ~~$209~~ | NOW | $188.10 |
| Level 1&2 | ~~$339~~ | NOW | $305.10 |
| Level 1,2&3 | ~~$499~~ | NOW | $449.10 |

**100% GUARANTEED**
SIX-MONTH MONEY-BACK

©2008 Rosetta Stone Ltd. All rights reserved. Patent rights pending. Discount offer not to be combined with other offers, and subject to change without notice. Six Month Money-Back offer is limited to purchases made directly from Rosetta Stone and does not include return shipping.

Call
(866) 590-5049

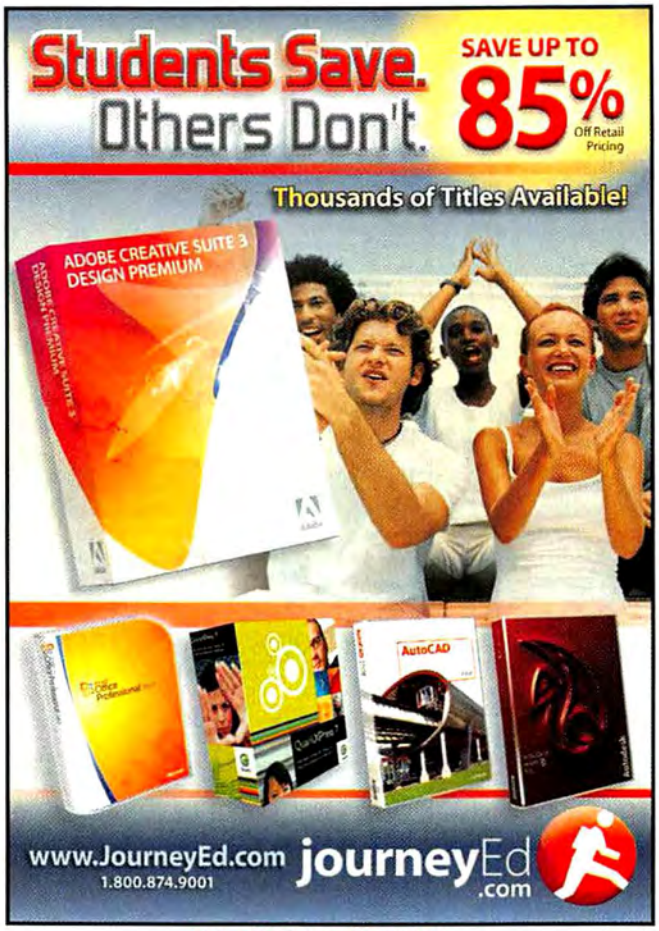
Online
RosettaStone.com/pws078

Use promotional code pws078 when ordering.
Offer expires October 31, 2008.

RosettaStone®

FIND.PCWORLD.COM/60466

FIND.PCWORLD.COM/60464




FIND.PCWORLD.COM/60469

PCWorld

»Market Place«

For Advertising Information Call

415-243-3664

800-597-1594

PCWORLD.COM

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

Shop and Compare at PC World Online

pcworld.com/shopping

PCWorld

PRESIDENT, CEO Mike Kisseberth
EXECUTIVE ASSISTANT Caroline Ward

PHONE:
415/243-0500

FAX:
415/442-1891

E-MAIL:
letters@pcworld.com

WEB:
www.pcworld.com

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

**INTEGRATED ADVERTISING SALES**

SENIOR VP/GROUP PUBLISHER
Michael Carroll (508/370-0842)

ASSOCIATE PUBLISHER/NATIONAL DIRECTOR Mark Barreca (732/544-2006)

ASSOCIATE PUBLISHER/INTEGRATED SALES AND CUSTOM PUBLISHING
Kathy McKay (847/251-9274)

SALES ASSOCIATE
Shari Redan (508/370-0819)

EAST

SOUTH EAST DIRECTOR, INTEGRATED SALES Amy Singer (201/634-2317)

ACCOUNT EXECUTIVE
Kathy Snow (508/820-0440)

SALES ASSOCIATE
Jolene Westerling (508/370-0830)

WEST

NORTH WEST DIRECTOR, INTEGRATED SALES Alicia Langer (415/267-4578)

SOUTH WEST DIRECTOR, INTEGRATED SALES
Cindy Hamilton (949/442-4005)

SALES ASSOCIATE
Billie Sutherland (949/442-4014)

WESTERN DIRECTOR, PC WORLD ONLINE
Melissa Gruber (415/974-7373)

INSIDE PRINT SALES & FREMONT DIRECTOR, INTEGRATED SALES
Duane Hampson (415/978-3133)

SALES ASSOCIATE
Rocio Guerrero (415/978-3266)

PC WORLD MARKETPLACE

MANAGER, INSIDE SALES, PRINT
Niki Stranz (415/243-3664)

PC WORLD REPRINTS

Erik Eberz (717/399-1900 x150)

**CUSTOM PUBLISHING**

ASSOCIATE PUBLISHER/INTEGRATED SALES AND CUSTOM PUBLISHING
Kathy McKay (847/251-9274)

**PCWORLD.COM AD OPERATIONS**

AD OPERATIONS/AD DESIGN MANAGER
Kevin Barden

AD OPERATIONS SPECIALIST
Kenji Kawakami

AD PROJECTS COORDINATOR
Leilani Lopez

AD OPERATIONS COORDINATOR
Keri Campbell

AD OPERATIONS COORDINATOR
Andrew Galluccio

**MARKETING**

DIRECTOR, PRODUCT MARKETING
Springer Huseby

SENIOR MARKETING SPECIALIST
Michelle Kloss

**RESEARCH**

VP, STRATEGIC INTELLIGENCE
Jessica Lilie

SALES AND RESEARCH SPECIALIST
Angela Beaudoin

**CONSUMER MARKETING**

DIRECTOR David Cobb

SINGLE COPY SALES DIRECTOR
Holly Drawbaugh

DIRECTOR, RETENTION MARKETING
Lisa Radler

DIRECTOR, SUBSCRIPTION ACQUISITION Linda Trinh

SENIOR RETENTION MARKETING MANAGER Robyn Patty

SUBSCRIPTION MARKETING MANAGER
Jennifer Ma

RETENTION MARKETING SPECIALIST
Shavon Burden

**PRODUCTION**

DIRECTOR, PRINT AND ONLINE PRODUCTION Nancy Jonathans

PRODUCTION MANAGER Lisa S. Mireles

ASSISTANT PRODUCTION MANAGER
Eliza Wee

**ONLINE MANAGEMENT**

SENIOR VP/GENERAL MANAGER, ONLINE Stephan Scherzer

VICE PRESIDENT, BUSINESS DEVELOPMENT Ulla McGee

DIRECTOR, BUSINESS AND LEGAL
Sue Krenek

DIRECTOR, BUSINESS DEVELOPMENT & AD OPERATIONS Brian Buizer

MANAGER, BUSINESS DEVELOPMENT
David Lake

DIRECTOR, ONLINE MARKETING
Alexa Wriggins

DIRECTOR, WEB DESIGN
Jason Brightman

NEWSLETTER SERVICES MANAGER
Michael E. England

EMAIL MARKETING MANAGER
DW Malouf

BUSINESS DEVELOPMENT COORDINATOR Alisha Billingsley

**HUMAN RESOURCES**

VICE PRESIDENT, HUMAN RESOURCES
Kate Coldwell

HUMAN RESOURCES REPRESENTATIVE
Ellen Malinowski

**TECHNOLOGY**

CHIEF TECHNOLOGY OFFICER
Aaron Jones

DIRECTOR, IT & WEB OPERATIONS
Sean Greathouse

IT MANAGER Walter Clegg

NETWORK MANAGER Rodney Barnes

IT DEVELOPMENT Stan Erhart

SYSTEMS ANALYST Eileen Quan

IT SPECIALIST Scott Reyna

SENIOR SYSTEM/NETWORKS ADMINISTRATOR Wil Schultz

SYSTEM/NETWORKS ADMINISTRATOR
John Wang

DIRECTOR, APPLICATIONS DEVELOPMENT Jim Hutson

SENIOR APPLICATIONS DEVELOPERS
Arturo Flores, Wei Ming Xu, Bill Cappel, Alexis Barrera, Kieran Fitzpatrick

APPLICATIONS DEVELOPER
Justin Counts

PROJECT MANAGER Kayan Wong

**FINANCE**

SENIOR VP, COO/CFO Vicki Peilen

DIRECTOR, FINANCE Diane Ryczek

DIRECTOR, ACCOUNTING
Michelle Reyes

DIRECTOR, FINANCIAL AD OPERATIONS Diane Hacker

DIRECTOR, ADVERTISING ACCOUNT SERVICES Kevin Greene

STAFF ACCOUNTANT
Scott Lum-Duenas

## ADVERTISER'S INDEX

**Type find.pcworld.com/ plus the five digit number below, to go directly to any advertiser in this list.**


| Advertiser | Page | Find-It # |
|---|---|---|
| 1&1 Internet Inc. | 16-17 | 60493 |
| Acer America Corp. | 33-40 | 60470 |
| Alienware | 29 | 60471 |
| Antec, Inc. | 99 | 60501 |
| Anthro Corporation | 15 | 60508 |
| APC | 69 | 60495 |
| APC | 103 | 60494 |
| APC | 119 | 60496 |
| ASUS | 12 | 60513 |
| ATEN | 89 | 60498 |
| AVG Internet Security | 63B | 60492 |
| Buffalo Technology | 67 | 60472 |
| Canon USA | 21, 23 | 60499 |
| CDW | C2-1 | 60473 |
| CDW | 46 | 60474 |
| CyberPower PC | 71 | 60475 |
| CyberPower PC | 101 | 60476 |
| ESET Smart Security | 56-57 | 60505 |
| Fujitsu | 43 | 60477 |
| G7 Productivity Sys. | 74 | 60521 |
| HP | 45 | 60478 |
| HP | 55 | 60479 |
| HTC and AT&T | 51, 79 | 60503 |
| IBM | 77 | 60490 |
| Intel Corporation | 27 | 60491 |
| IRIS Inc. | 73 | 60480 |
| Linksys | 31 | 60514 |
| Livescribe, Inc. | 5 | 60522 |
| McAfee | 49 | 60481 |
| Moneual Lab | 61 | 60507 |
| NetApp | C4 | 60485 |
| Nikon | 9 | 60518 |
| Norton | 6 | 60517 |
| pcAmerica | 113 | 60486 |
| R-Tools Technology | 75 | 60497 |
| Samsung Americas | 10 | 60482 |
| Sanus Systems | 65 | 60515 |
| Shuttle Computers | 52 | 60510 |
| Siber System, Inc. | 4 | 60487 |
| Siber System, Inc. | 104 | 60488 |
| Sleek Audio | 2 | 60519 |
| SoftMaker | 14 | 60520 |
| SonicWALL | C3 | 60502 |
| SpectorSoft Corp | 3 | 60511 |
| Systor Systems, Inc. | 57A | 60506 |
| TRENDnet | 63 | 60483 |
| Tripp Lite | 97 | 60484 |
| Verizon Wireless | 25 | 60489 |
| Wilson Electronics | 81 | 60509 |
| Zalman USA | 57B | 60512 |


International Data Group (IDG) is the world's leading technology media, research, and event company. A privately-held company, IDG publishes more than 300 magazines and newspapers including Bio-IT World, CIO, CSO, Computerworld, GamePro, InfoWorld, Network World, and PC World. The company features the largest network of technology-specific Web sites with more than 400 around the world. IDG is also a leading producer of more than 170 computer related events worldwide including LinuxWorld Conference and Expo®, MacworldConference and Expo®, DEMO®, and IDC Directions. IDC provides global market research and advice through offices in 50 countries. Company information is available at http://www.idg.com.

# Full Disclosure

STEPHEN MANES

## Microsoft TV: Too True to Be Funny!

SOME STUFF YOU can't make up. In April, *Mediaweek* really did report that at a Microsoft event, MSN's Gayle Troberman announced new online TV concepts. Among them: *In Need of Repair*, described as "a male-skewing home improvement series featuring a pair of sophomoric, mostly inept, hosts."

Troberman said the shows could be tweaked to advertisers' needs, but the first script seems destined for a major overhaul. I can't vouch for its provenance, but the informant who sent it to me claims to have fished it out of a Recycle Bin at an undisclosed location in Redmond, Washington.

*FADE IN:*

*Bilgey and Butthead, in overalls with "B & B Windows" emblazoned across their chests, confront an irate customer in his home. Bilgey has a whiny voice and a really bad haircut; Butthead is all bluster, no hair.*

CUSTOMER: Look at this! You said you'd fix my windows!

BILGEY: Replaced 'em! All new! Innovative!

BUTTHEAD: Great job! Great job!

CUSTOMER: It's like looking through a fun-house mirror!

Two incompetent window installers. Scads of irate customers. Thank heavens it's fiction!

BILGEY: That's our slogan: New windows! More fun!

CUSTOMER: Can't you see how distorted they are?

BUTTHEAD: They're high tech. And green! Recycled!

BILGEY: They're our new Blista Windows.

BUTTHEAD: You ever wonder what happens to those plastic blister-packs that stuff comes in?

BILGEY: The ones you have to open with a knife?

CUSTOMER: No.

BUTTHEAD: Well, that's what these windows are made of.

BILGEY: They're much safer than regular windows. Watch!

*(Butthead smacks a window with a hammer; a chunk falls out.)*

BILGEY: With a normal window, glass would be all over.

CUSTOMER: But now this one has a hole in it.

BUTTHEAD: No problem! These windows have a patch kit. It's free. We'll send it to you. Even tell you how to install it!

CUSTOMER: But I'm not a windows installer!

BILGEY: You are now.

CUSTOMER: Besides, I can't even open these windows.

BUTTHEAD: Safety feature! Unusable Aperture Control!

BILGEY: UAC for short! Protects you!

BUTTHEAD: If you opened them, anything could happen!

BILGEY: A squirrel might run in!

BUTTHEAD: A hamster might fall out!

BILGEY: With UAC, you're safe!

CUSTOMER: And hot. I want windows that open. And ones I can see through. Put the old ones back.

BUTTHEAD: Won't do it.

BILGEY: Can't do it.

BUTTHEAD: We don't support those dangerous old things.

CUSTOMER: You're saying I'm stuck with these?

BILGEY: Just till our new version.

BUTTHEAD: Upgrade. New. We call 'em Blasta Windows.

BILGEY: Ready by the end of the year.

*(B & B exchange glances and snigger hysterically.)*

CUSTOMER: What'll they cost me?

B & B *(together)*: You don't want to know!

CUSTOMER: How long have you been doing this?

BILGEY *(proudly)*: You're our first customer.

CUSTOMER: What did you do before?

B & B: We were in . . . the software business!

*(They laugh uncontrollably as the sound track swells.)*

*FADE OUT...* ●

ILLUSTRATION: JOHN CUNEO

IDG

Volume 26, number 7, *PC World*™ (ISSN 0737-8939) is published monthly at $24.95 for one year (12 issues), $49.90 for two years (24 issues), $74.85 for three years (36 issues) by PC World Communications, Inc., 501 Second Street #600, San Francisco, CA 94107. Foreign orders must be prepaid in U.S. funds with additional postage. Add $12 per year for Canada; add $30 per year for airmail for all other countries. Canadian GST Registration #R124669680. Periodicals Postage Paid at San Francisco, California, and at additional mailing offices. Canada Post Publications Mail Agreement #40612608. Return undeliverable Canadian addresses to: Bleuchip Intl., P.O. Box 25542, London, ON N6C 6B2. POSTMASTER: Send address changes to PC World, Subscription Dept., P.O. Box 37571, Boone, IA 50037-0571. Editorial and business offices: 501 Second St. #600, San Francisco, CA 94107, 415/243-0500. Copyright © 2008 PC World Communications, Inc. All rights reserved. The trademark PC World is owned by International Data Group and used under license by PC World Communications, Inc. Technology Advice You Can Trust™, PC World Top 10™, Top 10™, PC World Top 100™, Top 100™, and Consumer Watch™ are trademarks of International Data Group, Inc., and used under license by PC World Communications, Inc. Printed in the United States.

# THINK SPAM WILL NEVER DIE? THINK AGAIN.

# TAKE A DEEPER LOOK.

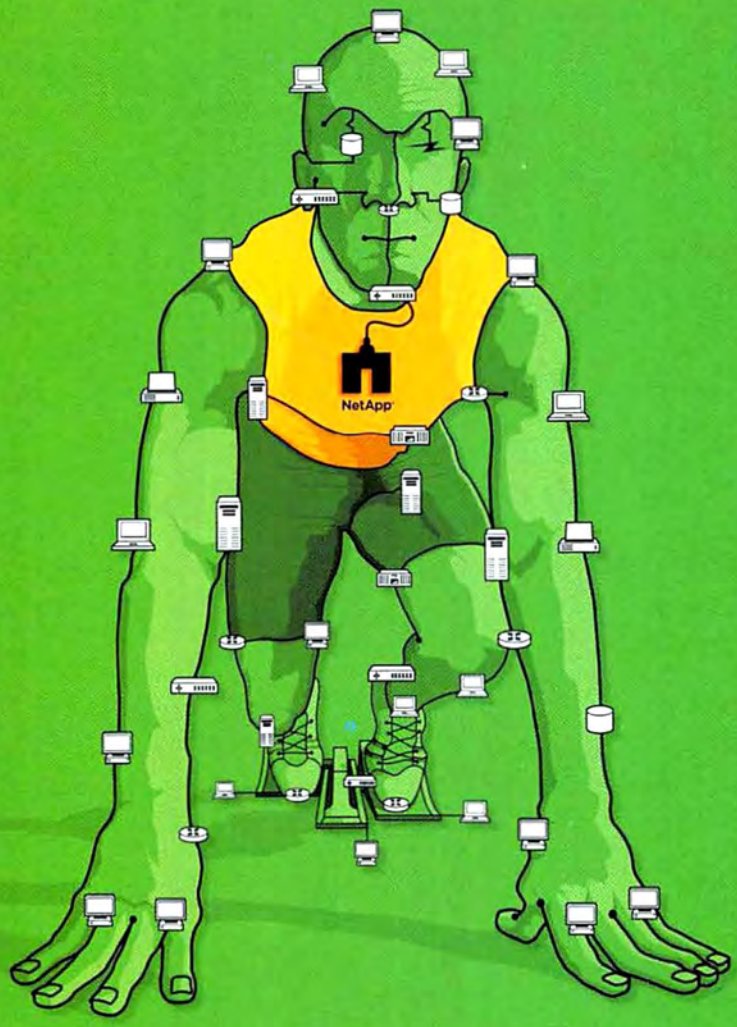
Existing anti-spam solutions are no match for the relentless spam infestations invading inboxes every day. That's why you need SonicWALL® Email Security, the elegantly simple, brutally effective anti-spam solution. SonicWALL provides unique protection against spam—and other e-mail threats like phishing attacks—by actively gathering vital learning from an expansive network of users and sources called the SonicWALL Global Response Intelligent Defense (GRID) Network. With more than one million users, the GRID Network provides collaborative intelligence, enabling SonicWALL to deliver a fast and accurate response to the latest spam threats. SonicWALL Email Security is also simple to manage, requiring just minutes for deployment and minutes of maintenance per week to keep users spam-free. Take a deeper look at our Email Security solution and kill the spam using our Try and Buy program free trial. Learn more at **www.sonicwall.com/anti-spam** or call **1.888.557.6642**.

NETWORK SECURITY | SECURE REMOTE ACCESS | **WEB AND E-MAIL SECURITY** | BACKUP AND RECOVERY | POLICY AND MANAGEMENT

SONICWALL

PROTECTION AT THE SPEED OF BUSINESS®

© 2008 SonicWALL, Inc. SonicWALL, the SonicWALL logo and Protection at the Speed of Business are registered trademarks of SonicWALL, Inc.




With NetApp at the heart of your business, you can

**ACCELERATE YOUR THINKING**

and bring breakthrough ideas to market faster.

Leave your competition behind. Because with NetApp, you can provision, test, and deploy new applications in days instead of months, keeping your business a step ahead. What's more, you'll love the commitment of our team of experts who share your drive and winning vision. Learn how our storage and data management solutions can help your business go further, faster. Visit netapp.com/breakthrough.

NetApp™
Go further, faster

© 2008 NetApp. All rights reserved. Specifications are subject to change without notice. NetApp, the NetApp logo, and Go further, faster are trademarks or registered trademarks of NetApp, Inc. in the United States and/or other countries. All other brands or products are trademarks or registered trademarks of their respective holders and should be treated as such.