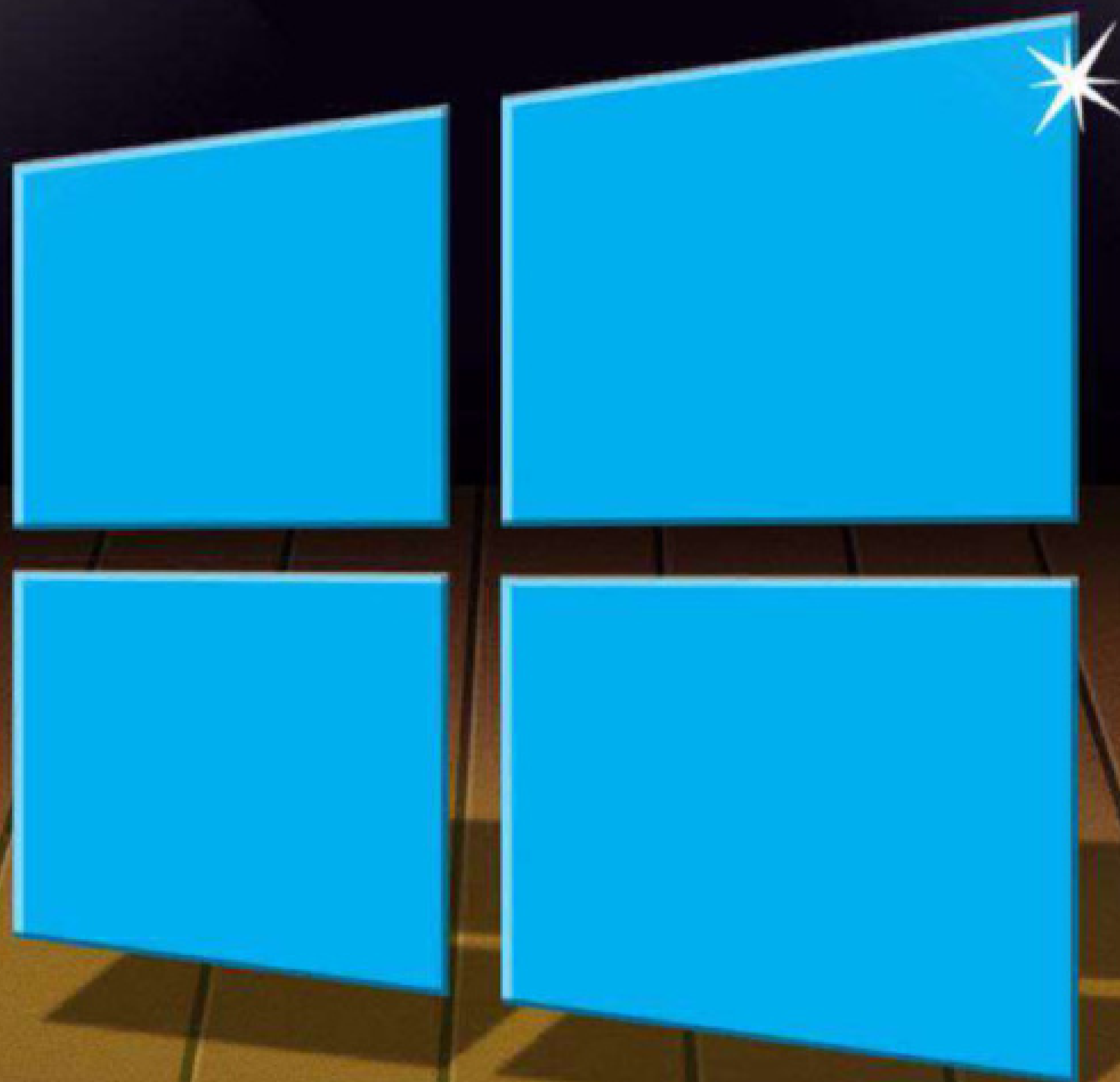


PCWorld

JANUARY 2015



Windows 10's next big reveal

Microsoft will unveil a raft of consumer features on January 21. **Read on for hints of what's coming.**

ALSO: **FIVE HANDY USES FOR AN OLD PC**



ULTRA SILENT GAMING PC CHASSIS

DEEP SILENCE 3



Part of the complexity of silent designs with fans is managing the air intakes and vents as this is where noise comes from. This steel mid-tower sized case is lined with special combination of bitumen + foam to absorb airborne noises. If massive data storage, cooling system and low noise levels are your utmost priority, the Deep Silence won't disappoint.



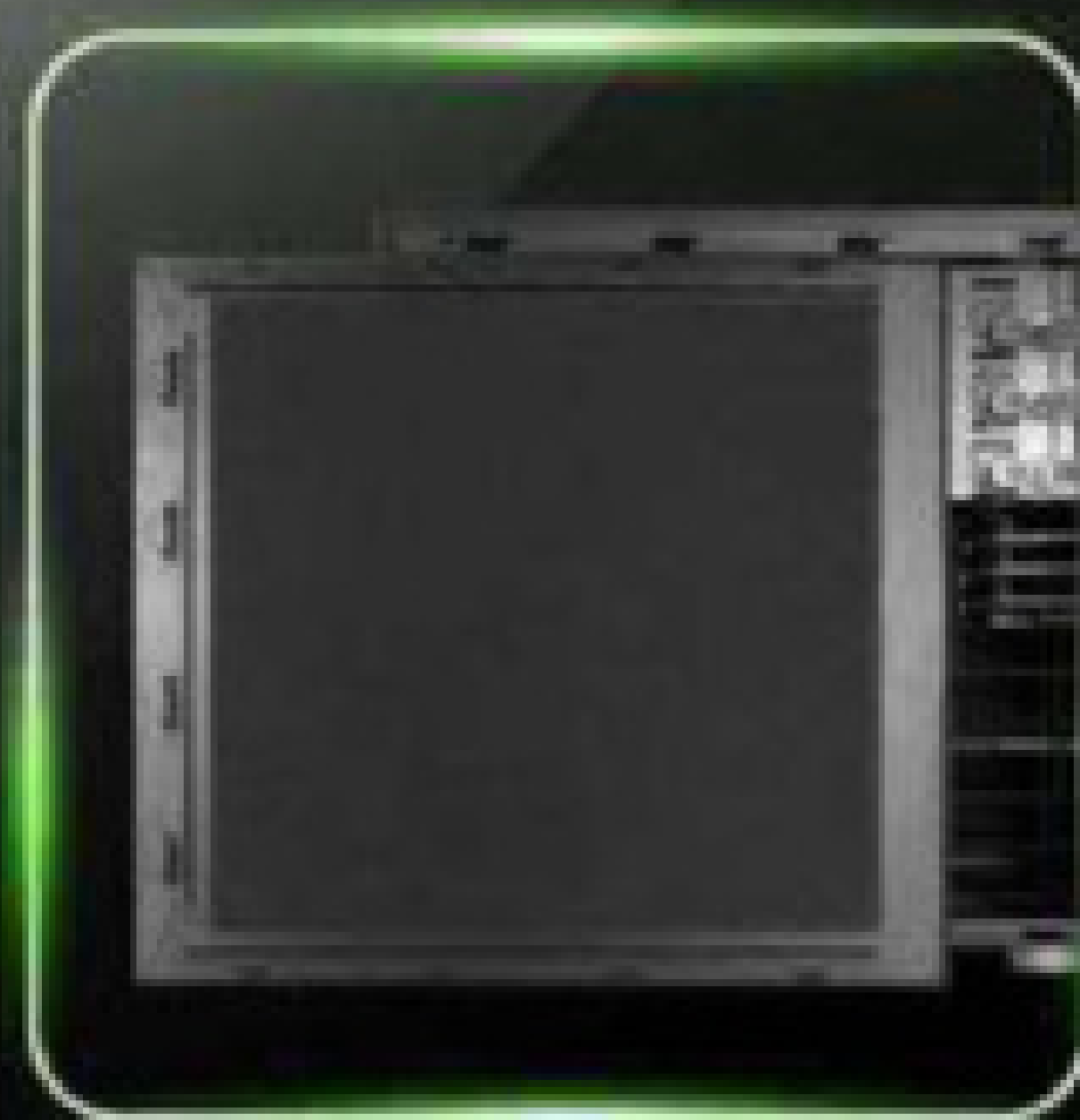
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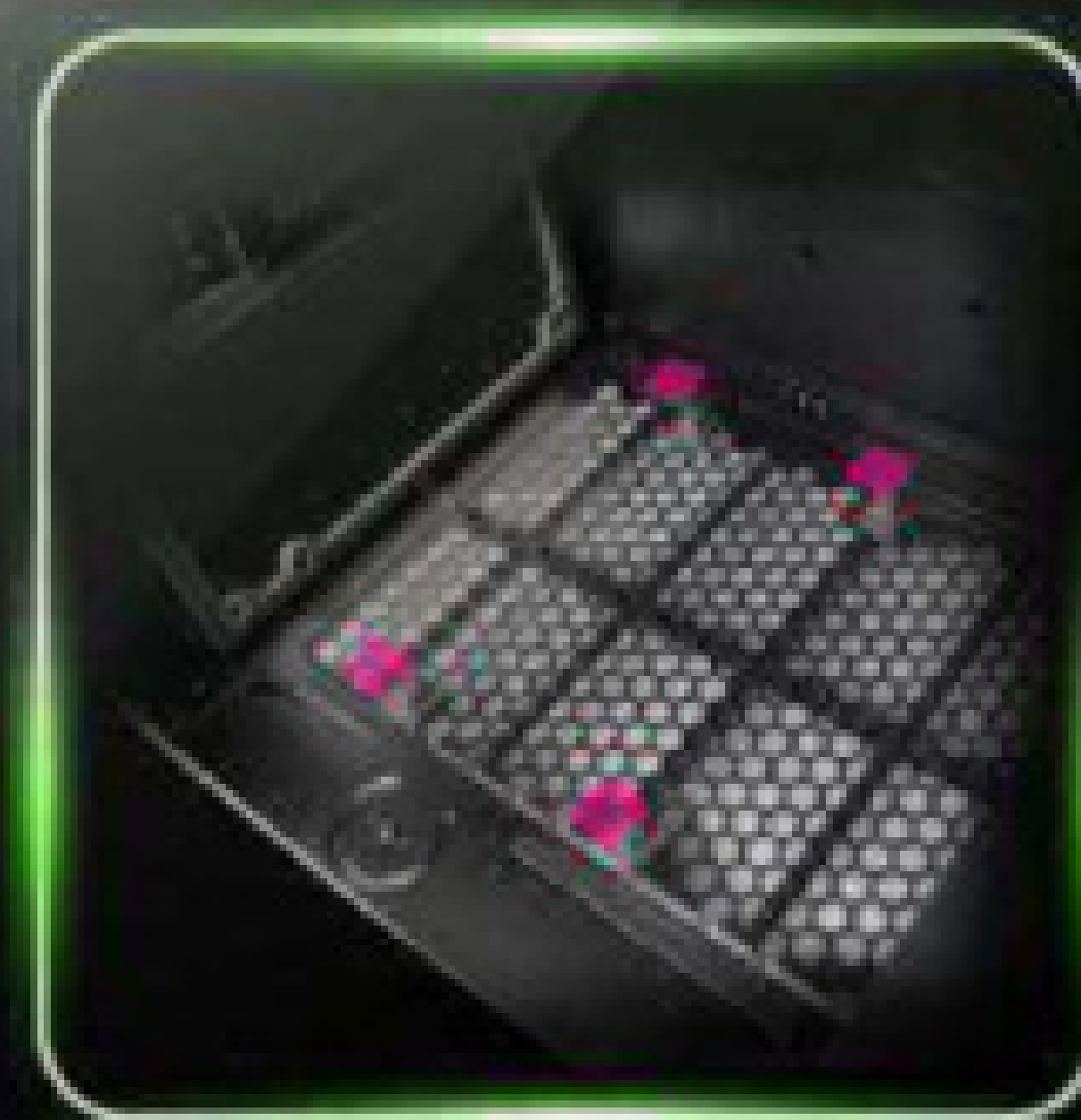
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Built to absorb airborne noises and vibrations

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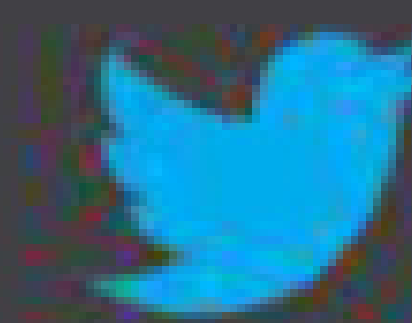


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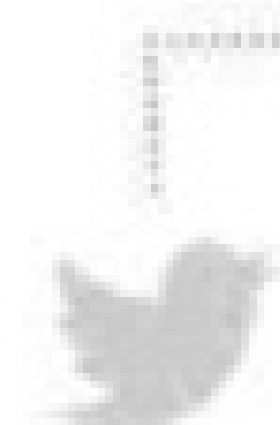
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HELP KEEP THESE KIDS IN PLAY.

**175,000 KIDS WILL BE
DIAGNOSED WITH
CANCER THIS YEAR.**

Children are our greatest hope for the future.
Let's be their greatest hope too.

Cancer strikes infants and children. For teens
and young adults, survival can depend on
treatment by a pediatric oncologist, designed
specifically for them.

The St. Baldrick's Foundation and Stand Up To
Cancer are funding groundbreaking collaborative
research to bring the most effective therapies to kids
fighting cancer. To learn how you can help keep
these kids in play, go to stbaldricks.org/inplay and
standup2cancer.org/pediatrics.

Julia Hernandez
Diagnosed at 16,
in remission.

Samuel L. Jackson
Stand Up To Cancer and
St. Baldrick's Ambassador



**St. Baldrick's
FOUNDATION**

Conquer Childhood Cancers



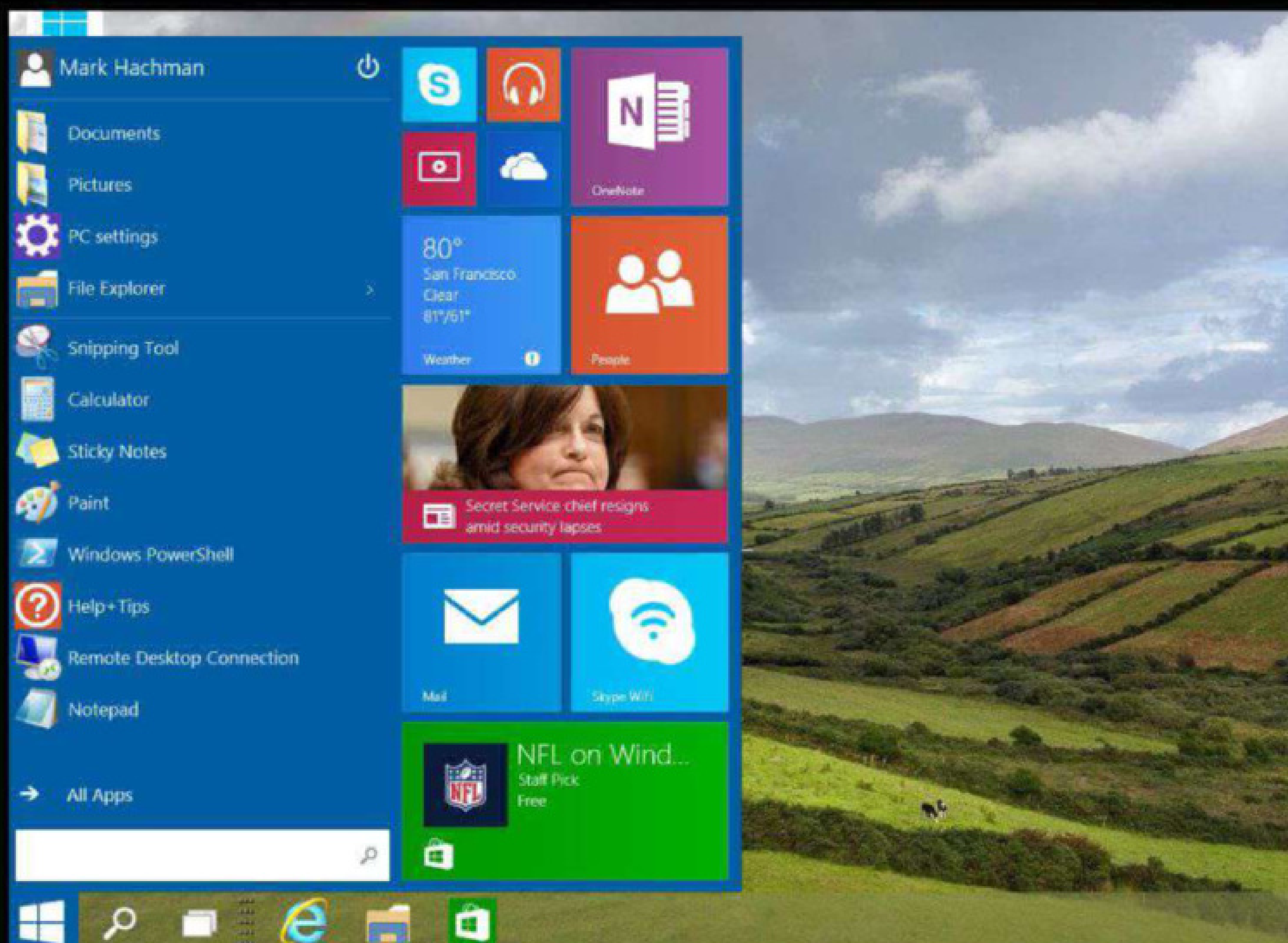
St. Baldrick's Foundation is a charitable 501(c)(3) organization funding childhood cancer research.
Stand Up To Cancer is a program of the Entertainment Industry Foundation, a 501(c)(3) charitable organization.

Photo by Nigel Parry

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Microsoft to detail 'next chapter' of Windows 10

January 21st announcement to tout new features for consumers.

MARK HACHMAN

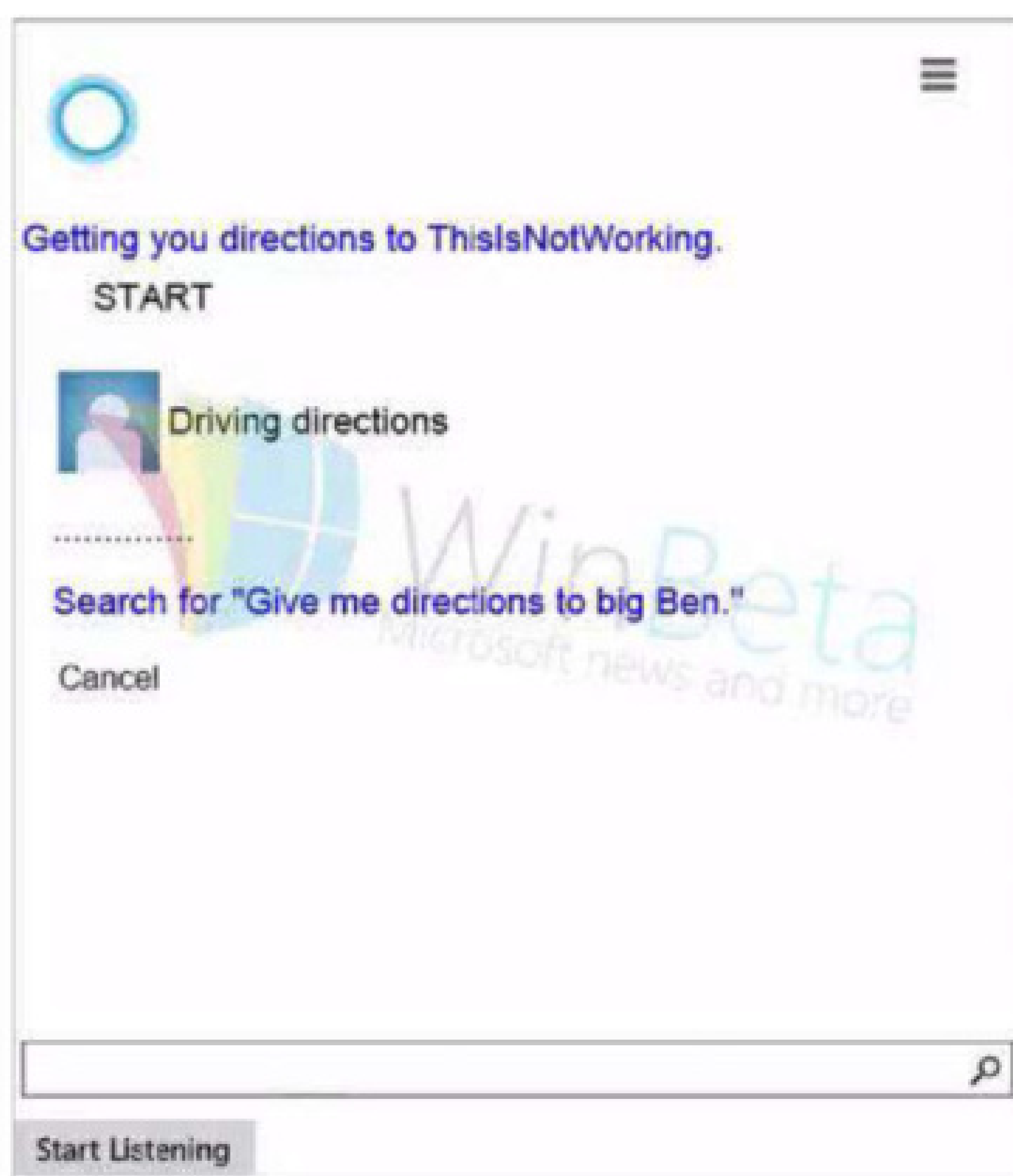
A

T THE END OF September, Microsoft unveiled Windows 10 with an eye toward the business market and productivity. In January, Microsoft said it would detail the “next chapter” of Windows 10, revealing new features for consumers.

Microsoft announced that it would hold a Webcast and an in-person event in Redmond on Jan. 21, where chief executive Satya Nadella, plus senior executives in Microsoft's Operating Systems division—Terry Myerson, Joe Belfiore and Phil Spencer—will discuss the new operating system.

When Myerson, the executive vice president of the Operating System group, announced Windows 10 in September, he pitched it as an enterprise product with an interface that would be “familiar” for Windows 7 or Windows 8 users. “They will find all the tools they’re used to finding, with all the apps and tools they’re used to today,” he said.

As it turned out, those features included the revamped Start menu; the new “task view,” virtual desktops and ALT-TAB features; windowed apps; and the new “snap assist” capability. Our hands-on of the Windows 10 Technical Preview (go.pcworld.com/win10preview) was very positive, and Microsoft has been busy refining the OS and its features through subsequent builds of the new operating system: Build 9860 (go.pcworld.com/9860) included notifications, for example, and the November 9879 build (go.pcworld.com/9879) tweaked the toolbar and simplified the OneDrive experience. Microsoft subsequently said that it would not release any new builds over the holidays, and instead release new code early in 2015.



An alleged
early build of
Cortana on
Windows 10.

In October, we talked about some of the consumer features (go.pcworld.com/next) we expect to see next in Windows 10: notifications; Microsoft's digital assistant, Cortana; Internet Explorer 12; and an improved app store. We've seen enough leaks that it's almost certain that Cortana (go.pcworld.com/leaks) will be included in the consumer build released on or about the January timeframe. Microsoft also showed off a "Continuum" concept where the UI would shift between the traditional Windows 8 Start page and the desktop experience, depending on whether or not a hybrid tablet or Surface was docked or undocked.

Finally, there's the business play—not Windows as a business tool, but how Microsoft plans to monetize it. There's been quite a bit of speculation whether or not Windows 10 will be a free upgrade for Windows users, sold at a discounted price, or combined with some sort of services bundle or subscription to make up the difference. Microsoft chief operating officer Kevin Turner has indicated (go.pcworld.com/turner) that Microsoft will begin addressing some of these issues early next year—whether or not Jan. 21 will be the date he does that, however, isn't certain.

While Microsoft traditionally showcases a few of its flagship features, hundreds more simply make Windows better, behind the scenes.

Why this matters:

While the inclusion of Cortana may almost be an anticlimax after the many leaks, it's also arguably the centerpiece of the Windows Phone experience. How will Cortana translate to Windows' help functions? To your calendar? To Office? And what else does Microsoft have behind the curtain? While Microsoft traditionally showcases a few of its flagship features, hundreds more simply make Windows better, behind the scenes.

The consumer reveal, then, could offer some valuable strategic insight as to how Microsoft takes Windows forward—as well as some new goodies for geeks to play with. We're looking forward to this for both reasons. 🔌

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AC power cords recalled due to spark, burn risk

go.pcworld.com/cpsc

BY IAN PAUL

LENOVO IS ISSUING a recall for more than 500,000 computer AC power cords in the U.S. after receiving reports of the cord overheating, sparking, melting, and burning. All problematic cords were reported by users outside the U.S. The current recall also affects 44,000 devices sold in Canada, according to the U.S. Consumer Product Safety Commission (go.pcworld.com/cpsc).

The recall could apply to anyone who purchased an IdeaPad laptop from the B-, G-, S-, U-, V- or Z-series between February 2011 and June 2012. Plain vanilla Lenovo laptops with no IdeaPad or ThinkPad

branding are also affected if they are from the B-, G-, and V- series. You can find a complete list (go.pcworld.com/recall) of affected models on Lenovo's website.

The impact on you at home: If you're affected by the recall, Lenovo is urging you to cease using the defective power cords immediately. The company is offering a free replacement you can claim via its customer service line at 1-800-426-7378. Operating hours are between 9 a.m. and 5 p.m. ET Monday through Friday.

Second major recall in 2014

This is the second major recall for Lenovo in 2014 after the company had to call back more than 34,000 ThinkPad battery packs in March. Lenovo wasn't the only company to recall batteries this year, however, with both Panasonic (go.pcworld.com/panasonic) and Sony (go.pcworld.com/sony) also calling back defective products. 🔌

Checking your cord model number

Beyond determining your model number, you can also check your power cord to see if you have the potentially defective model.



1 First unplug your PC from the power source and then remove the power cord from your PC.



2 Next, remove the cord from your power brick (the part that goes between your laptop's power brick and the wall outlet).



3 On the end that plugs into your brick, check to see if the model number is LS-15 as pictured at right. That's the defective model number. If you don't see LS-15 then you should be in the clear.



Why Apple wiped your iPod songs without telling you

BY CAITLIN MCGARRY

INTERESTING NUGGETS OF information tend to come out of Apple trials, and December's iTunes class-action (go.pcworld.com/lawsuit) courtroom drama is no exception. The plaintiffs claim Apple would delete songs downloaded from rival music services when iPod owners synced their devices to iTunes over a two-year period from 2007 to 2009.

Apple didn't deny the claim raised by attorney Patrick Coughlin in U.S. District Court Wednesday. Security director Augustin Ferrugia said Apple would remove songs to prevent users from syncing malicious files to their computers, according to a *Wall Street Journal*

report (go.pcworld.com/wsjsreport) from the courtroom.

But the problem, Coughlin argued, is that Apple didn't tell users which songs were potentially harmful. Instead, the company would push an error message telling the user to restore factory settings on the iPod and remove the offending files in the process.

"We don't need to give users too much information," Farrugia offered by way of explanation.

The Apple-knows-best policy may come back to bite the company.

Why this matters

The Apple-knows-best policy may come back to bite the company, even if its actions were in the interest of protecting iTunes from hackers. Plaintiffs are seeking \$350 million in damages over claims that Apple violated California antitrust law by preventing iTunes music from being played on non-Apple devices and vice versa. If Apple did remove rival services' songs from iTunes libraries without disclosing what it was doing, as Ferrugia indicated, the company might have to pay up.

The class-action suit has been in the making for more than a decade—Apple actually removed DRM from iTunes five years ago, so class-action status only covers iPod purchases from September 2006 to March 2009.

We expect to hear more fun facts when Eddy Cue, Phil Schiller, and videotapes of Steve Jobs appear in court. 🔌



Insights for Office adds context as you write

BY MARK HACHMAN

IN ANY MODERN browser, you can highlight a word or phrase, right-click it, and choose to search for more information on those specific terms. Now you can do it in Microsoft Word, as you write.

Microsoft's Insights for Office is a new capability Microsoft added to Word Online—but not Office 365, Word 2013, or even the other Office Online apps. (Office Online (office.com/start) offers online versions of Word, PowerPoint, Excel, OneNote, and Outlook, plus access to your calendar, People contacts, and OneDrive cloud storage.)

When you right-click a word in Word Online, Microsoft gives you

several options, including cut, copy, and paste, the ability to add a hyperlink, and more. With the new addition, choosing Insights will bring up a right-hand sidebar that Microsoft says will offer up information from Bing Snapshot, Wikipedia, Bing Image Search, and more. Bing scans your text so that it knows you're looking for apples, rather than Apple.

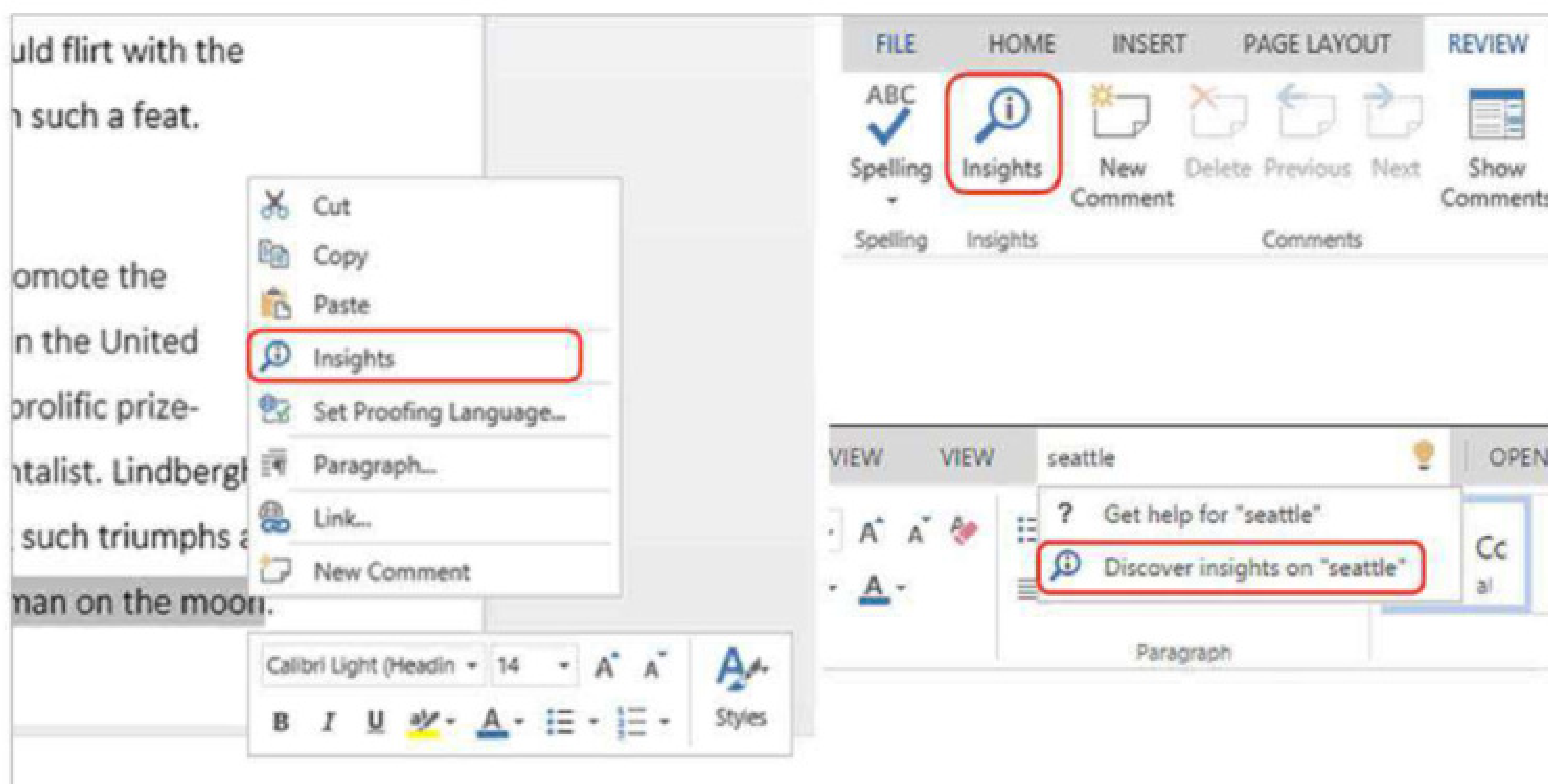
Essentially, Insights represents a Bing search bar for Word. And if that wasn't clear enough, Microsoft has tweaked the functionality of the "Tell me what you want to do" (aka "Tell Me") box at the top of the page—which was already a search box, basically—and added the Insights feature to it, too.

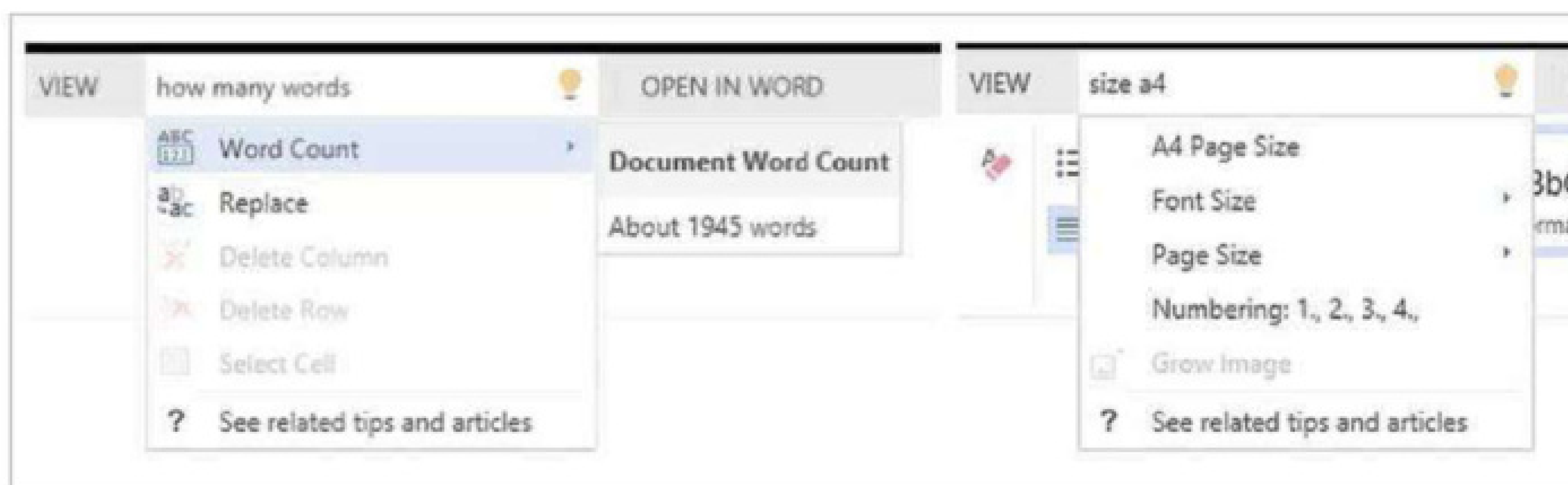
Unfortunately, Insights appears to be an online-only feature for now. Microsoft hasn't added it to its Office 365 roadmap (go.pcworld.com/roadmap), although some of its other improvements will migrate to Office 365.

PDF enhancements and other improvements

Microsoft also solved one of the small annoyances that accompany Adobe PDF files: embedded images, which themselves contain

There are several ways to tap Insights for Word Online.





embedded text—a photo of a restaurant menu, for example. Using Microsoft’s Office Lens technology, Word Online can now scan those images and extract editable text. You can even search your document, and Word will find “Duck a L’Orange” in the embedded text.

Even better, you can convert a PDF to an editable Word document, and edit it. Word saves the formatting and layout.

Microsoft’s Word Online also includes other improvements: pagination, with visible page boundaries; and new support for symbols including £ or ¥. You can also ask the Tell Me bar for your document word count, although Word already displays that information at the bottom of the page. But Tell Me also exposes related commands, too, even those that may have been hidden by sub-menus. It sounds remarkably similar to the way search works in Windows 8 proper, where you can search for “Bluetooth settings,” for example, and jump right to that menu.

And if you don’t like what you see? Microsoft added product-specific feedback forums, too: Word Online (go.pcworld.com/word), Excel Online (go.pcworld.com/excel) and PowerPoint Online (go.pcworld.com/ppoint).

Still Office Online remains its own product, a free derivative of Office that is both further advanced and somewhat behind what Microsoft offers on Office 365 or in its standalone software. At some point, Microsoft may collapse the versions into a unified experience. For now, however, diversity rules the day. 🔌

Microsoft’s Tell Me box has also been improved, as it acts more like a search box.

Intel wants to put the smart into your smartwatch

BY MARK HACHMAN



INTEL'S WORKING HARD to establish a chiphold in the Internet of Things, as it emphasized in an "IoT Insights" event. But it's not going to go it alone.

Just as Intel's Xeon chips are built upon an ecosystem of partnerships, standards, and specifications, the company's forging similar kinds of agreements in IoT—a space dominated by embedded processors that already have a head start on Intel's Quark (go.pcworld.com/quark) and Edison (go.pcworld.com/edison) chips.

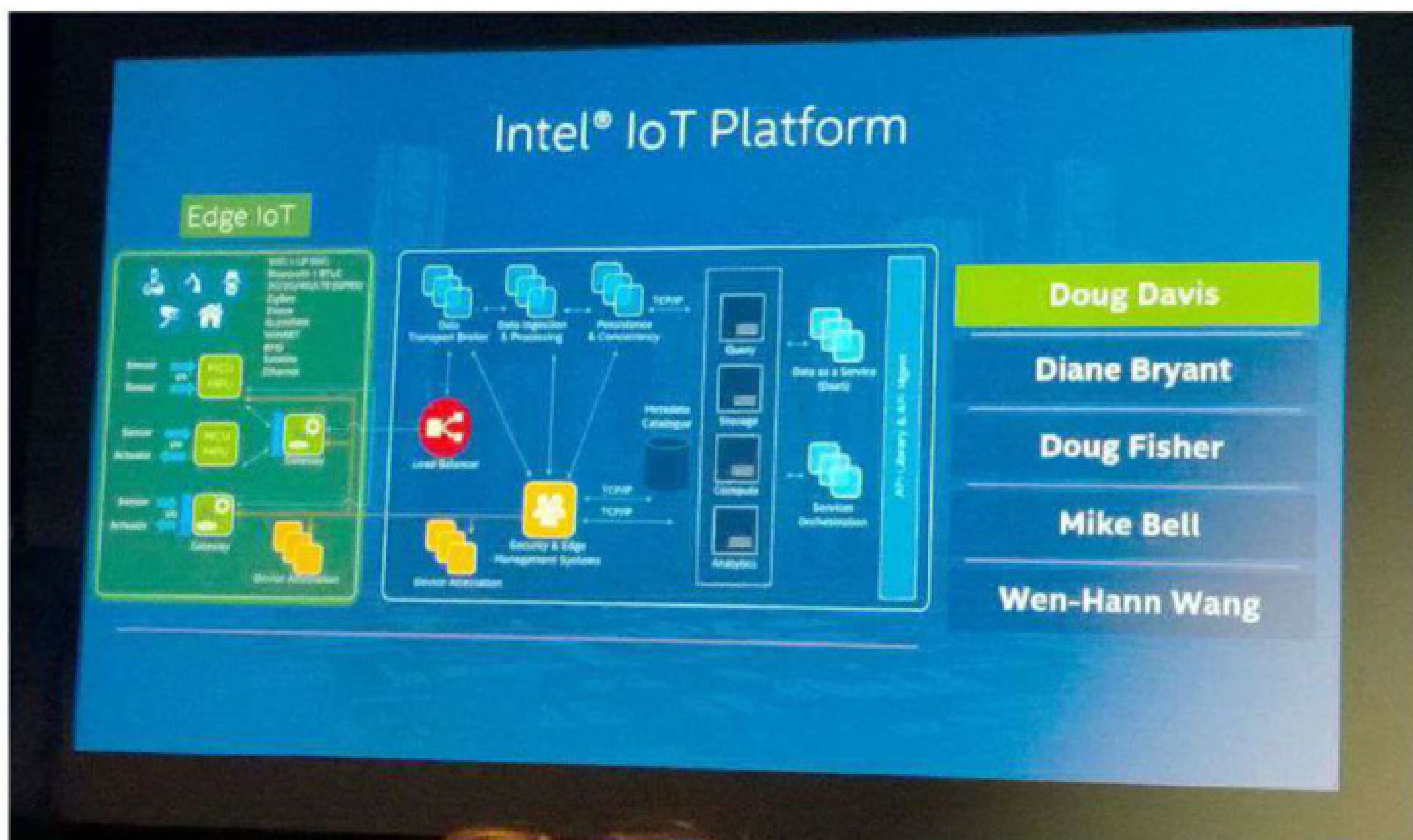
Doug Davis, the head of Intel's Internet of Things business, at the event in San Francisco.

Intel would seem to be operating at a disadvantage. ARM dominates the smartphone business, which is defined by small but powerful processors, while Intel's Atom chips have struggled to gain traction. In wearables, the challenge is tougher: Processors are smaller and consume even less power.

Not surprisingly, then, the IoT markets Intel chose to highlight put less of a priority on low power and more on processing data, an area where Intel excels. Intel used the event to launch a new IoT gateway, a device that will take in data from embedded sensors and devices and feed data to Intel's data center chips and services.

John Gilbert, the chief operating officer of Rudin Management, which operates a network of data centers and other buildings across New York City, described how data centers could actually allocate less energy to cooling as employees left for lunch. Employees generate 100 watts in heat per person, and Rudin saved a dollar per square foot per year in that savings alone—one million dollars per year. That savings opportunity wouldn't

Intel's platform for capturing the Internet of Things is large, complex, and holistic.



have been detected, let alone realized, without an investment in sensors and analytics, he said.

A “virtuous” cycle

Diane Bryant, the senior vice president responsible for Intel’s data center group, said the increased number of sensors and IoT devices—50 billion devices by 2020—creates a “virtuous cycle,” promoting demand for infrastructure and then analytics for that data, which then spurs growth of more sensors. Intel’s partners, including GE and IBM, recognize this, Intel executives said. But even a company like eBay can use data analysis to zero in on fraudulent transactions, Bryant said.

“Big data analytics is the next big technology disruptor,” she said.

To her credit, Bryant highlighted a Gartner study that showed that 65 percent of those polled among enterprises simply didn’t understand the value of big data—which could explain why Intel hosted the event.

Why this matters: While a competitor like ARM might regard the Internet of Things as a market it can dominate with its own embedded chips, Intel is taking a more holistic view: It can dominate the embedded device market via software, its data center technology, and more. It will be interesting to see whether Intel can use these other elements to dominate the market.

What should be noted, though, is that while Intel has talked at length about its embedded chips, Quark and Edison, those names were barely mentioned at the event. In part, that’s because Intel was late to the smartphone market—“ten years or so after that train had left the station,” said Patrick Moorhead, president of Moor Insights & Strategy.

Moorhead said Intel is making an ecosystem pitch, leveraging the fact that it owns much of the guts of a data center, including the Xeon processors, routers, and switches. What will be interesting, he said, will be the technology that it contributes to partnerships like Fossil (go.pcworld.com/fossil) and Luxottica (go.pcworld.com/luxottica). “Luxottica knows nothing about this sort of technology,” he said.

Big data analytics
is the next big
technology disruptor.

How Intel sees the wearables market.



Intel's IoT mission

Intel wants to connect devices, secure them, analyze that data, and then try to figure out how to monetize that data. Intel announced two products: a gateway that can be deployed to serve as a central reporting hub for IoT devices and then funnel that data to a server; and software from its Wind River division to manage and configure them.

Doug Fisher, general manager of Intel's Software and Services Group, said it's Intel's job to develop programs and tools to allow customers to innovate, rather than Intel itself. "My job is to get out of the way," he said.

"The future of things like smart homes and smart buildings—you heard it earlier—is the sharing of information," Fisher said.

That necessitates partnerships with everything from OpenJDK to Hadoop to Cloudera, both on the device level and at the data center. In between are the APIs that customers can use to translate the data devices transmit into actual data—what Fisher called the "connective tissue." API management is one of the core capabilities of Intel's IoT gateway.

"It can't be just the device, just the data center, or even just the connective tissue between them," Fisher said. "It has to be all of

these things, combined.”


Wearables, of course, are the most visible face of the Internet of Things: from high-end face-mounted computers like Google Glass, to fitness bands like the Basis smartband (go.pcworld.com/basis) that Intel itself bought earlier last year.

How Intel sees the wearables market.

Mike Bell, vice president and general manager of the New Devices Group, estimated that 400 million wearables will be sold by 2020. While Intel sells the Basis Band, the company has forged partnerships with watchmakers like Fossil and eyewear groups like Luxottica to integrate the company’s Edison chips. That’s the way Intel intends to go forward, Bell said: partnering with brands and allowing them to create their own branded portals, quietly powered by Intel’s intelligence.

“We consider wearables to be ‘personal IoT,’” Bell said. As wearable technology becomes more personal, they may serve as a form of identification that helps eliminate ID badges, he added.

Wen-Hann Wang, vice president and managing director of Intel Labs, said Intel’s research teams are working on ways to harvest power by translating vibration into energy that a wearable can use, while maximizing efficiency in general. Wang also said that Intel had developed and would license what it called enhanced privacy ID technology, which identifies a device as a member of a group, rather than something that’s locked to you, personally. Finally, Intel is working to prioritize video among embedded devices through quality of service, while cutting the power necessary to transmit video.

But for now, Intel’s busy nailing down the details. Some have said wearables are just wrist computers. Intel undoubtedly hopes so, because computers are a business it’s winning. 

As wearable technology becomes more personal, they may serve as a form of identification that helps eliminate ID badges.



How to stop SMS spam on your Android or iOS phone

The latest phones will let you block unwanted callers and texters.

BY BEN PATTERSON

“I TALIAN MADE RAY Bay, Oakley sunglasses :)” reads the Emoji-riddled iMessage sitting in your iPhone’s Messages inbox. “Pick up Your New RayBan Sunglasses Here before they run out!”

If you’re using iMessage on an iPhone or iPad, there’s a pretty decent chance one of these blaring spam messages has flashed on your screen, although I’m sure plenty of frustrated Android users have seen their fair share of SMS spam.

The bad news is that mobile spam—either the iMessage variety or plain-old SMS spam—appears to be on the rise, and tracking down the spammers is about as easy as quelling a hive of hungry cockroaches.

The good news, though, is that the latest iPhones and Android phones will let you block unwanted callers and texters—including mobile spammers—with a fair amount of ease.

For iPhone, all you need is in Settings

Got a spammy-looking message in your Messages inbox? As long as you have iOS 7 or later installed on your iPhone, the steps are pretty simple.

Open the message, tap Contact, then tap the little “i” button that appears.

Next, you’ll see a (mostly blank) contact card for the spammer who sent you the message. Scroll down to the bottom of the screen and tap “Block this caller.” C-ya, spammer.

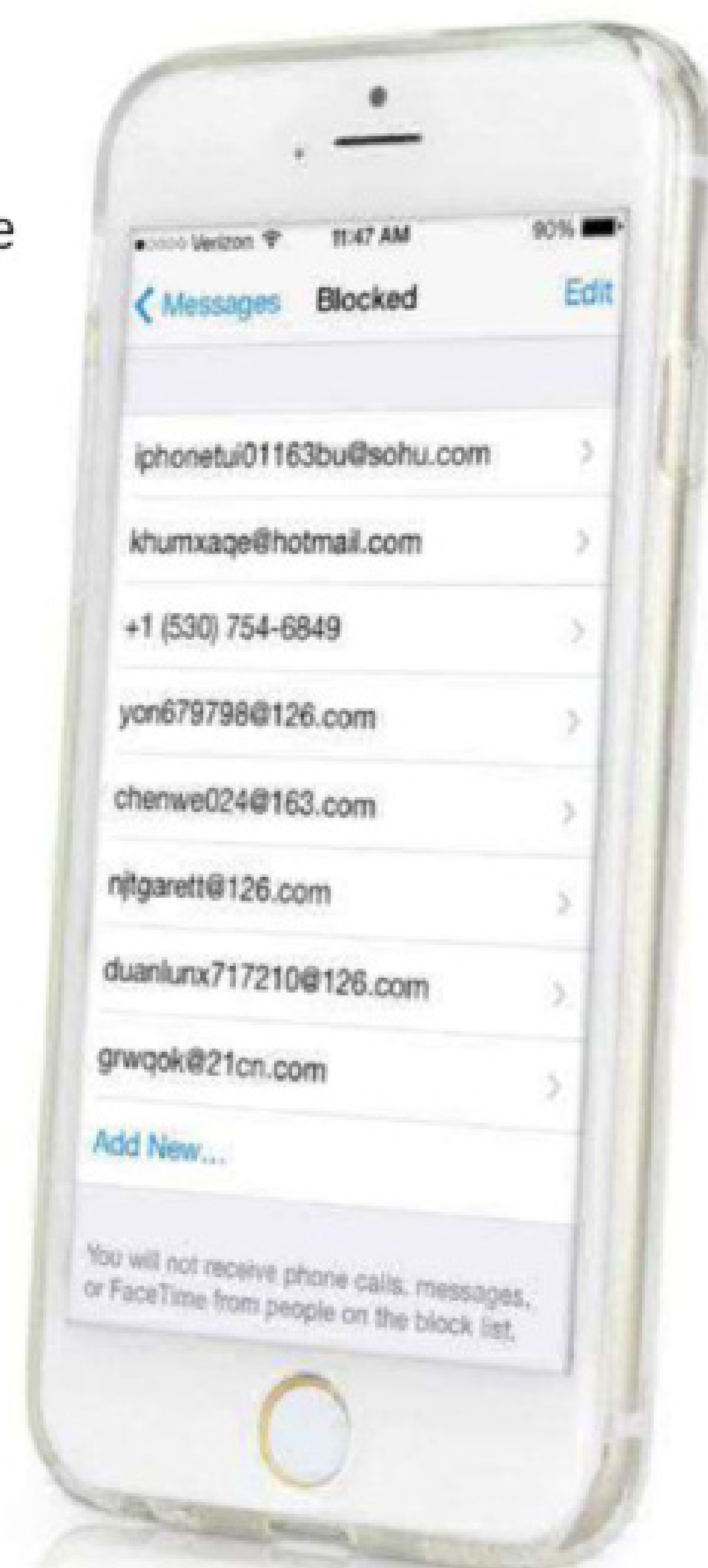
Want to see all the numbers and iMessage users you’ve blocked? Tap Settings, Messages, scroll all the way down to the bottom of the screen, then tap Blocked. To remove someone from the list, swipe the number or address from right to left, then tap the red Unblock button.

Of course, just because you’ve blocked one spammer doesn’t mean you’ve blocked ‘em all, but hey—it’s a start.

For Android, it’s a little more complicated

The SMS-blocking situation for Android is a bit more complex than for iOS—although to be fair, it wasn’t possible to block text messages on the iPhone at all until iOS 7 came around.

While the “stock” Messaging app won’t let you block SMS spammers, there’s a plethora of apps on the Google Play store that’ll do the job...or used to, anyway.

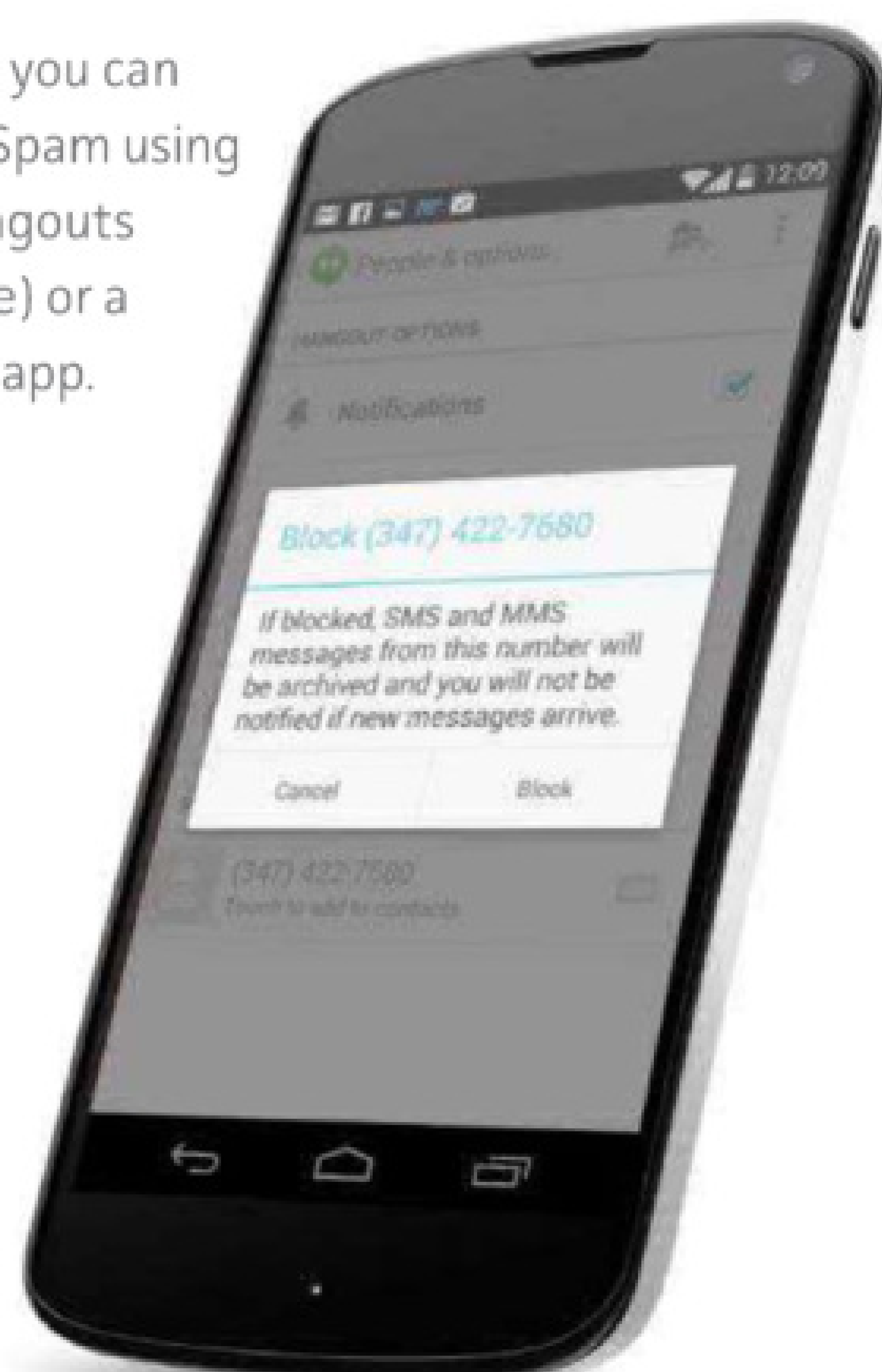


You can block SMS spam on iOS 7 and later by blocking the caller in your phone's settings.

Working in tandem with the standard Messaging app, third-party SMS-blocking apps (like SMS Filter (go.pcworld.com/sms) or Mr. Number (go.pcworld.com/mister) let you create and manage what's called a "blacklist"—that is, a list of phone numbers that you don't want to hear from again. Other anti-spam apps, like Postman (go.pcworld.com/post) and Spam Blocker (go.pcworld.com/block), will go ahead and flag suspected SMS spam.

But thanks to a new restriction in the latest version of Android—namely, that only one app at a time may tap into your SMS messages—many of these handy SMS spam-blocking apps have been rendered useless.

In Android, you can block SMS Spam using Google Hangouts (shown here) or a third-party app.



Block SMS spam with Hangouts on your KitKat-enabled phone

IF IT ISN'T on your phone already, download and install Hangouts from the Play Store.

1 Tap Settings, tap "More" under the Wireless & Networks heading, then tap "Default SMS app."

2 You should now see a list of apps on your phone (including Hangouts) capable of handling your SMS messages. Tap Hangouts, then head back to your phone's home screen.

3 Launch Hangouts. As you do, you should notice that the app automatically imports all your old text messages. See a rogue, spammy-looking SMS in your inbox? Open it,

tap the three-dot menu button in the top corner of the screen, then tap "People & options."

4 Tap "Block [number]" under the Hangout Options heading. Done!

WANT TO SEE ALL THE NUMBERS THAT YOU'VE BLOCKED?


Tap the three-dot menu button again, tap Settings, SMS, then tap "Blocked numbers" to see the blacklist. Change your mind about a specific caller on the list? Tap the "Unblock" button next to their name.

Now, it's very possible that your particular Android phone hasn't been updated to Android "KitKat" yet, in which case you're free to shop around for a dedicated SMS blocking app.

To find out, tap Settings, "About phone," then check the number that's listed under "Android version." If the number is 4.3 or below, your phone isn't running on KitKat yet.

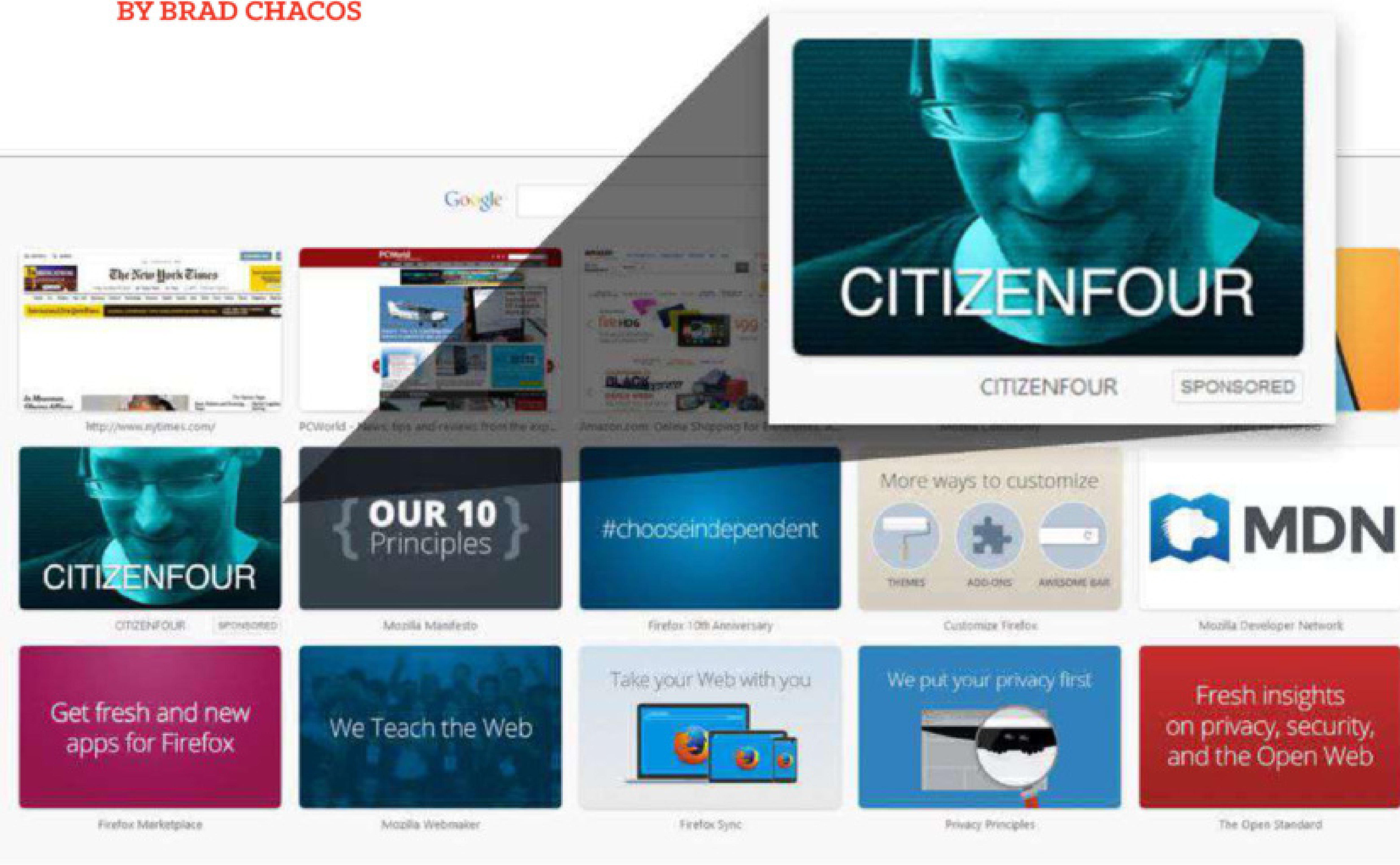
Is your phone's Android version listed as 4.4 or above? If so, you're using KitKat, and your device will need a new default messaging app that's capable of blocking SMS spam.

Luckily, there are plenty of third-party messaging apps on Google Play that fit the bill, such as EvolveSMS (a slick app that boasts its own blacklist feature (go.pcworld.com/evolve) and the aptly named SMS Blocker (which automatically detects and block "suspected" SMS spam (go.pcworld.com/smsblock)).

Another alternative is Google's own Hangouts app (go.pcworld.com/hangouts), which not only sends and receives standard SMS messages but lets you place spammers on a "blocked" list. 

Banish Firefox's new ads on the New Tab page

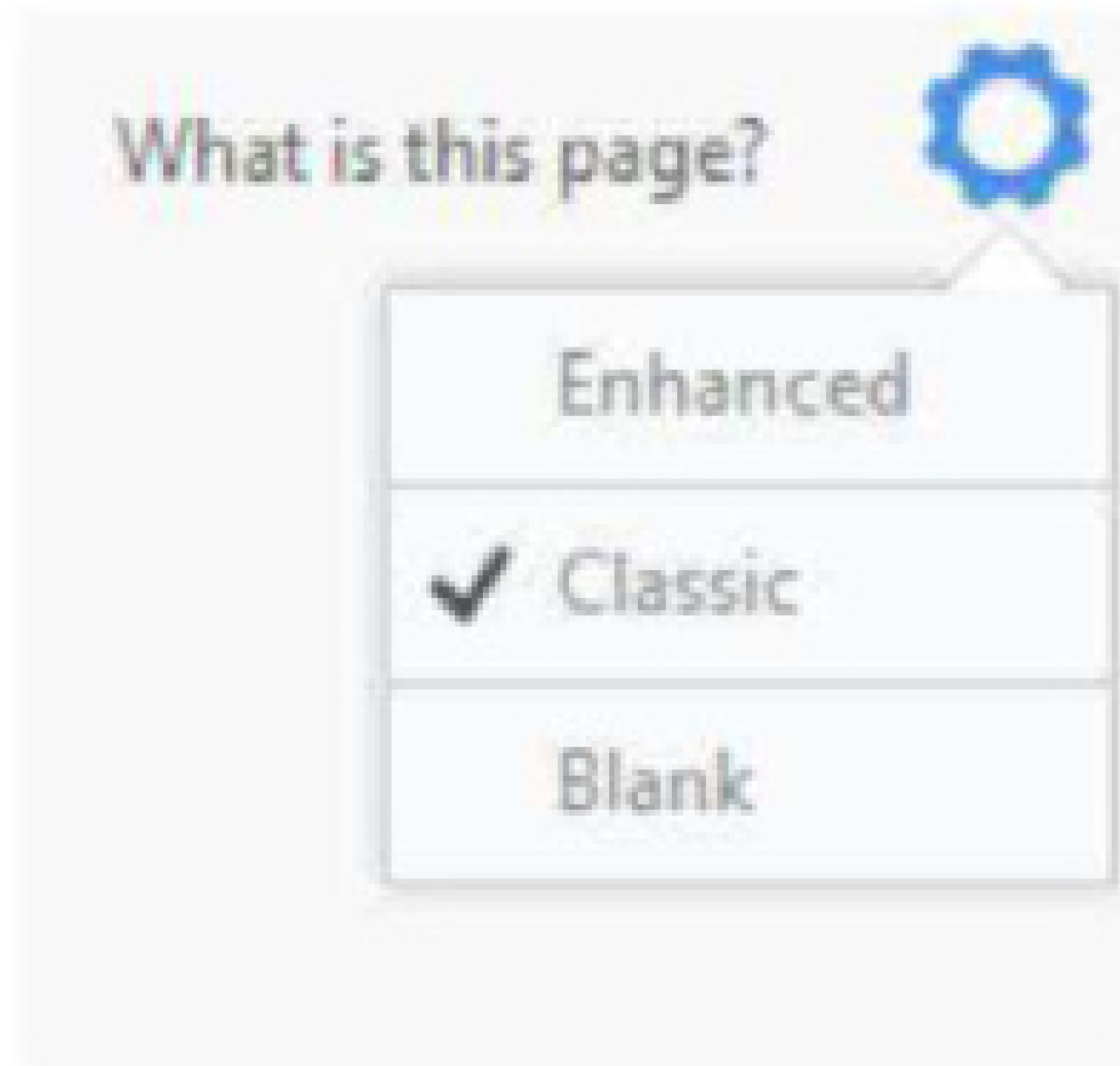
BY BRAD CHACOS



AFTER MONTHS OF teasing, tweaking, and controversy, Firefox's native ads have finally landed on the stable release's New Tab page (go.pcworld.com/newtab)—and just like we said when we saw the ads in Firefox's nightly preview builds, they're actually not so bad (go.pcworld.com/notbad).

They're unobtrusive, clearly labeled, and only collect user information in "aggregate form, meaning no data is personally identifiable." And the ads reduce Mozilla's overwhelming reliance on Google—which definitely does collect personally identifiable

The Citizenfour tile is a sponsored tile in this screenshot of Firefox's New Tab page.



Selecting Classic will force the New Tab page to only display sites from your browsing history.

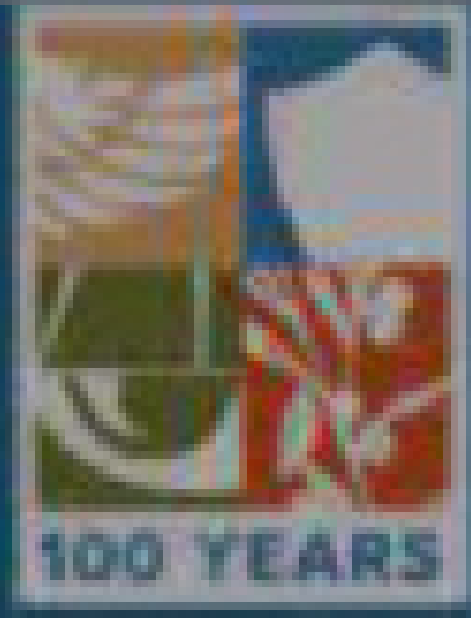
data—for revenue, which is nothing but a good thing for the future of the browser.

Even so, not everyone wants to see them. And continuing in Mozilla's pro-choice, pro-privacy (go.pcworld.com/tradition) tradition, Firefox makes it easy to disable the New Tab page ads.

Just open a new tab, then click the gear cog in the upper right-hand corner of the page. Three options appear in a drop-down menu: Enhanced, Classic, and Blank. The new ads will only appear if you're using the Enhanced option, which is enabled by default.

Selecting Classic will force the New Tab page to only display sites from your browsing history, while Blank is, well, a blank page. No aggregate data is collected once you disable the Enhanced tiles, either.

And that's it! Once you make that one, simple change, ads are gone forever from Firefox's New Tab page. But consider what you're doing before you flip the switch—Mozilla needs money to continue developing Firefox and fighting for the future of the open web, and the ads truly aren't much of an eyesore. 🔌



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FTC Obtains Court Orders Temporarily Shutting Down Massive Tech Support Scams

FTC, State of Florida Charge Companies Bilked \$120 Million from Consumers for Bogus Software and Tech Support Service

FOR RELEASE

November 19, 2014

TAGS: [deceptive/misleading conduct](#) | [Technology](#) | [Bureau of Consumer Protection](#) | [Consumer Protection](#) | [Advertising and Marketing](#) | [Online Advertising and Marketing](#) | [Telemarketing](#)

At the request of the Federal Trade Commission and the State of Florida, a federal court has temporarily shut down



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For Consumers

How to protect yourself from PC tech support scams

BY IAN PAUL

THE U.S. FEDERAL Trade Commission's game of whack-a-mole with Windows tech support scammers (go.pcworld.com/scammers) continues.

The FTC (go.pcworld.com/ftc) and the State of Florida recently announced the temporary shut down of several businesses in two new cases of Windows tech support scams. The two cases involved scams that bilked "tens of thousands" of Windows PC owners out of more than \$120 million, the FTC says.

For at least four years now, scam artists have been trying to pull one over on gullible computer users with phony tech support calls. The FTC said its latest operation was the third such case since 2011. More are sure to come since putting together a scam like this is relatively

cheap compared to the potential million dollar windfall.

PC users need to be wary of scams like these or risk falling prey to them. We've included a few tips that should help you stay scam free.

How the scam works

Previous scams involved cold-calling customers over the phone and then convincing them their computers were riddled with malware. This time around, however, the scammers had to wait for a user to download a bogus desktop program.

1 Usually people are enticed to download these phony apps with promises of improved security or performance for their PC. Then after they download a trial version, the app runs a scan and discovers non-existent errors on the PC.

2 To fix the phony errors, the user has to purchase the full version of the scam program, which can be priced anywhere from \$29 to \$49, according to the FTC.

3 But it doesn't stop there. Once the victim has purchased the full version, the software prompts them to call a toll-free number to activate the software.

4 After calling, the victims are shunted to telemarketers who convince their targets to give them remote access to their PCs. The call center people then show victims various screens on their own computer and claim there are serious problems with their PC.

5 At this point, telemarketers try to sell more phony goods such as extra security software and tech support services that can cost up to \$500.

Protect yourself

While the scams can do some serious damage to your wallet, they are easily avoided if you follow a few simple tips.



Microsoft's retail locations offer their Windows-focused answer to Apple's Genius Bar: the Answer Desk.

First, never download an app to your PC that promises better security or improved performance on an impulse. Yes, there are some legitimate programs that can boost performance in minimal ways, and of course you need some kind of security program.

But as the saying goes, “the best things in life are free.” These days there’s little reason to pay for security software with so many third-party free options out there such as Avast, AVG, and Microsoft’s own Windows Defender (go.pcworld.com/wdefender) built into the latest versions of Windows. Our guide to building the ultimate free PC security suite (go.pcworld.com/ultimate) can help.

If you’re thinking about grabbing some performance boosting

software, check it out before you download. Do a little research, such as looking for reviews or recommendations on sites like this one.

Second, never believe a website that says your PC is having problems. If you're concerned your PC may have an issue or some new program you don't recognize says you have a problem, get it checked out in person.

If you live near a Microsoft Store, try the retailer's Genius Bar-like service called Answer Desk (go.pcworld.com/answerdesk) that will check out your PC for free. Otherwise your local PC repair shop can help, and paying a legitimate service provider is a lot cheaper than paying a scammer. Of course, asking a geeky pal for help is always an option, too.

Finally, keep in mind that these kind of scams have grown beyond PCs. In January, security firm Malwarebytes discovered a tech support scam targeting mobile devices (go.pcworld.com/mobilescam). In those cases, the call centers were cold-calling prospective victims posing as tech support specialists responding to supposed problems. Similar scams try to entrap users with unsolicited email.

If you receive a cold call or an unsolicited email regarding tech support, do not respond. Just hang up the phone! More importantly, no matter how convincing they seem do not hand over personal information such as your name, address, or payment information.

As with most scams, as long as you keep your wits about you and use common sense online, you'll be fine. 

If you receive a cold call or an unsolicited email regarding tech support, do not respond.

You might know **Joshua**.
He loves video games, and he
owns enough to know they're not
all meant for kids. That's why he
reminds his friends (at least the
ones that have kids) that they all
have **big black letters on the box**
to help parents find the ones that
are best for their families.

You can learn about those
ratings at **ESRB.org**



Los Angeles, CA



ENTERTAINMENT SOFTWARE
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REVIEWS & RATINGS

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TESTED IN PCWORLD LABS
In this section, hardware & software
go through rigorous testing.

REVIEWS & RATINGS



HP Omen: Voodoo DNA brings grace and style to gaming laptops

BY GORDON MAH UNG

STYLE: THAT'S ONE THING VOODOO PC had in spades before HP bought the boutique builder a few years back. In the shadow of a nationwide economic recession, consumers' appetite for high-end gaming machines went on a long pause, and Voodoo soon vanished into the vastness of HP's oceans.

Now, rising from the depths like Venus on a half-shell, HP's new

Omen laptop offers good gaming performance in a svelte body with plenty of style. Let's not trivialize the style part: Besides a few key standouts (you know who you are), most of the gaming laptops makers today would throw panache under the bus at 45mph and then stop to back over it, if it would save them the bus fare.

That's not so with the Omen, which grabs your attention even before you lift it from the wedge-shaped box that mimics the laptop's actual shape. Flip up the 15.6-inch screen, and the Omen gives you the illusion that the base is razor-thin and levitating a half-inch in the air.

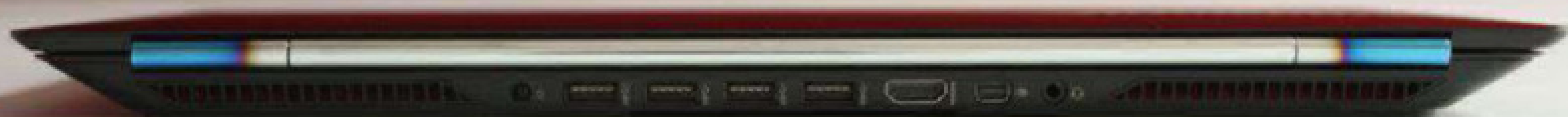
The Omen is actually about 15.5 mm thick in front and 19.9 mm in back. That's thin. The similarly equipped Alienware 13 (go.pcworld.com/alienware) is 26.3 mm in front and almost 28 mm thick in back.

Pieces of Flair

Other pieces of flair include variable lighting that lets you set the backlighting on the speakers, WASD keys, power button and three zones of the keyboard. These aren't innovative moves, but they're appreciated. The hinge is another thing: HP intentionally chromed the lid's hinge and then added a color shift to the ends to give it the feel of super-heated exhaust tips. LED lights shining out the rear vents add to the atmosphere. It's a nice touch.

HP also integrates a dedicated row of programmable functions just to the left of the keyboard. The function keys are easy to set up,

With the Omen's deeply beveled sides, HP put the HDMI 1.4, Mini DisplayPort 1.3, four USB 3.0 and analog audio port on the back.



but they do seem pretty limited. I couldn't easily find a way to set up deep macro functions for a long key sequence that gamers might want, such as: Hit *R* to reload, then pause for 400ms and then hit *1* to switch back your primary weapon.

The Hot Zone

HP said it spent an inordinate amount of time making sure the Omen could play games without sounding like an HVAC unit was parked on your desk. To do that, cool air is sucked in from the front, pulled over a chassis-wide array of bottom vents, and blown out the

back. This design, HP claims, also helps keep the keyboard of the laptop cool during heavy gaming sessions.

I checked out that claim by taking thermal images of the top of the Razer Blade Pro and the Omen, after both had been left looping the intro sequence for the Heaven 4.0 benchmark set to DirectX 9 "basic" mode for an hour. While the Razer Blade Pro's top deck was almost uniformly hot, the Omen kept most of the heat toward the back of the laptop. It's actually very impressive cooling when you consider how small and thin this laptop is.

HP Omen

PROS:

- Runs mostly cool to the touch even when gaming.
- Surprisingly reasonably priced for its class.

CONS:

- Sexy laptop paired with the equivalent of pants pulled up over waist in power bricks. It's literally a power brick.
- Finger print magnet lid.

BOTTOM LINE:

HP's new Omen is a thin, 4.7-pound gaming laptop that brings back the famed Voodoo Omen brand with style and speed to spare.

\$2,100



Pure luxury

Some of the choices HP made are simply luxury, though. Gamers don't need touchscreens, but the Omen has a ten-point touch digitizer over its display. The 15.6-inch panel itself is an IPS screen that HP rates at a 72-percent color gamut. I found no glaring weaknesses in color banding nor other issues after running it through a few test patterns. Light leakage was also fairly well contained.

The 1920x1080 resolution may seem low in the age of 4K laptops, but HP says it kept the resolution at a pedestrian one to reduce power consumption. Also, HP said, most gamers don't play above 1920x1080 resolution even if the monitor supports it.

Also in the luxury pile is the 16GB of DDR3/1600 and the 512GB M.2 SSD. We're not complaining about either in the unit, but it does push up the price. The M.2 is a welcome change, as the newer storage interface finally breaks the mSATA limit on laptops that we've lived with for the last few years. The Samsung M.2 unit, for example, in the Omen gave me read and write speeds of 746MB/s and 671MB/s compared to the 496MB/s reads and 254MB/s writes of the



The Omen is vented to pull air along the bottom and exhaust it out the rear.

mSATA drive in the Razer Blade Pro.

As reviewed, the unit PC World received cost \$2,100. HP actually has nine different builds—I'll get into discussing which one is right to buy later. Right now the more important features of any gaming notebook are the bread and butter parts: The CPU and GPU that HP uses across the models.

Bread and butter

For compute grunt HP picks a quad-core Intel Core i7 4710HQ part using Intel's Haswell micro-architecture. More importantly for a gaming notebook are the graphics, which are handled by a GeForce GTX 860M. To keep us confused, Nvidia actually makes two different versions of the 860M. One uses the older Kepler architecture (go.pcworld.com/kepler), while the one in the HP features the more power-friendly and faster Maxwell architecture (go.pcworld.com/maxwell1). HP also makes the Omen available with either 2GB or 4GB of RAM for the GPU.

The important features of a gaming notebook are the bread and butter parts: The CPU and GPU that HP uses across the models.

To see what the Omen was made of, I compared it to the 2014 model of the Razer Blade Pro (go.pcworld.com/razerpro). Spec for spec, the two gaming laptops are very close, with the 17-inch Razer Blade Pro featuring one step down CPU and the same Maxwell-based GeForce GTX 860M, albeit with 2GB of RAM onboard.

I ran both through 3DMark, Tomb Raider and BioShock: Infinite. Though the Omen was slightly faster, I'd say it's a wash, with both near-even.

I could run another few benchmark graphs, but since both laptops are nearly identical in specs, it's not going to change much.

More good news: There's no sign of GPU or CPU throttling from either the HP Omen or Razer Blade Pro.

Why 4GB of video card RAM?

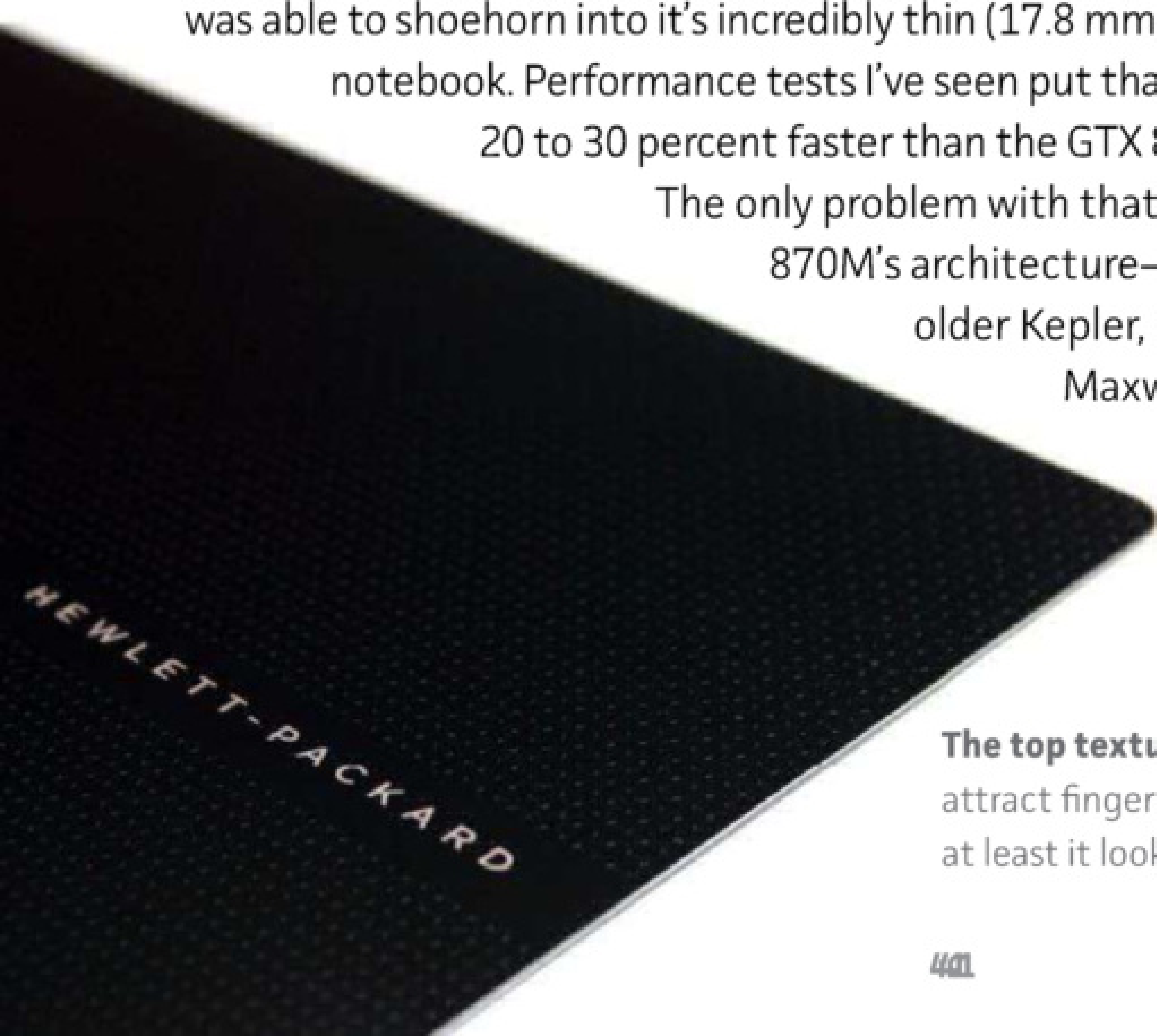
The beefy 4GB on the graphics card is probably questionable for most of today's games, as it doesn't give you much actual performance advantage. Generally video card RAM helps only at higher resolutions or with crazy amounts of anti-aliasing.

And that's an issue for the HP Omen. The GeForce GTX 860M is probably best running at 1080p resolution with most games at high, or slightly lower depending on your threshold for sub-60-fps rates. If the laptop actually had a higher-resolution screen where you might need the larger frame buffer, you couldn't drive the game at acceptable frame rates with this GPU.

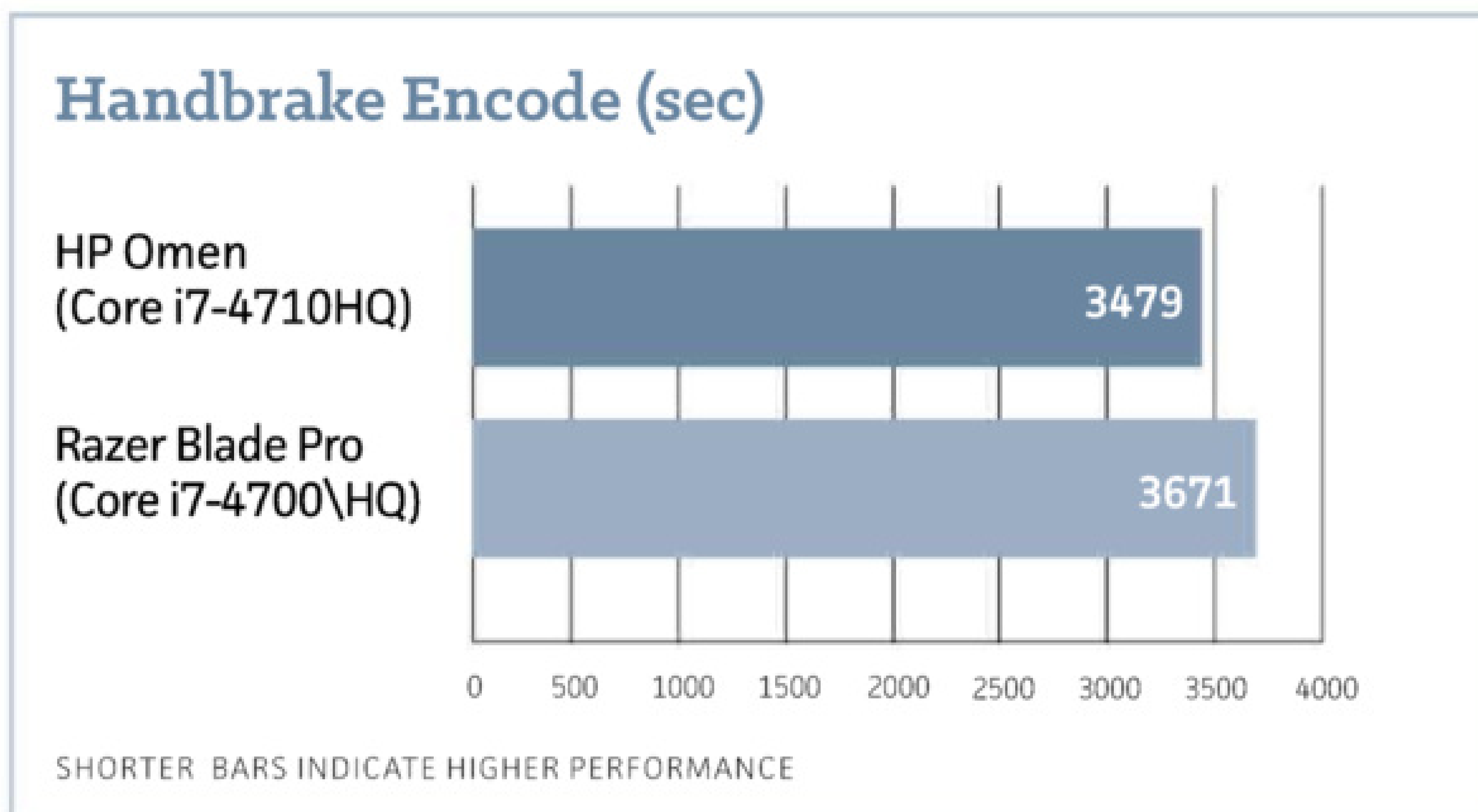
When I set BioShock: Infinite and Tomb Raider to maximum image quality, the frame rates on both laptops dropped to the mid-40s. That's not bad, but the general rule for gamers is to play at 60 fps or higher for the best immersion. The one caveat on RAM in a GPU is the expectation that with consoles' large frame buffers, PC games may also start to use more graphics memory.

This made me wish HP had somehow stuffed the next-level GPU into the Omen: An Nvidia GeForce GTX 870M. After all, that's the GPU Razer was able to shoehorn into its incredibly thin (17.8 mm) Razer Blade notebook. Performance tests I've seen put that GPU about 20 to 30 percent faster than the GTX 860M.

The only problem with that wish is the 870M's architecture—still the older Kepler, not the newer Maxwell



The top texture tends to attract finger prints but at least it looks nice.



architecture. Such a change would come at the expense of heat and battery life. I haven't tested a Razer Blade, but considering the thermals on the larger Razer Blade Pro, I'd bet it's great in winter.

Not bad gaming battery life

Gaming and battery life don't mix well, but Haswell helps. I ran a standard PC Mark 8 Home Conventional run down test and saw the Razer Blade Pro 14 actually fare a little better than the Omen, with a score of 9345 vs. the Omen's 8376. But here's the shocker: The Razer Blade Pro 2014's battery is 78Wh versus the Omen's 58Wh. Both screens were set at 130 nits.

Because both are likely to be bought as primarily gaming notebooks, I performed a gaming run-down test versus PC Mark 8's mix of video chat, browsing, photo editing and casual gaming. I decided to loop Heaven 4.0 set to the basic mode.

The Razer Blade Pro 2014 ran out of gas just after an hour. Not great. The Omen, however, continued to run another 45 minutes. That basically means the HP Omen should be good for a solid flight from San Francisco to Los Angeles or a commuter train trip, but you'll need external power for a transcontinental flight. Overall it's not bad gaming run time for the size and weight.


The CPU also matters

To gauge CPU performance, I ran both units through a Handbrake encoding task, where a 30GB file is transcoded down to a file that can be played on an Android tablet. The Omen is slightly faster, along with its CPU, and both will easily eat any dual-core CPU in thread-heavy tasks. Do you need a quad-core CPU with Hyper-Threading in a gaming laptop? That's debatable, but I don't believe in the 100-percent gamer. With transcoding video practically a mainstream chore for people who obtain video from different sources, the extra cores and Hyper-Threading are worth it.

A welcome return...

Overall HP's new gaming laptop is one worthy of the Omen name. It offers bags of style and reasonable gaming performance in a thin and fairly cool chassis. Decked out with the larger 4GB of GPU RAM, 16GB of RAM and 512GB of SSD storage, it's even reasonably priced at \$2,100 compared to other notebooks in its class.

If I were buying the Omen though, I'd probably opt for the build with 2GB of video card RAM, 8GB of DDR3/1600 and the 512GB SSD for \$1,800, instead of this jam-packed version.

As someone who watched Voodoo PC grow from a fledgling PC company to a recognized player in the boutique market, I was sad to see it fade away, instead of flourishing like Alienware did after the Dell buyout. The HP Omen, however, gives me hope. 

Yoga Tablet 2 Pro: Solid features, crummy interface

BY FLORENCE ION



THE LENOVO YOGA Tablet 2 Pro is out of the ordinary. It's not much bigger than most Android tablets at 13 inches, but it has a pico projector embedded in its hinge. That's in addition to its neat kickstand that you can orient any way you like.

At \$500, The Yoga Tablet 2 Pro is much more affordable than buying both a tablet and a projector individually, but that's little consolation if you have to deal with Lenovo's horrid adjustments to the Android interface. This enormous, productivity-centric tablet has so many things going for it, but its shoddy Android customizations ultimately hold it back.

It is a tablet or a laptop?

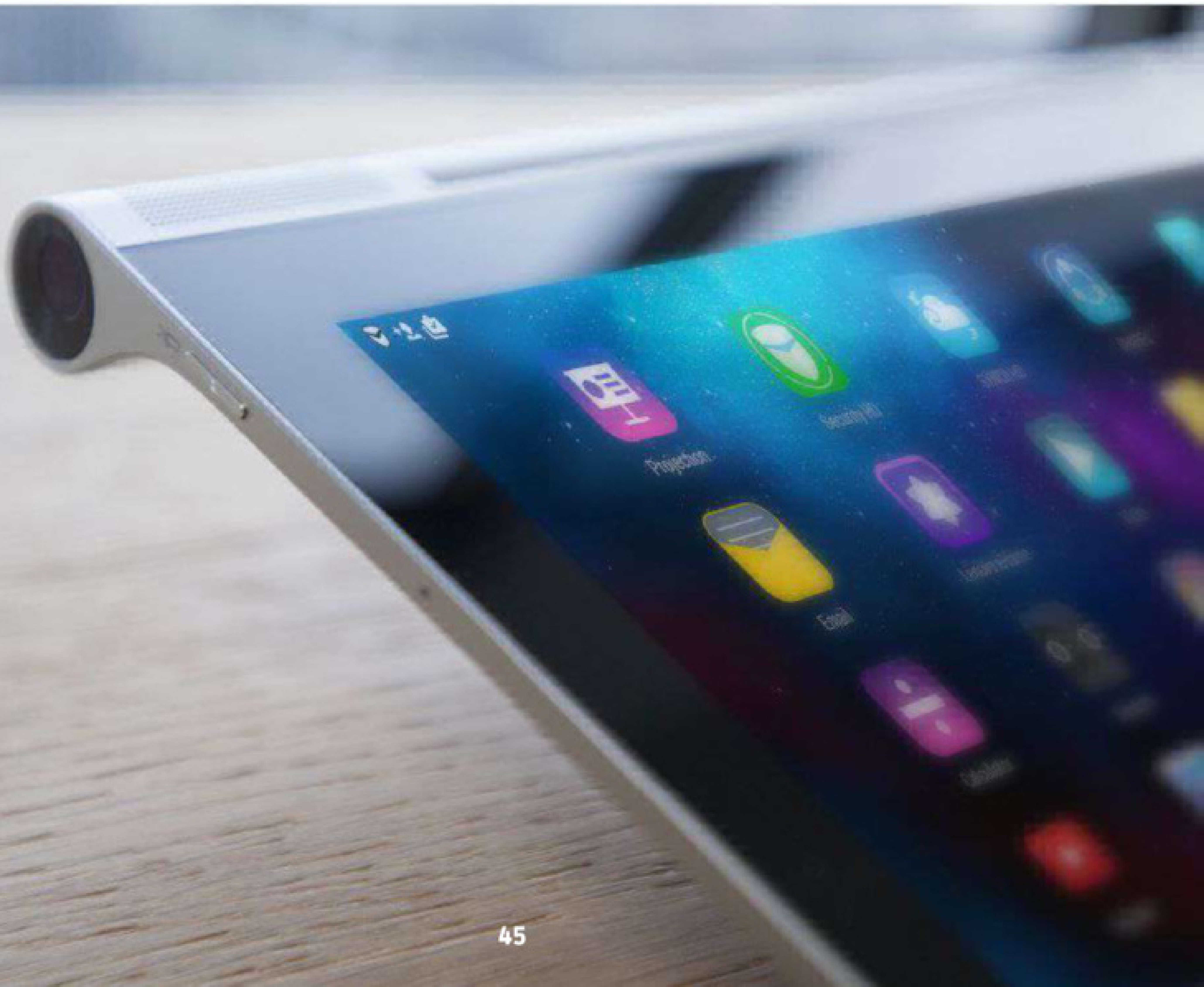
Ignore its gargantuan size and the Lenovo Yoga Tablet 2 Pro is quite the stylin' tablet. It features a sleek aluminum finish around the edges and on its backside, giving it a nice business-like aesthetic. Its

rear-facing kickstand is also made of aluminum, and thankfully, it isn't as difficult to orient as previous (go.pcworld.com/previous) Yoga Tablet models. It also pops out more easily with just the push of a button, so you don't have to worry about chipping a nail when prying it loose.

I never thought of using an Android tablet as a work machine, but it's quite possible with this device. Its 13.3-inch Quad HD IPS display is not only ideal for catching up on your Hulu queue, but it's great for multitasking, too. I paired the tablet with a Logitech Bluetooth keyboard and got a ton of work done using productivity apps like Google Docs and Microsoft OneNote. It felt almost exactly like using a regular laptop for work, except that I was touching the screen to move around the interface instead of a wielding a mouse.

The Lenovo

Yoga Tablet 2 Pro is one sleek piece of hardware.





This tablet has a projector built into its hinge.

Of course, its size will eventually become an issue. Not only is it wider than my 13-inch MacBook Air, but it didn't fit in the messenger bags and large purses that typically fit my laptop. To add insult to injury, I had to take it out to get through the security line at the airport, and I was asked to put it away as the plane was getting ready to land. I didn't bother to explain that it was actually an Android tablet, however, because I didn't think anyone would believe me—and anyway, it's already bigger than my usual work machine.

Actually using it on the plane was a bit of a drag. Apps that don't support landscape mode required that I flip the tablet vertically, which made it awkward to hold in a narrow airplane seat. I did appreciate the larger display size for things like reading digital magazines, but the added weight of the hinge/projector bulge on the tablet's backside made it difficult to comfortably hold the device with one hand, or lay it down on my lap. I encountered this same conundrum on my usual commute to work.

Still, once you get the hang of it, its size doesn't seem too bad. That is, if you don't already have a laptop you carry with you every day.

A projector and a tablet walk into a bar...

The pico projector built into the Yoga Tablet 2 Pro is capable of displaying a 50-inch wide, 854 x 580 image on almost any wall. It springs to life with the touch of a button on the side of the device, and you adjust focus with a slider on the back. The display will then turn off after a predetermined amount of time to help conserve battery power.

I'm not a typical projector user, but the Yoga Tablet 2 Pro's built-in projector seemed to perform better than the standalone 3M Streaming Projector I have stowed away. The farther it was placed, the bigger the projection was, though the picture wasn't very detailed. It's good enough for showcasing a playlist of music videos during a

themed party or projecting a Powerpoint presentation during an important business meeting, but not if you were thinking of hosting a backyard movie night.

Lenovo also bundled in a few software tweaks to improve the image of the projection so that it doesn't appear fuzzy or distorted. Since the projector itself is already so small, those tweaks hardly made a difference.

I personally used the Yoga Tablet 2 Pro to practice yoga in both a hotel room and at home in my cramped studio space. It worked better

Lenovo Yoga Tablet 2 Pro

PROS:

- Gorgeous 13.3 inch IPS display
- Rear projector can be used in a variety of scenarios

CONS:

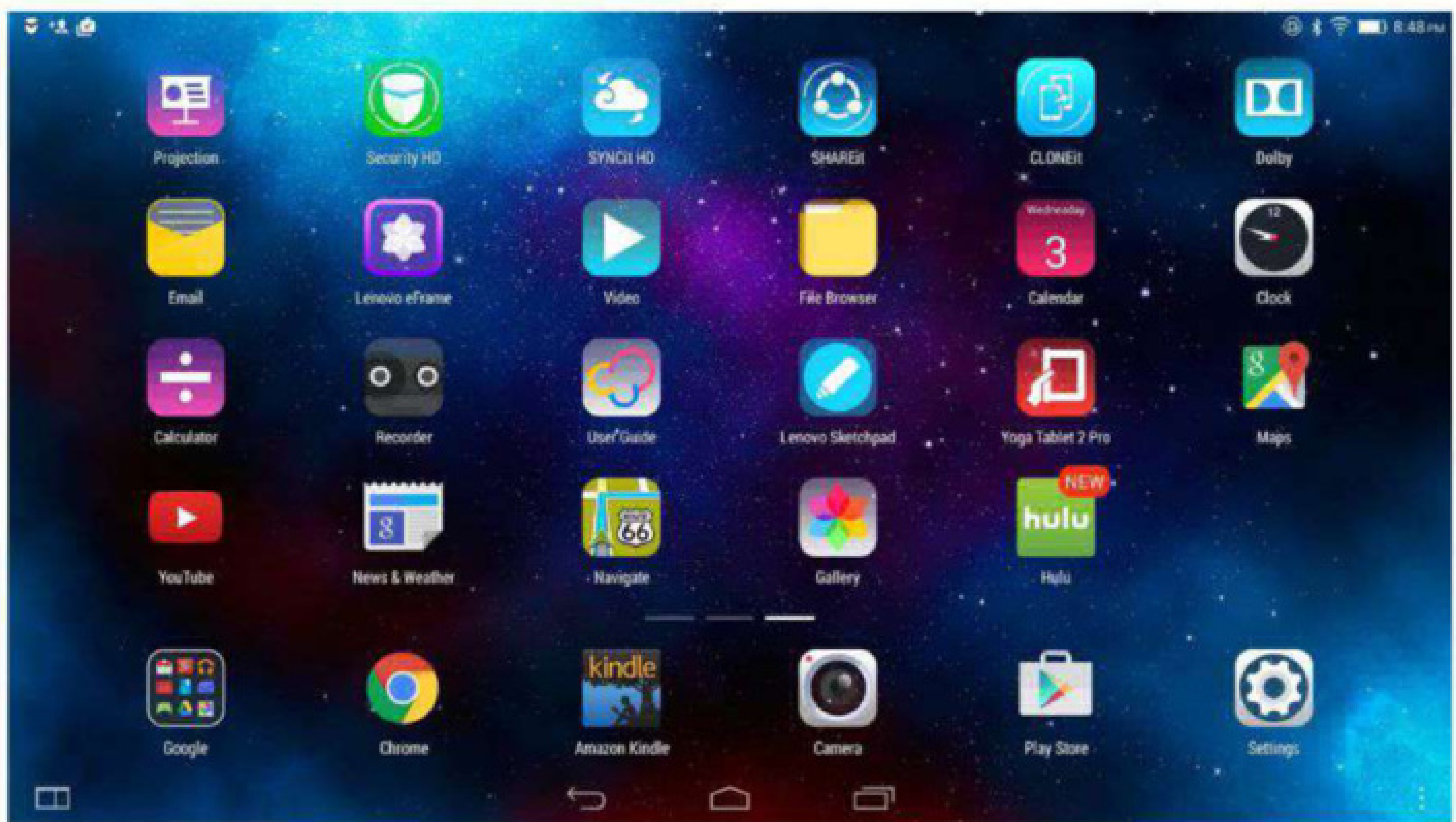
- You'll have to adjust to carrying around a laptop sized tablet
- Lenovo's Android interface is laggy and unintuitive

BOTTOM LINE:

A fantastic, productivity-focused tablet that's marred by Lenovo's subpar Android interface.

\$500





than a laptop or a smaller tablet because I could adjust the kickstand to place the projector at eye level from a table higher up while I practiced yoga on the floor. This made it easier to follow along with online yoga classes, and the Yoga Tablet 2 Pro's stereo speakers were loud and clear enough for me to hear directions over my Spotify playlist blasting from another device. My yoga pals thought it was cool, too.

Bear in mind that if the battery is running low the projector won't turn on, even when it's plugged in and charging. Also, the projector part of the chassis gets a little hot during use, though certainly not as hot as a full-size projector.

Long life, sluggish interface

Lenovo says the Yoga Tablet 2 Pro lasts up to 15 hours on its 9,600mAh battery pack, but that depends on your use. It took about two days of varying usage—including a bulk of time where it was on standby—before the tablet needed a charge, and when I finally plugged it in, it took a really long time to fully charge.

This Home screen is so static and iPad-y.



A big tablet
with a very
useful piece of
hardware.

Inside, the tablet is powered by a 1.86GHz quad-core Intel Atom Z3745 processor with 2GB of RAM, which should be enough for a device of this caliber. However, performance was not up to par with what I'm used to with a fresh-out-of-the-box smartphone or tablet. Not only did it take me a week of constant use to get a hang of Lenovo's custom Android overlay, but the software froze from time to time. There were several instances I had to turn the screen on and off to sort of refresh it because it wouldn't recognize any input.

There's a 8-megapixel rear-facing camera and 1.6-megapixel front-facing camera for video chats and quick snaps. The Yoga Tablet 2 Pro also comes with 32GB of storage space, though only 24GB is immediately available to you. You'll have to pop in a MicroSD card on the back to make more space.

It's not an iPad, so why does it look like one?

If there were Razzie Awards (razzies.com) for Android forks, launchers, and overlays, Lenovo's Android interface would come out on top as one of the worst renditions of Android ever.

Lenovo's Android interface is one of the most complicated versions of Android I've ever used. Nevermind that it's built on top of Android 4.4.2 KitKat—Lenovo styled the Yoga Tablet 2 Pro's


interface to mirror the iPad's, right down to the annoying folders and apps you can't remove from the Home screen.

The rest of the interface is unintuitive. For instance, the Quick Settings shade is at the bottom of the screen, so you'll have to slide up rather than down from the top. Then there's a separate notifications shade with an embedded Settings button that takes you specifically to the settings panel for the notifications shade rather than the general list of settings. It's mind boggling.

While there are a few helpful features sprinkled throughout—like a multitasking mode and some options to turn off some of the more annoying aspects of the interface—it's a real pain to use right out of the box. The Yoga Tablet 2 Pro may be a slick piece of hardware, but the interface alone will make you run for cover.

Would you use this tablet/projector hybrid?

If the answer to the above is "yes," then I think I've found your tablet. Granted you'll have to spend some time installing another launcher to get the awful taste of its interface out of your mouth, but overall the Yoga Tablet 2 Pro is a solid device. I didn't mind its size after a while, either. I was much more productive with Android on a larger screen, and though it was a bit awkward to wield on transit and on the plane, once I got into a groove I managed to feel really productive.

Lenovo knows what professionals want because it's been in the business of catering to clientele for years. As it figures out its Android strategy here in the U.S., I hope the awful launcher and crapware doesn't continue to seep into its Android product lineup. Motorola can teach them a thing or two about how to make an innovative device without suffocating stock Android with obnoxious overlays and confusing features. 

IronKey Workspace W700 FIPS: Windows To Go on one tough, secure little key drive

BY JON L. JACOBI



LOOKING TO FREE yourself or your employees from the painful logistics of traveling with a laptop? Liked the looks of Windows to Go, but wanted the peace of mind that hardware security brings? You need to check out the Imation IronKey W700 Workspace—a hardware-encrypted, FIPS 140-2 level-3 validated (go.pcworld.com/fips), USB 3.0 Windows to Go thumb drive that can be managed remotely. It's the first of its breed and as secure a compute-on-any-PC solution as you'll find. It's also expensive.

If you're not familiar with Windows To Go (go.pcworld.com/togo), it's a feature of Windows 8.x Enterprise that allows the operating system to run off of a USB flash drive. This allows you to use your personal Windows work environment on just about any computer,

including Macs, Linux PCs, and computers that belong to other people. As long as you know there's a computer you can use at your destination, you can travel with only what's in your pocket. Sweet.

The brushed metal IronKey W700 Workspace has a nice, solid feel in the hand and the pocket. Indeed, its slightly weighty presence makes it less likely that you'll inadvertently run it through the wash. Should you do so, the consequences are negligible: The

If you don't require the security, go another route because the dual-boot will annoy you in the long run.

Imation Ironkey Workspace W700

PROS:

- FIPS 140-2 level 3 validated
- USB 3.0 and certified for Windows To Go
- Remotely manageable using the IronKey online console

CONS:

- Expensive
- Runs quite warm
- No server check-in time limit

BOTTOM LINE:

A remotely manageable, FIPS 140-2 level 3 validated USB flash drive that can run Windows To Go more securely than any other currently available solution.

\$249



drive is waterproof, in addition to being hardened against physical attack. The drive runs a tad warm, but that's the norm with secure flash drives sporting extra encryption hardware.

The W700 Workspace comes in three capacities: a \$249/32GB version that I tested, as well as 64GB and 128GB flavors that cost \$369 and \$599, respectively—sans Windows, which you need to provide on your own. That's pricey, but remember you're dealing with a level-3 validated drive that's remotely manageable. It also helps to remember that it's no more expensive than a new laptop and has fewer associated costs.

While eminently secure, Windows on the W700 takes longer to get up and running than a normal Windows To Go drive, because it requires two boots: one to unlock the operating system partition, and the second to boot into Windows.

There is, however, a 500MB partition that is always visible under Windows Explorer which provides a bit of single-boot storage, contains a utility to unlock the W700's operating system partition for the next boot, and also provides a utility that will change the BIOS so that it selects the W700 as the next boot

media. Alas, the latter utility didn't work with my Gigabyte GA-Z77n-WiFi's BIOS. If that proves the case with your PC, you can always invoke the BIOS (go.pcworld.com/bios) or a boot menu by pressing function keys immediately after turning on your computer (typically Del, F2, F8, F11, etc.).

Provisioning—installing Windows onto the larger portion of the drive—requires IronKey's freely downloadable Admin Unlocker utility, or licensing the company's Workspace provisioning tool, which will install the operating system on up to 14 drives simultaneously. I used the Admin unlocker, which simply renders the Windows portion of the drive visible so you may install the OS. Note there's no "lock" function within the utility—the OS partition will re-lock itself the minute you remove the drive from the USB port.

IT departments rolling out fleets of W700's will appreciate its remote manageability. Using the online IronKey Remote management system (\$24 per drive, per annum) you can kill the password, wipe the contents, deactivate the drive, change user and admin policies, and log its geographical location (via IP address, not GPS). Obviously, this all relies on the drive's ability to contact the server.

Curiously, though other IronKey drives may be set to perform one of the above actions if there's no contact with the server after a set

In the case of theft, a strong password and the FIPS-compliant hardware are your defense.

period of time, that isn't the case with the Workspace series. In the case of theft, a strong password and the FIPS-compliant hardware are your defense. Imation told me if there's demand, they'll expose this feature.

Also available from IronKey are the slightly less expensive, "only"-level-2 validated W500, and the IronKey W300, which lacks hardware encryption altogether but is a significantly cheaper option if you're content to run Windows using only BitLocker, or no security at all. There are ways to run plain Windows 8 and even Windows 7 from a basic USB stick, thought: See my review of Aomei's Partition Assistant (go.pcworld.com/aomei).

There's no more secure, or more easily managed solution for running Windows To Go than Imation's IronKey W700 Workspace. It's a unique product at the moment, and it's hard to conceive of any improvement upon it. 🔌



HP ElitePad 1000 G2: Go ahead, drop this tablet

BY JON L. JACOBI

MAKE IT BETTER and they will come. That's a common vendor mantra, but rarely are the improvements as compelling as those on HP's \$800, 10.1-inch ElitePad 1000 (go.pcworld.com/ep1000) business tablet. The successor to the ElitePad 900 replaces the single-core Intel Atom Z2760 with a significantly faster quad-core Intel Atom Z3795 CPU, features a higher-resolution display (1920x1200 versus 1280x800),

and has twice the memory at 4GB. Those adds alleviate just about every complaint we had about the ElitePad 900—without killing what we liked about it. Even the battery life has improved.

Part of what we already appreciated are the rugged Gorilla Glass 3 covering the display and the milled aluminum edge and backplate. The ElitePad 1000 is designed to meet the MIL-STD810G (military) standard, though I doubt it would last long in my god-daughter's backpack. Kidding—even she would have a hard time dinging this thing.

While the ElitePad 1000's display looks great during everyday use and rendering movies, I noted uneven backlighting around the edges

when the ElitePad 1000 was powering up. It's noticeable only with a solid-dark background, and I quickly forgot about it. But 2.3 million pixels in only 10.1 inches of diagonal display space makes for some rather tiny icons, text, and window elements. I goosed them up all the way using the "change the size of all items" slider, but I finally had to resort to increasing the text size for individual elements.

If you want semi-rugged, accept that your tablet is going to be a bit heavier than the norm—a small

When you start to accessorize any tablet, ask yourself why you're buying a tablet rather than a laptop..

Hewlett Packard HP ElitePad 1000 G2 Tablet

PROS:

- Fairly thin for a Windows 8.1 tablet
- Designed for MIL-STD810G milspecs.

CONS:

- 64GB eMMC isn't fast nor much space on our review model.
- No USB ports on tablet itself.

BOTTOM LINE:

HP has updated its ElitePad with a higher resolution screen and faster CPU while keeping the milspec rating intact.

\$800



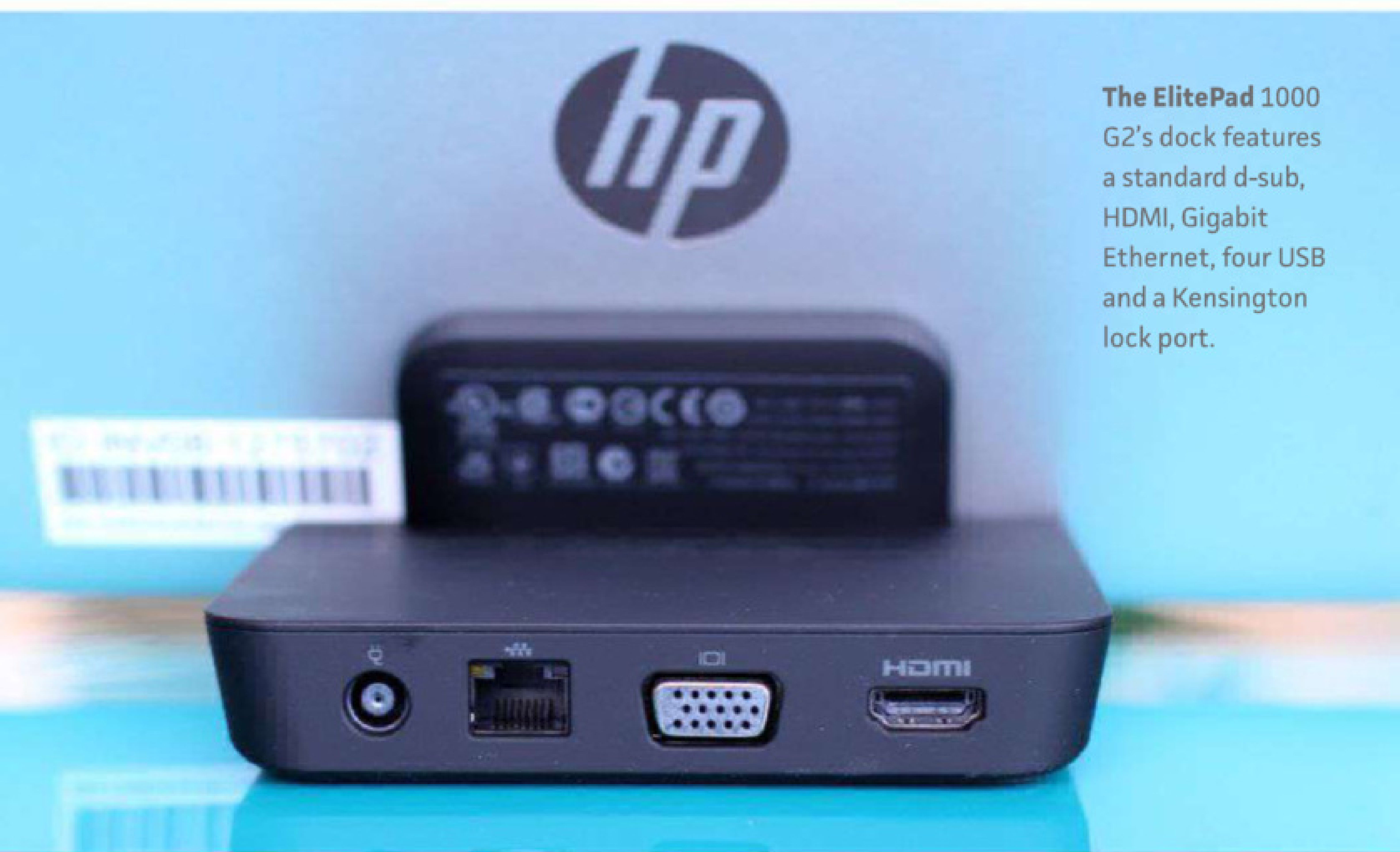
price to pay for survival on the road. At 1.5 pounds, the ElitePad 1000 is an ounce or two heavier than the 900, but still relatively easy to carry around. It's a little too heavy to hold single-handed for any length of time. With both hands, arm fatigue is minimal, but it's best propped up on your stomach or docked.

Subjectively, Windows 8.1 feels lively enough on the ElitePad 1000—at no time did I feel impatient waiting for windows to open or files to save. The PCMark results bore out that impression: 1595 on the creative test, 2399 on the work test. Battery life clocked in at a cool 8 hours and 16 minutes. It also handles 1080p video with aplomb, playing my 30GB rip of *Master and Commander* with nary a hitch.

Wireless connectivity on the ElitePad 1000 includes 802.11 a/b/g/n, Bluetooth, and broadband modules. While 802.11ac would be nice, 802.11n is acceptable.

Seen here in its dock, the ElitePad 1000 G2 is fairly thin for a Windows 8.1 tablet.





The ElitePad 1000 G2's dock features a standard d-sub, HDMI, Gigabit Ethernet, four USB and a Kensington lock port.


Alas, when it comes to physical ports, the unit is hurting. A headset jack, MicroSD and SIM card slots hide behind a panel that pops open when you press the recessed release button with a paper clip. That's it. There are, however, a variety of accessories to compensate. Slide the unit into the optional \$149 ElitePad Docking Station and you have four USB 2.0 ports, HDMI and VGA out, as well as an audio line out. It's a bit bulky, but it's nice to have around.

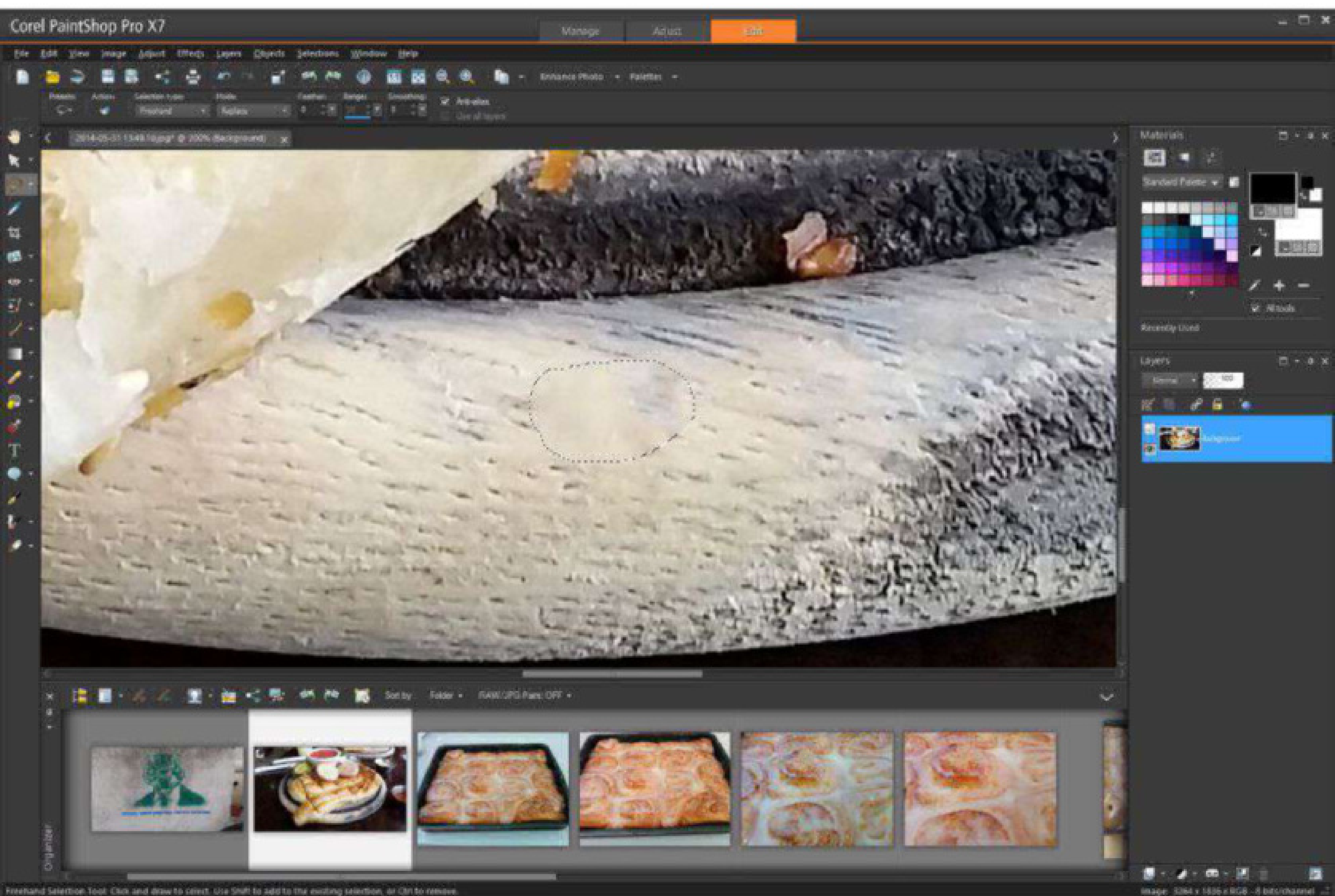
You may also opt for the smaller \$49 HDMI/VGA dongle, \$39 ethernet adapter, and \$29 USB adapter, which are easier to pack, if not as convenient. There's also a \$249 productivity jacket with a full-size keyboard, USB ports etc. and a \$149 battery jacket that will ratchet up runtime to about 20 hours. However, both add considerably to the ElitePad 1000's 0.36-inch thickness and weight. When you start to accessorize any tablet to this degree, you have to ask yourself why

exactly you're buying a tablet rather than a laptop.

Storage also continues to be a problem. Our unit came with a 64GB in eMMC which is probably the bare minimum for even a business-class tablet in terms of space. Fortunately, HP sells a model with 128GB too.

Oddly, after touting the ElitePad 1000's ruggedness, HP's warranty for it lasts only a single year. A variety of paid support plans to add up to five years of protection. The ElitePad 1000 is also fully decked out with HP's business-targeted software bundle, which includes Trust Circles, Client Security Manager, and Device Access Manager.

It doesn't get much better than the ElitePad 1000 in a Windows 8.1 business tablet, and kudos to HP for improving what needed to be improved without drastically increasing the weight. It's fast enough, lasts long enough, and has a capable set of accessories. 



Magic Fill works well to make crumbs of food disappear.

PaintShop Pro X7: Snappy photo editor is a steal at \$100

BY EREZ ZUKERMAN

ADOBE PHOTOSHOP IS more than most of us need—more features, more power, more financial outlay. Corel thinks its PaintShop Pro X7 is a better fit. Retailing at \$100, PaintShop Pro X7's Ultimate edition is

bursting at the seams with features, and ships with a standalone portrait editor to boot.

PaintShop Pro X7 wants to take care of all of your photo management and editing needs. That's quite a lot of work, so the interface breaks it down into three tabs, laid out across the top of the window: Manage, Adjust, and Edit.

The Manage tab is where you browse through your photo collection. You can look at image metadata, rate images, and browse through folders. You can also run a face recognition scan that then lets you browse photos by person, much like Google's free Picasa.

Once you find an image you want to work with, you can click through to either the Adjust or Edit tabs. The Adjust tab lets you apply image-wide effects: You can tweak the white balance, brightness, contrast, vibrancy, and more. Along its right side, you'll find the Instant Effects sidebar. This is quite similar to how CameraBag (go.pcworld.com/camerabag) works: A single click applies effects with names like "Retro Surreal" or "Sepia Fully aged." Just like in CameraBag, you can layer

effects on top of one another.

If photo-wide effects aren't what you're after, you need the Edit tab. Click it, and you find yourself in a complete and powerful image editor. There's a Magic Wand, layers, a sophisticated color picker, and most important—a Learning Center that takes you through the basics. It's interactive, so you just click whatever you're interested in, and the relevant dialog opens up.

PaintShop Pro X7 Ultimate

PROS:

- Powerful
- Fast
- Easy to learn

CONS:

- Parts of the interface feel dated

BOTTOM LINE:

With numerous tools and a zippy interface, PaintShop Pro X7 Ultimate gives Photoshop a real fight.

\$100



Much like Photoshop, PaintShop Pro has a long and storied history—and it shows in the interface. Many of X7's key dialogs are shiny and new, making good use of the generous amounts of screen real estate most modern computers offer. But as you click your way around the interface, you'll soon come across ancient-looking dialogs, showing through like battle scars. The Effect Browser dialog feels like it came straight out of Windows 2000, folder icons and all.

This makes it easy to spot the new stuff, such as the beautiful and handy Smart Photo Fix dialog.

The Smart Photo Fix dialog offers some subtle ways to improve your photo, and the side-by-side view makes it easy to decide whether or not your changes actually improve anything. You can also click Suggest Settings for a starting point, but the handful of simple sliders offer satisfyingly nuanced ways to adjust your image. It works, and it did make my image look better.

With a handful of adjustments and a side-by-side view, Smart Photo Fix is easy and quick to use.






If you enjoy this sort of subtle photo tweaking (as opposed to applying retro effects), you're going to appreciate the Perfectly Clear plugin, too. Bundled with PaintShop Pro X7 Ultimate—and missing from the \$80 standard edition—it features technology made by a different company, Athentech (athentech.com). It works similarly to the Smart Photo Fix dialog, but the results you get are different due to the underlying engine. Perfectly Clear sharpens your image, adjusts the white balance and skin tones, corrects red eyes, and comes with a number of presets to boot.

Having two dialogs that essentially do the same thing (a built-in one and a plugin) can get confusing, and this isn't the only point of redundancy you'll see with PaintShop Pro X7. For example, the Photo Effects submenu has both a Time Machine tool and a Retro Lab tool. Both do the exact same thing: Make your photo look old. The Time Machine tool uses the old interface style (oddly

Retro Lab is a modern-looking way to make your photo look old.

appropriate, when you think about it), whereas the Retro Lab uses the new full-screen style. These two are separate from the retro Instant Effects on the Adjust tab, mentioned earlier.

One of X7's most-touted new features is Magic Fill, Corel's version of Photoshop's Content Aware Fill. It worked well for me: I drew a rough selection around a crumb of food, clicked the button, and it was gone. Most of my attempts yielded a perfect removal, while others left a somewhat blurry splotch that was noticeable if you knew where to look for it. Changing the selection and trying again fixed this, and that stray crumb of Börek essentially vanished, leaving nothing but the wooden platter in its wake.

PaintShop Pro X7 gives Photoshop a real fight, especially if you're a home user or an amateur photographer. The new-style dialogs are fun to use, and the application is snappy and responsive. It did crash on me once during testing, but was stable otherwise. Having multiple ways to do things isn't necessarily bad—it means you can choose the features that work best for you. PaintShop Pro X7 Ultimate offers excellent value for money. 



Alienware: a shockingly good tiny PC and console complement

BY GORDON MAH UNG

HARDWARE HAS A SHELF LIFE like a gallon of milk. If it sits on the store shelf too long, it ends up getting poured down the drain.

That's ultimately the ugly story behind Alienware's Alpha game console. The Alpha was always intended to run Valve's much hyped Steam OS, but when the alternative OS didn't show up last summer, Alienware decided it had to ship its Steam Machine sans Steam OS (go.pcworld.com/steam1) before the hardware turned sour.

That's a long way of saying the Alpha is, for the most part, a Hail-Mary move that has (at first glance) a lot going against it. It's not as upgradeable as most gaming PCs, nor is it as powerful. It's not even

cheaper than its console competition, and without the Steam OS, why even care about it?

That's where you'd be wrong. After putting the Alpha through its paces last week, I have to say that despite the resistance it faces, this micro PC has a hell of a lot going for it as both a general-use PC and as a console complement.

The 10-foot interface

Alienware is pushing the Alpha hard as a console killer, but that's

overreaching. That's not to say Alienware doesn't deserve a lot of credit. It spent months creating its own custom 10-foot interface that will actually let you unbox your Alpha, hook it to your HDTV, and get all the way through the OS setup and Steam login using just the included wireless Xbox 360 controller.

For a Windows box that's pretty good, but just enough UI issues remain to fall short of a "true console experience." There's an odd mix of ways to enter text in the Alpha, for example. The Windows startup uses the joystick to navigate on a virtual keyboard, which is horrible. Once you're into the Alienware UI, it switches to a more traditional D-pad keyboard. And then once in Steam, you'll be using

Alienware Alpha

PROS:

- Surprisingly quiet under gaming loads
- It's amazingly well priced for the size and gaming performance you get.

CONS:

- Still not the perfect PC game console experience
- Could use a slightly higher performance GPU.

BOTTOM LINE:

Alienware's Alpha isn't the console killer people hoped it would be but its merits still make it a worthy gaming computer and perhaps the best deal going in small PCs today.

\$550

★★★★★



Valve's command-rose-style input.

This isn't Alienware's fault—it can't override Windows 8.1 functionality, nor Valve's. The good news is you'll really only have to do this dance the first time you set up the Alpha with the controller. After that, more likely than not you'll just boot into the Alienware UI and click "Launch Steam."

Another minus to console jockeys is the limited utility of the Alienware UI. It's essentially a very polished launcher for Steam's Big Picture mode and is simply not as complete as the console experience. There's no video or music, or the snap-in Netflix or Youtube apps of, say, the Xbox One.

You can do those chores on the Alpha—and more than any console could dream of—but you'll be in desktop mode, and you'll likely need a keyboard and mouse for that. I'm not opposed to a keyboard and mouse in a living room PC and honestly don't know why console gamers can't adapt, but let's face it, most won't. Let me just say that a great combo for the Alpha would be a Logitech K400 (go.pcworld.com/k400), which lists for \$40 but should be easy to find for cheaper.

These are ultimately not big hurdles to overcome, but a lot of

The Alienware Alpha is surprisingly small as you can see with its included wireless Xbox 360 controller on top.

console jockeys I know will accept nothing less than a rubber-walled, seamless experience where you'll never, ever have to put down the controller to do anything. The Alpha just isn't there yet.

Then there's specsmanship

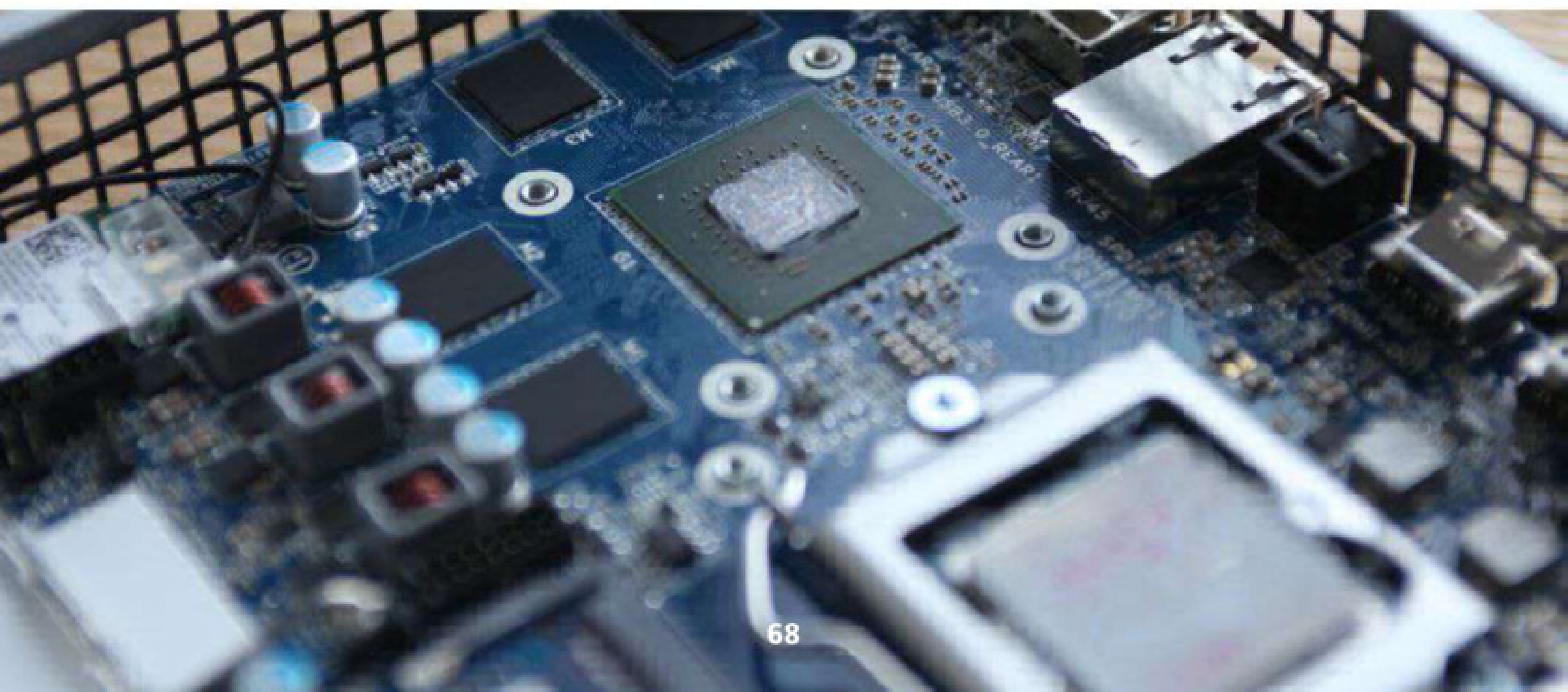
Gamers all like to bitch that "it's not about specs," before they gleefully wade into forum flame wars over the hardware inside today's consoles. So let's get on with it: The review unit I had ran a dual-core Intel Core i3 4130T, 4GB of DDR3/1600 RAM, a 500GB 2.5-inch hard drive, 802.11a/c Wi-Fi, and a custom overclocked GeForce GTX 860M graphics card with 2GB of GDDR5.

The CPU, Alienware likes to point out, can be upgraded, as it's a standard LGA1150-socketed CPU. I suspect you can't run higher wattage Haswell chips in the unit, as all three versions ship with "T" series power-optimized CPUs.

You can upgrade RAM, but you'll have to toss the old memory as the unit only has two SO-DIMM slots. The laptop hard drive can also be easily replaced, but the most important part—the graphics board—is unfortunately soldered to the motherboard, so there ain't no upgrade there.

One thing is certain, it's extremely easy to get into the Alpha. Remove four Philips-head screws from the bottom, and the top

The GeForce GTX 860M in the Alienware Alpha is soldered down so there's no chance of upgrading.





and bottom pop off. Believe it or not but it's actually easier to access and service than most full-sized desktops I've wrenched on. That says something about the engineering Alienware put into the Alpha's design.

Better performance and better graphics too

I tested the Alpha by running Tomb Raider at 1920x1080 set on high. The built-in benchmark put the machine's average frame rate at 58 fps. Not bad. I also spooled up BioShock Infinite at 1920x1080 on the built-in benchmark's medium setting and saw an average frame rate of 77.6 fps. Compared to several of the micro PC's we've reviewed this year, that's pretty damned good.

Because gamers seem to care only about how a game looks, I did an image-quality comparison by firing up Ubisoft's new Far Cry 4 (go.pcworld.com/farcry4) on both the Alpha and an Xbox One plugged into the same Sony Bravia HDTV. I flipped between the two different HDMI ports as the games ran through the same in-game cut scenes.

Neither bursted at the seams in frame rate. In play through, I saw as low as 30 fps to the mid 40's on the Alpha, which is borderline in playability to me. I suspect the slightly undersized amount of RAM is an

Running Far Cry 4 alongside the Xbox One, it was clear the Alpha was superior in graphics quality.

issue too, as I'd get a system hiccup or pause on occasion when coming out of standby. The Xbox One was overall very smooth in frame rate, but the reason why became pretty clear to me: lower image quality.

The texture detail on the Xbox One is simply atrocious next to the Alpha's. The resolution may have been 1080p coming out of the HDMI port on the Xbox One, but it had been clearly upsampled and stomped on so much that Nino Brown would bust a cap in you if he knew you'd stepped on his product this much.

So score one for the Alpha: Its image quality definitely puts the hurt on at least one of the next-gen consoles. It wasn't just my admitted PC-gaming bias either: I asked another editor and another resident console gamer, and both gave the big thumbs-up to the Alpha in visual quality.

(I would have preferred to do a frame capture on the Xbox One as well, but the unit doesn't let you do so at 1080p. I could have captured video and snapped a cap, but doing so would also induce image quality



The inside of the Alienware Alpha tells you it's no off the shelf motherboard inside.

reductions, and I didn't want to be accused of handicapping the Xbox One. Just believe me, it looks far better on the Alpha.)

One could argue that I should've used a game that's optimized for the Xbox One's architecture and its esoteric ESRAM. Without going too far down the console architecture rabbit hole, more memory bandwidth generally improves graphics performance.

The Xbox One uses pedestrian DDR3 for graphics memory in combination with 32MB of super-fast embedded SRAM to improve bandwidth. But 32MB isn't much, and developers apparently aren't stopping to tune their games for the ESRAM. It's just easier to lower the resolution or texture quality to get frame rates higher.

The hard truth is that for a lot of games, the Alpha is going to look sharper with textures you can bite on, versus the soft-upsampled games. And no, I didn't have a PS4 to compare to the Alpha, so this isn't a conspiracy to put the Alpha only against the lesser of the two consoles.

What it costs

That brings us to cost. The unit I touched came in at \$550 including a wireless Xbox 360 controller. Today, you can get the Sony PlayStation 4 for \$400 and the Xbox One for \$400 without its Kinect. That's a long way from \$550. Clearly the consoles have the price advantage.

Alienware argues that you can easily close that gap buying games on Steam. That's not always going to be true—new games on Steam are just as pricey as the new console game releases—but older Steam titles are a different story. You could spend \$65 on a Steam sale and play games for the next eight months without getting bored.

I could build my own for \$14!

Because there's always going to be the "why not build my own?" crowd that chimes in, I decided to try to build my own Alpha (go.pcworld.com/alpha). In theory anyway. In the end, I came close but couldn't beat the Alpha's cost, and that's not counting a wireless controller and dongle too.

More memory bandwidth generally improves graphics performance.

You're welcome to try to outdo me by going to PC Part Picker (pcpartpicker.com), but I think you'll be surprised (and yes, you have to pay for the OS, bubba). Keep in mind builders, this is a miniature 8-by-8-by-2-inch PC with a GPU capable of playing most of today's games at 1080p at medium settings, and some at high. It doesn't happen at this size for this much money. If a motherboard maker sold a thin-ITX version of this motherboard with an embedded GeForce GTX 860M, I'd be the first one in line for it.


And that's the real shocker: the Alienware Alpha is actually a good deal even if you intend to use it mostly as a PC with some gaming capability.

The Zotac Zbox EN760 Plus (go.pcworld.com/zbox) that we reviewed in July has a quad-core Haswell chip and the same GeForce GTX860M as the Alpha. but it's sans OS for \$640. With a controller and OS, you'd be pushing \$800 for it. That quad-core is nice, but for a gaming box, I'd take the savings instead unless I was doing content creation.

The upshot

The Alienware Alpha should be viewed as a great console complement, rather than a replacement. The Alpha isn't smooth enough to be the hardcore console gamer's sole experience, especially if that gamer wants the carefully controlled environment of the consoles. If that console gamer, however, wanted to sail the vast ocean of PC gaming, where fantastic titles can be had for a pittance, the Alpha would be a wonderful addition to a shelf that already holds the Xbox One, PS4, Ouya and Wii.

The real killer application for the Alpha, though, is as a small gaming and general-use computer. A parent looking for a small desktop box capable of playing the little one's games could buy the Alpha, drop it on the kid's desk, and not look back. At \$550, it'll outperform any budget laptop. The fact that you can also run Office, Photoshop, and other productivity apps make it far more useful as a first game "console."

It's not just for kids, either. Anyone looking for a nicely built tiny PC with actual gaming capability should seriously consider the Alpha. That, overall, is a win for the Alpha, even if it isn't the console killer some hoped it would be. 

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V I D E O G A M E V O T E R S . O R G



Harmony Ultimate Home almost lives up to its name

BY RAY AGUILERA

I'M NOT SURE why coffee tables are called coffee tables. The one in my living room spends more time buried under a pile of remote controls than it does holding up cups of coffee. Of course, the holy grail for anyone with even the most modest media setup is a universal remote that “just works,” to steal a phrase from Apple. Logitech’s Harmony Ultimate Home (go.pcworld.com/logitech) is the latest in a progression of remote controls that attempts—and mostly succeeds—in simplifying not only

your entertainment center, but your lights, door locks, thermostats, and other smart devices.

The Harmony Ultimate Home bundle includes the namesake remote, the Home Hub, a pair of IR blasters (for use with gear tucked behind doors), a charging cradle for the remote, and all the required cables.

Logitech Harmony Ultimate Home

PROS:

- Works with tons of other connected devices
- Activity-based setup offers lots of customizability
- Physical buttons for most actions, plus a customizable touchscreen interface

CONS:

- Setup can still be time-consuming, and desktop app is unintuitive
- Doesn't work with all the devices it claims to (yet)

BOTTOM LINE:

Logitech tried to streamline the setup with a new smartphone app, although it's still a challenge. But once everything's working, Harmony Ultimate Home lives up to its name.

\$350



The remote itself is thoughtfully designed, prominently featuring a bright 2.4-inch touchscreen. The physical buttons are laid out well, offering immediate access to most of the functions you need.

Logitech has gotten rid of the tethered setup in favor of app-based setup from an iOS (or Android) app. So yeah, in addition to your \$350 remote, you'll also need an iPhone. Still, there are some advantages. For one, your Harmony app-equipped phone can double as a second remote, which is perfect for those moments when your actual remote goes missing. The banner feature here is integration with a wide variety of other devices from companies like Nest, Peq, Lutron, SmartThings, and more.

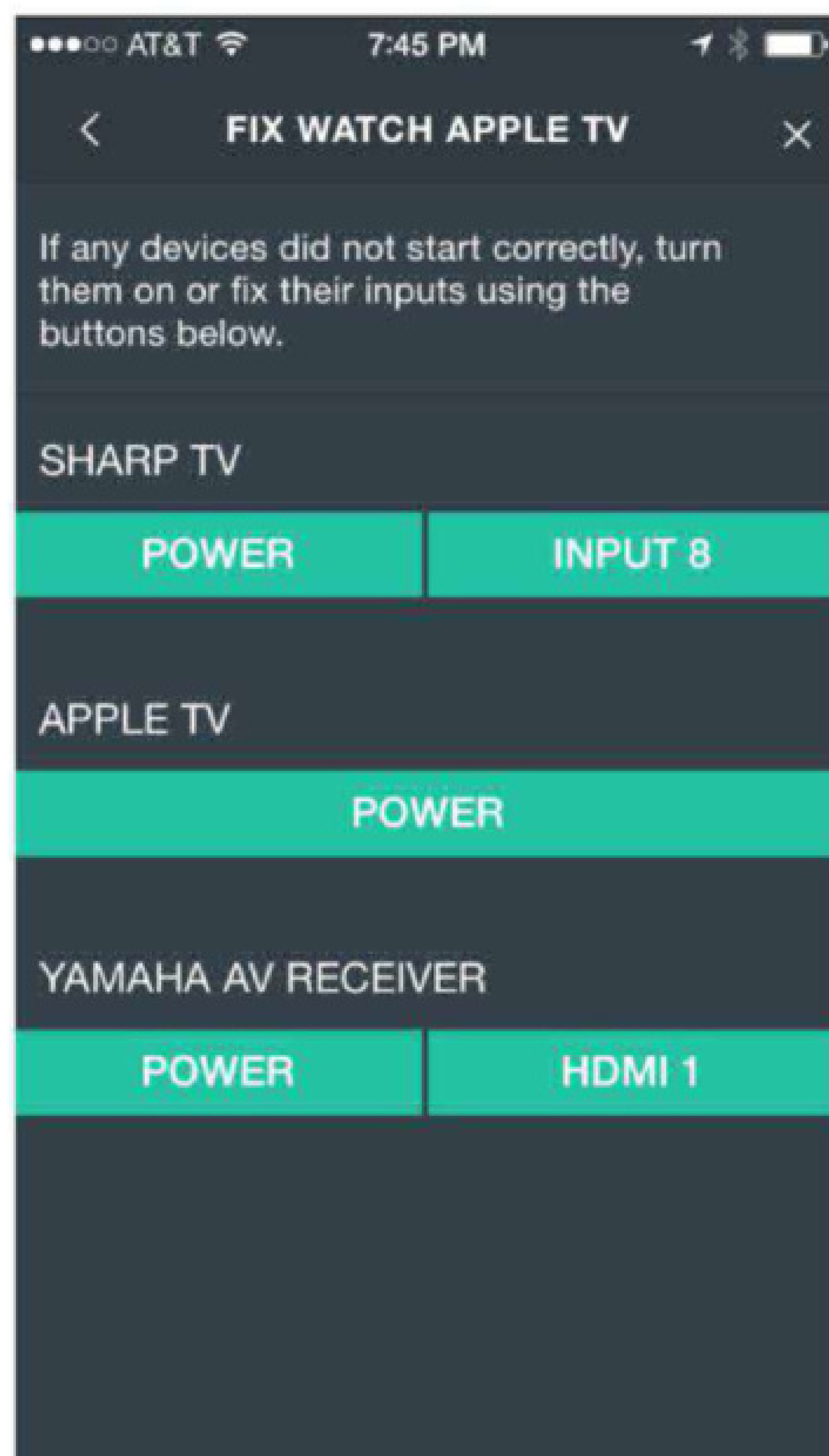
Once everything's

programmed correctly, you'll mostly use the touchscreen to swap Activities, but depending on the devices you use, there are several unused buttons that could also be mapped to specific functions or sets of commands. The touchscreen can also be used with gestures, to do things like play/pause and adjust volume. You can also create your own gestures, but the button layout on the remote is pretty complete, making custom gestures seem more like a flashy demo feature than a necessity. If you need it, the capability is there, however.

The Harmony remote communicates with all your devices via the Wi-Fi-connected Harmony Home Hub (go.pcworld.com/hub) (say that three times fast). The hub receives commands from your remote and relays them to your various devices. It works with both IR and

Bluetooth devices, such as game consoles. Connect the hub to AC power, place it in your entertainment center, and put it on your Wi-Fi network and you're ready to go.

Setting up your various devices to work with the remote is also simple. The app first scans your Wi-Fi network for compatible devices, and then you enter the makes and models of other equipment that you own, so that the Harmony can program the appropriate commands. Things only get difficult when you start creating Activities, which are groups of commands sent to particular devices.



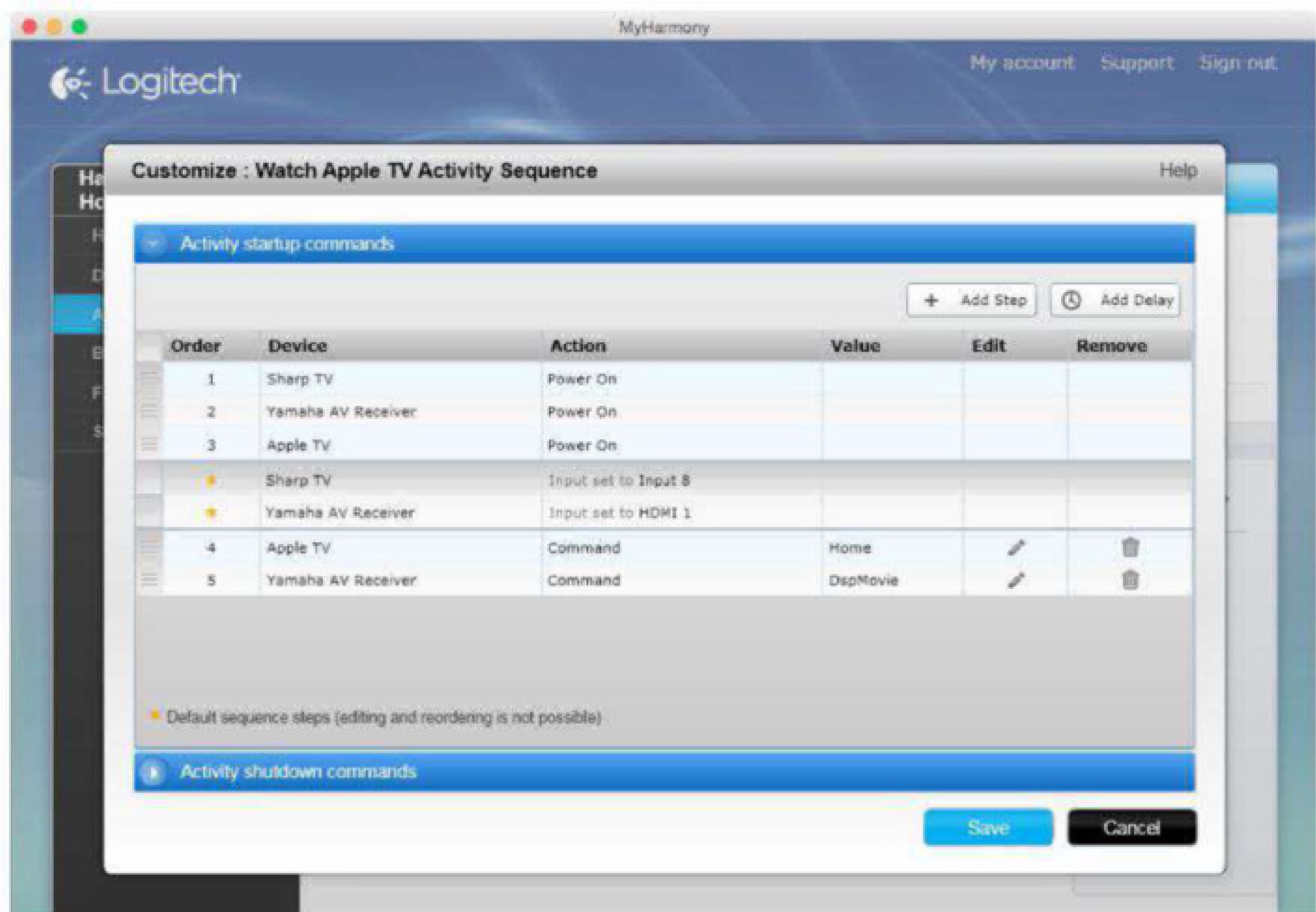
Basic setup and troubleshooting happens via the Harmony iOS app.

You better work

My normal media setup is pretty simple, involving just a Sharp TV, Yamaha receiver, Apple TV, PlayStation 3, and a turntable from Project. So for a task like “Watch Apple TV,” all I really need to do is turn the TV on, turn Apple TV on, turn the receiver on, and set the correct inputs. It’s not a terribly complicated sequence, and obviously a very common setup. The iOS app walked me through programming the Activity, and when it came time to test it—no dice. The receiver turned off, Apple TV turned on, and the television stubbornly decided to switch to an unused HDMI input.

An hour and a half and much button mashing later, I got the kinks worked out. If something doesn’t work right, the app guides you through a series of Yes/No questions to try and suss out the problem, but it doesn’t go deep enough. It covers turning things on or off, and setting inputs, but to solve my problem, I had to download a

The MyHarmony desktop app is necessary for tweaking your remote’s controls.



MyHarmony application to my Mac, and tweak a few command sequences by hand, and then sync the changes to my Hub. So much for the convenience of an iOS-based setup.

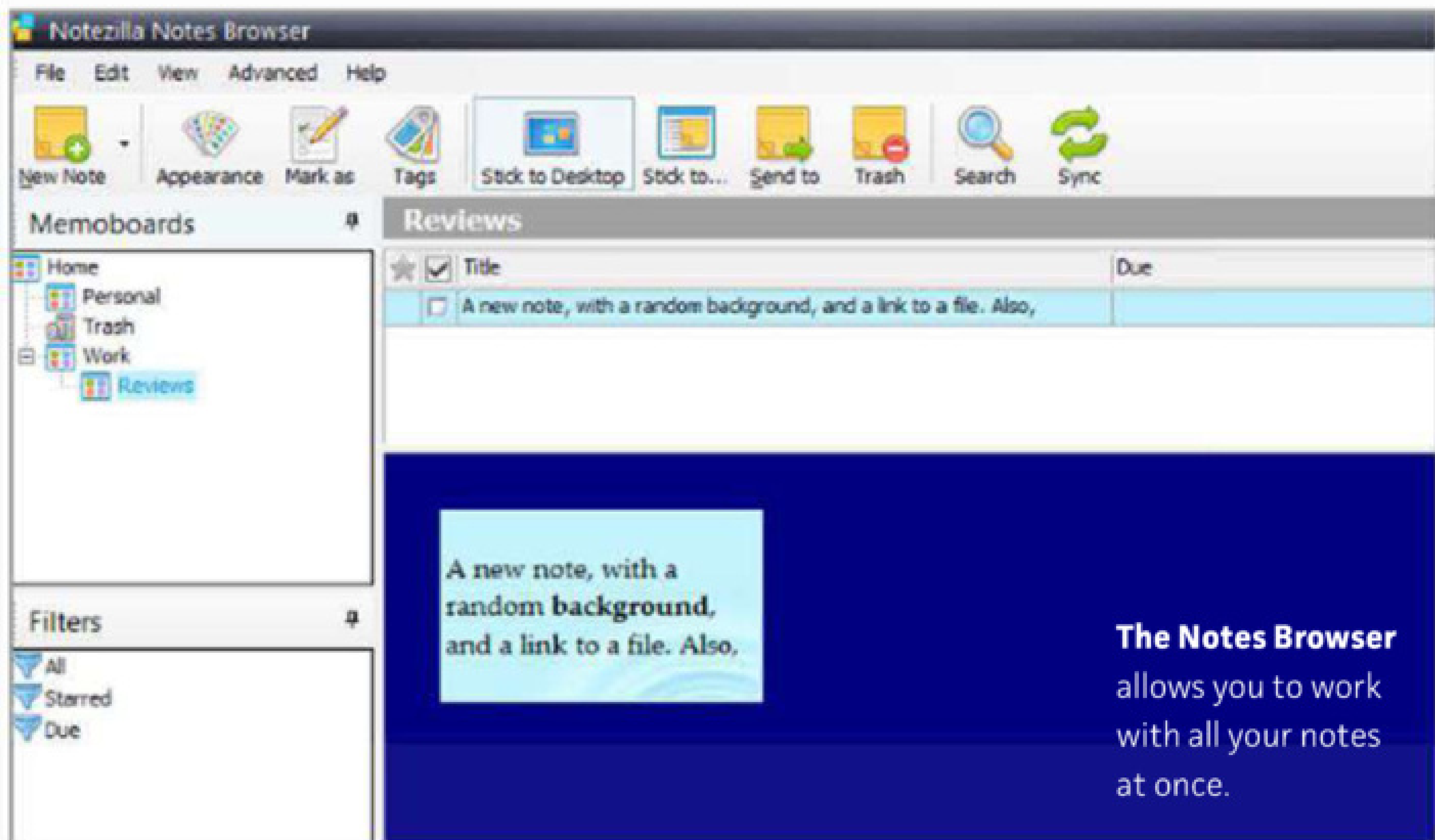
I also set up separate activities for playing DVDs, streaming music via AirPlay, and listening to records. That last one requires manual input, for obvious reasons, and I had to dive into the desktop application once again to add things like changing my receiver's audio processing.

Of course, universal remotes are complicated beasts, and the fact that this one can also control things like Hue light bulbs, Nest thermostats, Sonos music systems, and any of 225,000 other devices is pretty compelling. I wanted to use it with an August Smart Lock, which is prominently featured on Logitech's website, but was informed that unfortunately they haven't quite worked out compatibility yet. Your best bet is to check Logitech's extensive list (go.pcworld.com/list) online, and verify that Harmony Ultimate Home works with your specific setup before plunking down \$350.

When you get all your devices working together, the Harmony lives up to its name.

Bottom line

Harmony's biggest flaw continues to be the setup process. Logitech attempts to simplify it with an iOS app, but the setup options are too limited to allow you to make all the tweaks necessary to perfect all of your activities. For that, you'll still need to dip into the clunky desktop application. When you get all your devices working together, the Harmony lives up to its name. Unfortunately, as in most things, achieving that kind of bliss still requires plenty of work on the front end. 🔌



Notezilla crushes other note programs

BY IAN HARAC

WITH MICROSOFT PROVIDING Sticky Notes for free, and multiple free- or low- cost options available, what does Notezilla 8 have to offer to justify its \$30 price tag? As it turns out, a whole lot. Notezilla pushes the bounds of the sticky note category to their limits, edging close to freeform text database/outliner territory.

New features and functionality

One of my favorite Notezilla features is the ability to pin notes to specific windows or Web pages. When you bring the page or window to the front, the notes appear; when you change your focus, they go away. There's a

noticeable two-to-three-second delay between appearing and disappearing, which might be annoying if you go to a page or window primarily to see the note (as opposed to having the note appear to enhance the object you're looking at). Since PCWorld last reviewed (go.pcworld.com/notezilla7) Notezilla, much has changed. The most useful new feature in Version 8 is syncing notes across multiple devices. Jot down a phone number on your laptop at work, see it on your desktop at home. Notezilla also enhances older features (greatly expanding the capacity to

stick notes to Web pages and directories), and adds many new ones, including hierarchical lists within notes, pop-up reminders, searching in a single note, and password protection/encryption on a per-note basis.

You can arrange notes into memoboards, which you can in turn organize in a hierarchical fashion. Memoboards appear within the Notes Browser, a feature that lets you view, sort, and filter all of your notes at once.

It's the Browser that pushes Notezilla's functionality up to a level above most of its competitors, as it becomes a tool for arranging multiple snippets of information via metadata such as tags and hierarchy. This gives it functionality akin to some basic outliners (go.pcworld.com/outliners) and makes it

Notezilla 8

PROS:

- Notes linked to windows or different memo boards
- Plenty of options for showing, hiding, and formatting notes
- Master control panel to search, sort, and organize

CONS:

- Still a bit pricey
- Notes can take a second or two to appear

BOTTOM LINE:

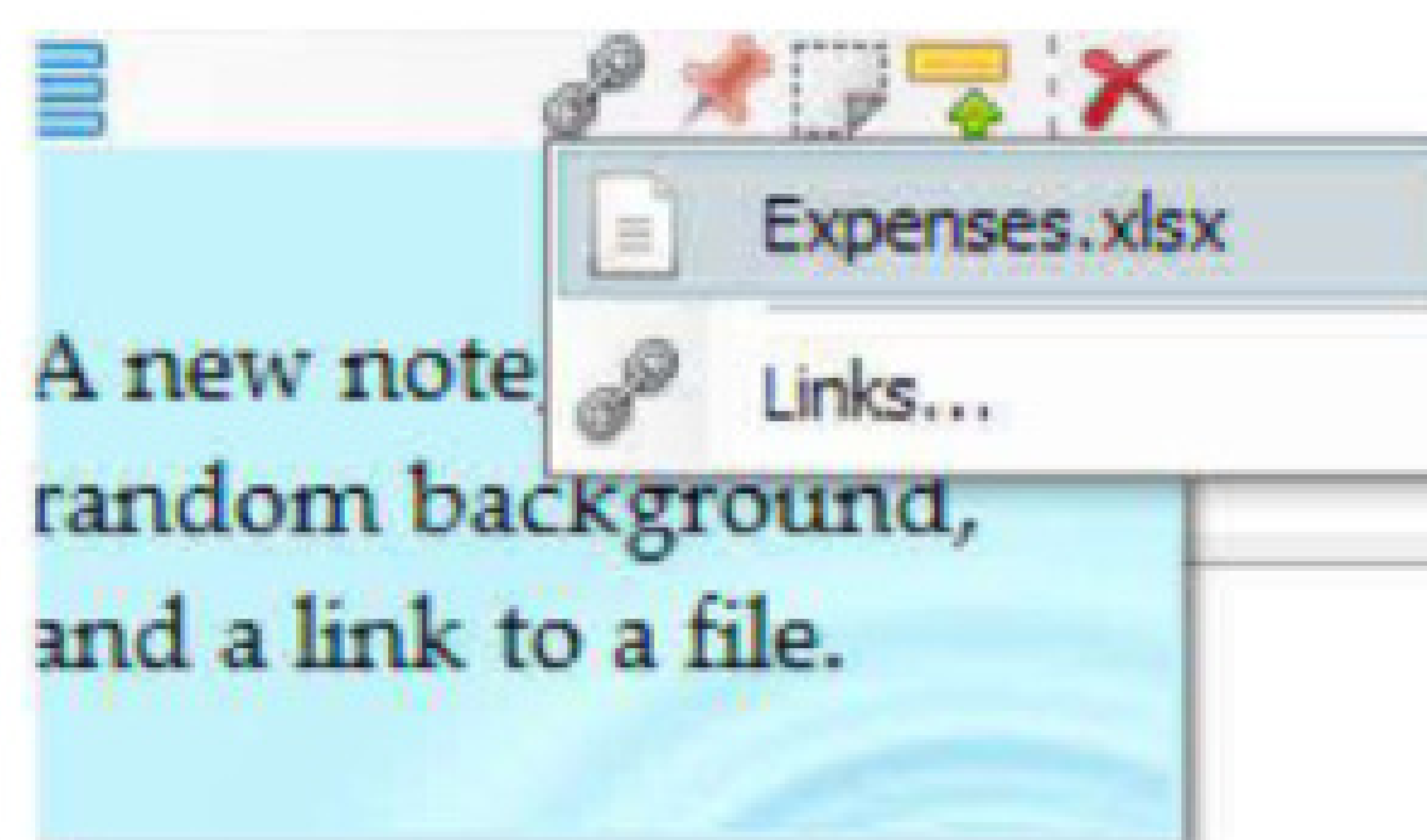
The full-featured trial gives you 30 days to see if Notezilla becomes part of your workflow—and if you work with lots of disparate facts, it may do just that.

\$30.00 (as rated)



practical to have dozens-or hundreds-of notes, as you can drill down to a subset of them quickly, or have them arranged and grouped by topic.

Each note you create with Notezilla is highly customizable, offering fonts, styles, multiple-level lists, different background colors and textures (which you can use to assign meaning, such as making all the important notes red, or as purely aesthetic choices), and links to disk file or websites. You can even insert pictures in BMP, GIF, JPG, and PNG formats.



Notezilla notes can include links to files or Web pages.

Wait! There's more...

What else? You can assign due dates to notes in Notezilla, and the notes will pop up to alert you when the time comes. You can email them, print them, or save them. Nearly all of this functionality is available in each note via either a right-click menu, or via a small menu button in the corner of the note. The window menu mostly addresses whole-note options such as transparency or send-to, and the right-click menu focuses on formatting the text itself.

You can, of course, resize notes, or roll up a note to show just its title, or hide all notes. Setting up hotkeys to do this is necessary to get the most out of Notezilla, and there's a straightforward editor to let you assign such commands as you see fit.

The standard cost for Notezilla includes a two-machine (one user) license, and a one-year subscription to vendor Conceptworld's syncing service. Versions of Notezilla for Android and iOS are coming soon.

The trial of Notezilla is full-featured, without obvious nag screens or "gotchas" where seemingly-enabled functionality produces a "Buy now!" dialog. With a full 30 days to evaluate it, there's plenty of time to integrate it into your workflow. If you need to track many small bits of information, especially if the information logically clusters into sets of related, but not structured, data, Notezilla could be a powerful Sticky Notes alternative. 🔌



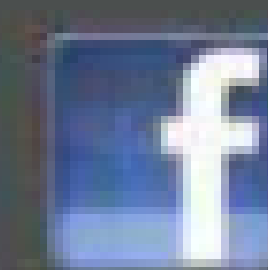
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What Windows Phone needs:

A TRULY FABULOUS FLAGSHIP PHONE

AS MICROSOFT FLOODS THE MARKET WITH CHEAPER HANDSETS, IT'S IGNORING THE POWER OF ONE GREAT PHONE TO LEAD THE PLATFORM.

BY MARK HACHMAN



Apple has the iPhone; Google the Nexus line.

Microsoft has a bunch of numbers that don't mean much to anyone.

It's not that Microsoft's Windows Phone platform is heading in the wrong direction. It's not really headed anywhere at all. Microsoft needs to figure out what Windows Phone stands for, fast—and capitalize upon it with a flagship phone that embodies all of those features.



Huawei W1



Are cheap, third-party phones the way forward for Windows Phone? Maybe to build a user base, but that's all.

That's the upshot of a report on Windows Phone, released December 4th, that paints a dim picture of the future as the company embraces the midrange and low-end phones. Anemic developer support compounds the problem, the report's author added.

And to a large degree, he's right.

In the report from Jan Dawson of Jackdaw Research (jackdawresearch.com), Dawson recommends that Microsoft continue to identify differentiating features that distinguish Windows Phone from Apple's iOS, which dominates the high end of the market; and Android, which eats up everything else. Windows Phone appears to be attacking the same portion of the market Android is, with quality hardware at bargain prices—but

with a fraction of the user base. Dawson recommends developing an iconic flagship phone, and I agree with him on that.

Dawson almost implies it's too late to save the Lumia line, in part because of the vicious circle of app development: A lack of users means less potential revenue, which means developers hold off developing apps for the platform, which turns off consumers who might be interested in the platform.

The report notes that Windows Phone's market share peaked at 3.4 percent in the fourth quarter of 2013 and has declined ever since. In part, that's because shipments have remained flat at about 34 million units for the last year.

So what needs to be done? Here's the problem and some solutions.

THE PROBLEM: LOW-END HARDWARE AND KNOCKOFF APPS

Unfortunately, it's hard not to come away from the report without feeling that Windows Phone represents the Walmart of the smartphone market. The cheapest Windows Phones—the 500 series—represent about 40 percent of the Lumias in the market today, according to AdDuplex. For the past 24 months, the Lumia 520 was by far the most popular Windows Phone device, outselling the next most popular model (the Lumia 625) by almost double, data from Counterpoint Research shows. And that's not surprising, because the 520 costs about \$30 on Amazon, or \$80 unlocked.

"The clearest explanation appears to be that the low end is the one area where Windows Phone has really found a way to set itself apart, as a low-cost but not low-quality alternative to cheap Android devices," Dawson wrote. "Both Microsoft and Nokia have effectively articulated their key selling points against the other major platforms at this end of the market, and they've had significant success there as a result."

Unfortunately, Google has been making similar pushes into

the low-end Android space, with phones like the Moto G (go.pcworld.com/moto) and Moto E providing quality hardware at inexpensive prices. That, in turn, has put additional pressure on Windows Phone, due to the lack of quality apps.

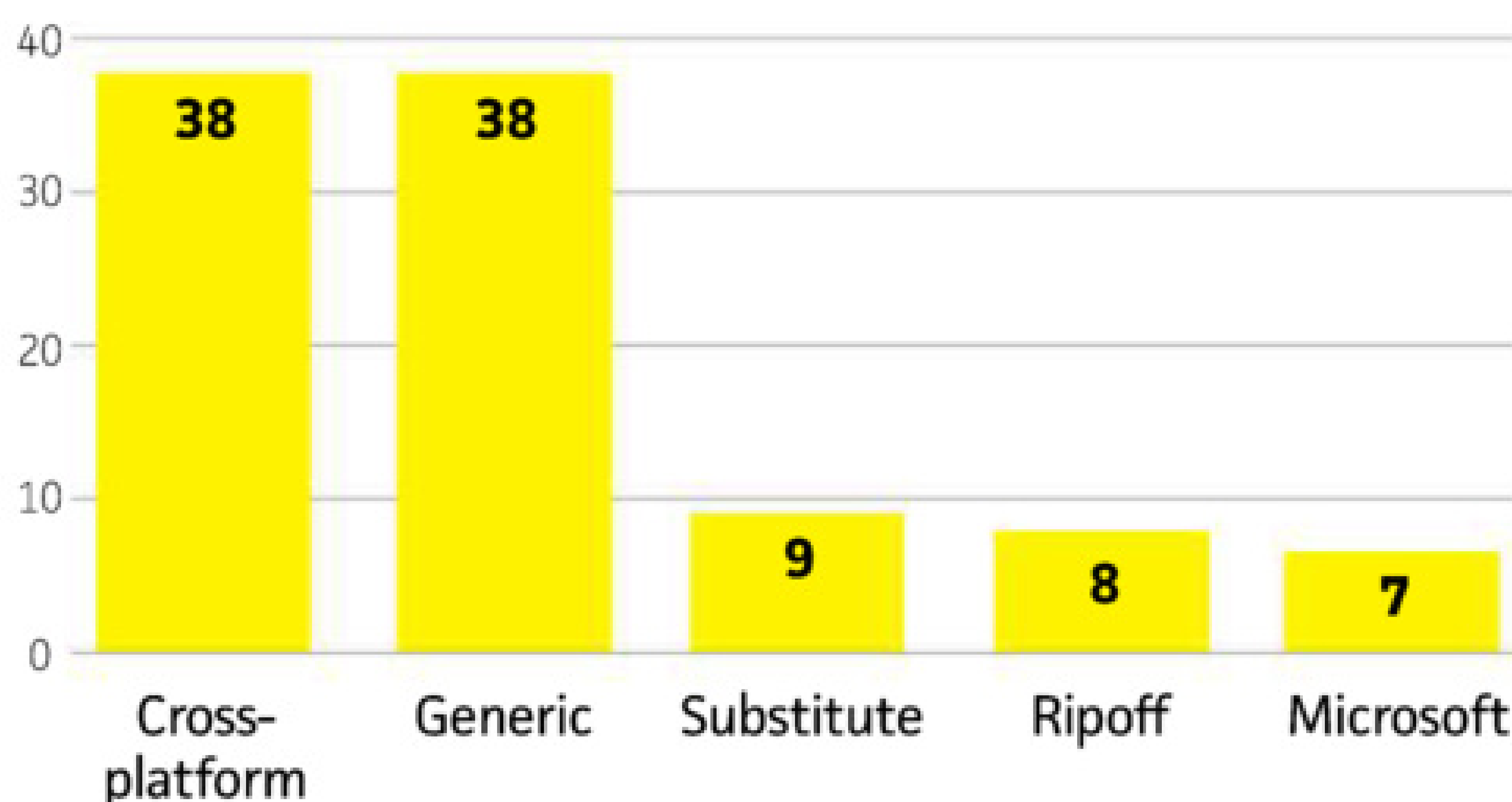
Dawson spends considerable time detailing the “app gap” between Windows Phone, iOS, and Android. But the most damning graphic is the one shown on the next page: Over half of the most popular apps in the Windows Phone Store are ‘generic’ (random apps that fulfill minor functions), ‘substitute’ (app developed to fill in for a name-brand app that isn’t in the Store), or ‘ripoff’ (Dawson’s wording is self-explanatory).

We all knew this next finding, but when you see it in a chart it’s more stark: iOS users can find pretty much all of the best and brightest apps on their platform. Windows Phone users are far less fortunate.

As I see it, Windows Phone is essentially the Nintendo of the smartphone world. Like Nintendo’s Mario, Zelda, and Donkey



APPS IN TOP 100 ON WINDOWS PHONE STORE BY CATEGORY



SOURCE: WINDOWS PHONE STORE, JACKDAW RESEARCH

Of the top 100 free apps within the Windows Phone Store, most aren't even from the original developer.

Kong games, Microsoft's Windows Phone platform was built around a few core technologies: Office and Skype. Porting Microsoft's software and services to other platforms—such as Office to Android (go.pcworld.com/android) or iOS (go.pcworld.com/ios)—has increased their value and extended their lifespans, Dawson notes, but it also severely undermines the value Microsoft can bring to its own hardware.

THE SOLUTION: WHAT IS WINDOWS PHONE?

Dawson lays out a three-point solution for Microsoft: Find a better way to appeal to developers. Design and showcase a flagship phone. Focus on what makes Windows Phone special.

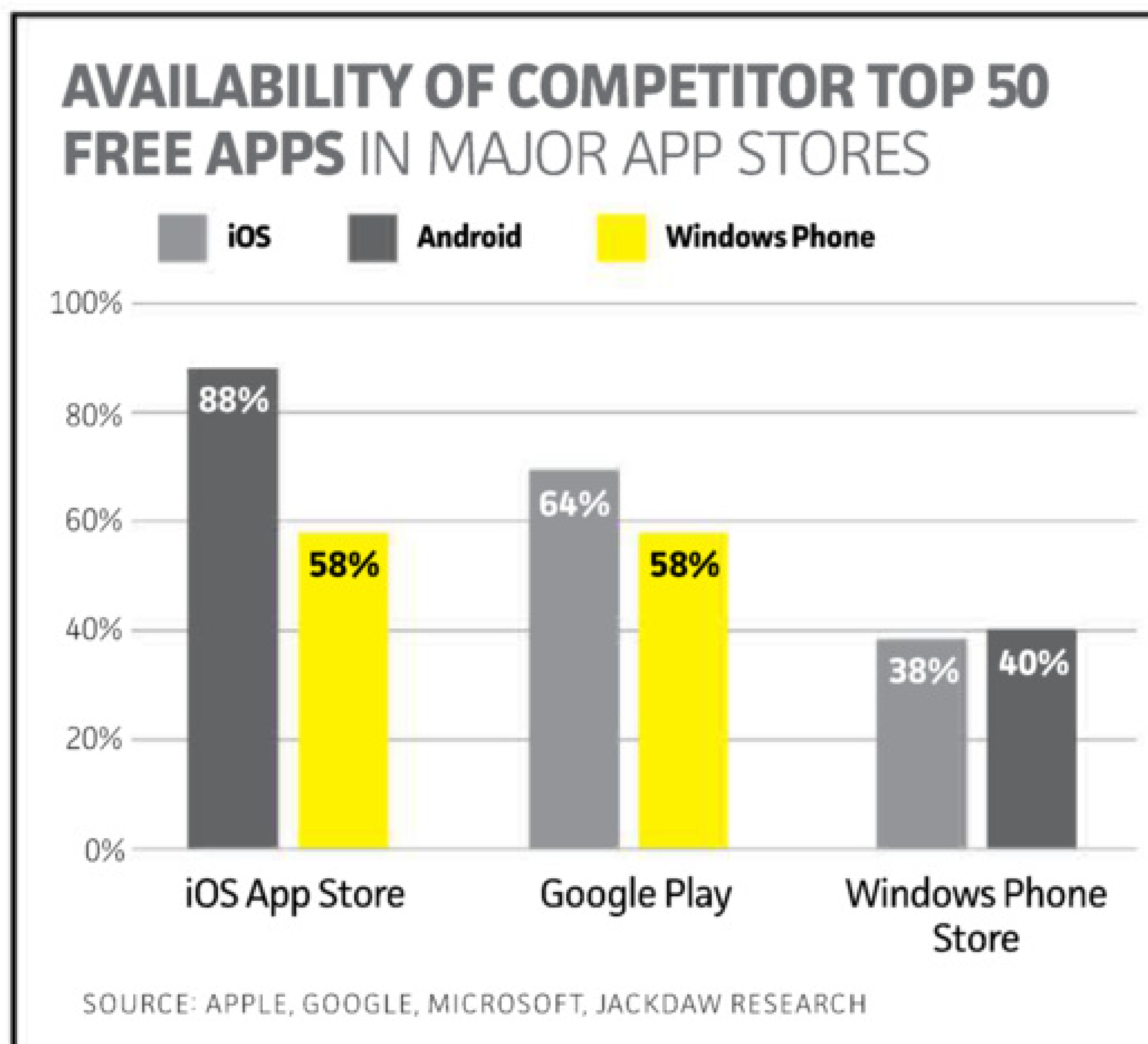
The 'special' part is the rub: Microsoft hasn't yet defined what Windows Phone is. Microsoft's Surface tablet had the same struggle initially, but since Microsoft tied it to the company's

productivity message, the Surface has begun to take off.

Microsoft's tried the same tack with Windows Phone to some extent, but the strategy hasn't really succeeded—in part, because a phone is as much a personal entertainment device as a productivity tool. Windows Phone still operates in some sort of nebulous space where it provides solid hardware for less. But that's a tough sell.

Let's leave the “app gap” aside—Microsoft can only do so much to attract developer attention. But otherwise, it controls its own fate. What it can do to improve?

1. Underscore the basics. Windows Phones do what you expect a smartphone to do, as well or better than the competition. They include solid hardware, excellent cameras, tight integration with Outlook and other email, a good digital assistant (go.pcworld.com/good) in Cortana, and



This somewhat complex graphic shows that most apps are available on Android and iOS, but not on Windows Phone.



Microsoft's
Windows Phone OS felt fresh when it first shipped, but now it's time to see what others can do.

fundamental social apps like Twitter and Facebook. Even inexpensive Windows Phones generally run pretty well, and OS fragmentation is relatively nonexistent: Virtually every Windows Phone is powered by WP8 or 8.1. Here's your tagline, Microsoft: The Lumia is the best smartphone you can ~~buy~~ afford.

2. Free the flexibility. Anyone who's used multiple Windows Phones, however, knows that over time there's a disappointing sameness about them. That's the flip side of familiarity: If you buy a new Windows Phone, chances are you'll be able to clone over your familiar apps and data onto a new candy-colored phone that looks very similar to your older phone.

Say what you will about Samsung TouchWiz and HTC's Sense: Android allows a framework for OEMs to differentiate and experiment, adding loyal fans in the process. Microsoft doesn't. And with virtually every Windows Phone (save for HTC's One (M8)) made by Microsoft, there's just not the flexibility that Android offers. Anyone can throw a fart app



The Nokia Lumia Icon isn't just a memorable phone; it has a memorable name, too.

into the Windows Store, but you don't allow HTC to redo the Start screen? This is backward.

That's exactly what Apple offers through generation and generation of iPhones, obviously. But with each new generation, Apple trumpets exactly why you'll want to wait in line for the latest model. Does Microsoft? Nah.

3. Features make the flagship. There have been rumors of a Lumia with a 50-megapixel camera lurking within. I'm skeptical, too. But man, Microsoft needs something for customers to get excited about—not just unlimited OneDrive cloud storage.


And if Microsoft does come up with something innovative, do we hear about it? Nope. I'm not impressed with the Lumia Selfie app, as it centers your face a bit too much in the frame for my taste. ("Yes, Mom, that's Half Dome. Well, trust me, it's there.") But it accomplishes two things: First, because it shoots selfies using the larger rear camera, it eliminates the need for the 5MP selfie cameras that phones like the Lumia 735 include.

Second, it's an app that no other platform has.

Go crazy, Microsoft. Shoot for the moon. Give every Windows Phone user who buys a Lumia 520 that shining hope that one day he's going to buy the Lumia Zeus, that six-inch quad-HD phablet that plugs into your Xbox One and unlocks when your Microsoft Band approaches it. But if you don't, at least try to convince the world you're making a difference.

4. We love names. For those people who identify with their new BMW 325i, terrific. Personally, numbers have never meant a whole lot to me except as markers for a new generation of product. If bigger doesn't mean better, it can be confusing.

Names, however, project an aura of intimacy. The name doesn't have to be warm and welcoming: we all know what someone means when they say they love their Nexus. But with Microsoft's numeric product names, I sometimes have to think: Okay, which one is that? And because many of them look alike, I'm forced to hunt down the specs and the release date.


If you read between the lines, Dawson seems to making as many arguments against Windows Phone as he is for it. But you can't really write off a multi-billion-dollar investment as easily as you can Barnes & Noble's Nook e-reader. As a consumer, I want more choice. But Microsoft has to want more for Windows Phone, too. 



**“ SURE,
AT FIRST I WAS A LITTLE TAKEN ABACK
BY THE WHOLE PEEING STANDING UP THING.
BUT I TAUGHT HIM TO THROW A STICK
AND NOW HANGING OUT WITH HIM
IS THE BEST PART OF MY DAY.”**

**— EINSTEIN
adopted 12-09-10**

**A PERSON
IS THE BEST
THING TO HAPPEN
TO A SHELTER PET**

 **adopt**

theselterpetproject.org



DROPBOX MOBILE:

New managing,
editing & syncing
features

BY LIANE CASSAVOY



ILLUSTRATION BY
HARRY CAMPBELL

DROPBOX,

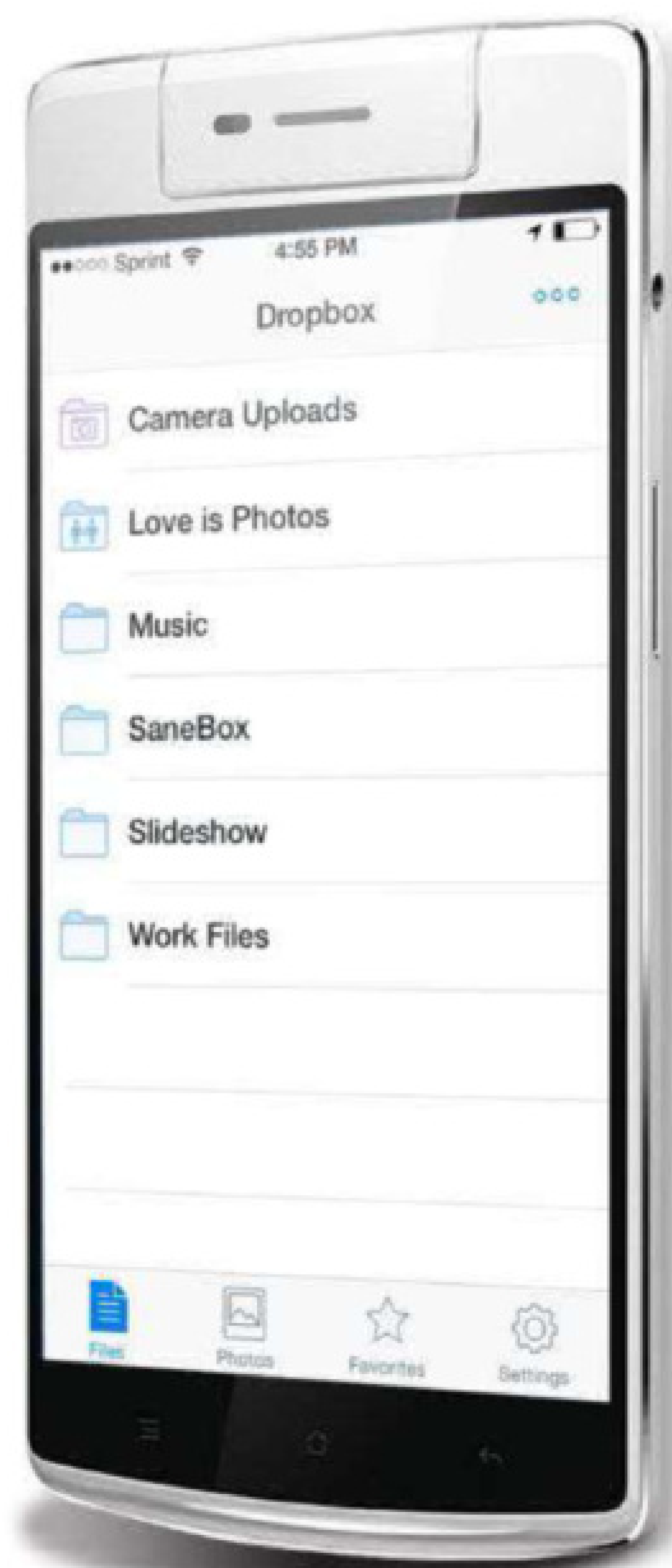
the very useful cloud-based storage service, used to be fairly limited on mobile. It allowed you to see the files you had stashed in your Dropbox, but you couldn't do a whole lot with them. Luckily, that's changed with some recent updates to the Android and iOS apps for Dropbox.

Basics, Covered

Dropbox Mobile (dropbox.com/mobile) lets you do much of what you can do when using the desktop app or accessing via the Web. You can browse your folder library, delete and rename files, share them via social media, email or text message, and generate links to folders and files. I found it easier to share a file using Dropbox Mobile than I did on my desktop, though it's not a difficult task on either device.

I also like how Dropbox Mobile is able to play back a variety of multimedia files, including audio and videos. I was able to stream a .wmv video seamlessly, though performance will obviously depend on the strength of your wireless connection.

It's also a handy way to enjoy your music collection if space is limited and you don't



I found it easier to share a file using Dropbox Mobile **than I did on my desktop.**



DROPBOX MOBILE APP

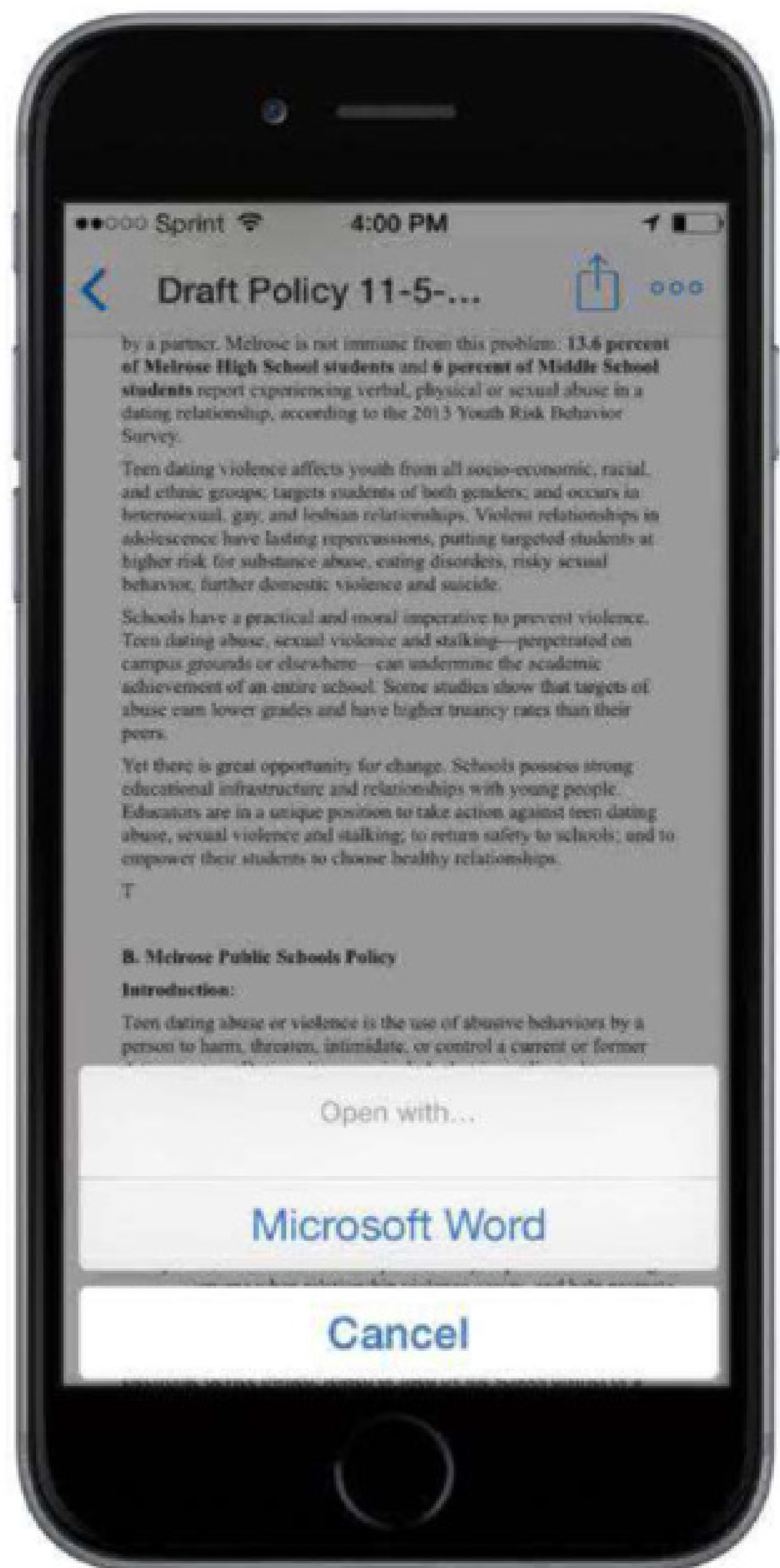
want to download it to your mobile device. Don't expect music playback features to rival your phone's built-in player, though; Dropbox plays a single file at a time. If you want playlist-like continuous playback, this is not the app for that task. And keep in mind that streaming a lot of audio and video could rack up some data charges, depending on your account.

Microsoft Office Integration

One of the biggest limitations of using Dropbox on your mobile device was the inability to actually edit files, especially Microsoft Word files. It was frustrating to be able to see list of files but not be able to edit them without some pretty time-consuming work-arounds. But now, Dropbox features tight integration (go.pcworld.com/integration) with Microsoft Office, and those ties have made their way to the mobile app. When you open a file stored in your Dropbox, you just click an icon at the bottom of the screen to edit it, and the app asks you if you'd like to do so in the appropriate Microsoft Office app.

I tested several Microsoft Word files, including some very long documents and a couple with heavy formatting. Long files were slightly delayed in opening, but I was

Long files were slightly delayed in opening, **but I was pleased to see how quickly all of my edits were saved.**





pleased to see how quickly all of my edits were saved. All changes I made were seamlessly saved to Dropbox, and synced to my account so they were immediately available across my devices. The integration goes both ways, too. When you create a file using the mobile Microsoft Office apps, you can choose to save it directly to your Dropbox, which is handy.

This integration with Microsoft Office makes Dropbox mobile a must-have app for me, as it eliminates the one big annoyance I had with the app. True productivity doesn't come free, though. To edit files in Microsoft Office apps, you'll need an Office 365 subscription, which starts at \$69.99 per year.


By default, Dropbox only uploads the photos **when your device is connected to Wi-Fi.**



More Mobile Tools

Anyone who's ever lost a phone that's full of photos and videos will appreciate Dropbox Mobile's Camera Upload. It automatically syncs all of the photos and videos that you capture on your mobile device to your Dropbox account, neatly arranging them by date taken. It's a drop-dead simple way to back up all of the images you capture. By default, Dropbox only uploads the photos when your device is connected to Wi-Fi, but you can allow it to use your cellular data network, too.

Dropbox Mobile has some additional features that I was unable to test, but they sound promising. The Android app allows users to export files directly to SD cards, and Dropbox for Business user can connect both personal and business accounts for separate access from within the same app.

Dropbox Mobile isn't perfect. I wish it played music continuously, and that you could sort files by type, not just by date. But it's an insanely useful addition to an incredibly useful service, and it's made even more so by its Microsoft Office integration. 

Dropbox Mobile isn't perfect. I wish it played music continuously, **and that you could sort files by type, not just by date.**

HERE'S HOW

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HERE'S
HOW



How to buy the perfect PC gaming laptop

Smart component choices can make (or break) a gaming experience. Here are the top points to consider when picking your portable.

BY GORDON MAH UNG

DESKTOP DIEHARDS AND the Reddit build-it crowd might scoff at the very concept of a portable PC gaming machine, but the gulf between gaming desktops and gaming laptops has narrowed considerably over the years. Today's laptops can play modern games at 1080p and higher with few to no compromises in graphics settings. And that's not bad.

Sure, traditional desktop PCs offer more expansion options and easier upgrade paths, and can be significantly cheaper for the performance you get. But there's no denying the appeal of a single, self-contained gaming machine that you can move from the living room to the dining room to even the back porch.

You just need to pick your gaming laptop wisely. Your decisions will key into a series of component choices, so let's dig into them, one by one.

GPU: Your 3D graphics engine

Modern games are all about 3D graphics, which means the most important component in your gaming laptop will be the graphics card, or GPU (short for graphics processing unit). Today, only two manufacturers make respectable mobile GPUs: AMD and Nvidia.

Most mainstream productivity laptops come with graphics powered by Intel, and they're not powerful enough to run serious 3D games. Intel's graphics unit is integrated directly into the CPU die, whereas the GPUs from AMD and Nvidia are completely separate—and much more powerful—chips. In fact, some people intentionally buy laptops with integrated graphics so their kids can't play games on them. (Or at least the fun games.)

Manufacturers will try to entice you with hard drive and RAM upgrades, but your GPU will make the biggest impact on your gaming experience. So if gaming is important to you, buy the biggest,



The number
one component
should always
be the GPU,
such as Nvidia's
new GeForce
GTX 980M



The MSI GT72
Dominator Pro
comes with Nvidia's
GeForce GTX 880M
graphics card.

baddest, fastest GPU possible—because you're essentially stuck with it for the life of the laptop.

Today, Nvidia's GeForce GTX 980M is the highest-performing mobile GPU; Nvidia says it offers 75 percent the performance of its desktop equivalent. That's pretty phenomenal, considering that the GeForce GTX 480M, the best mobile GPU in 2010, offered only about 40 percent of its desktop counterpart's performance. AMD's current bad-boy GPU is the Radeon R9 M290X. Rumors point to an impending update, but for now the M290X is the top dog wearing AMD colors.

You don't necessarily require super-high-end Nvidia or AMD graphics in your laptop for a good gaming experience. But when you're looking at two similar laptops, it's generally wise to go for the GPU with the highest model number possible. A GTX 990M will be a better choice than the GTX 880M, and so on, down the line.

The bottom line is you should prioritize your gaming laptop decision around your GPU—and how much that GPU impacts the size of the notebook. These high-end GPUs are fast, but the heat they generate, and the power they consume, will limit you to very large notebooks (as the machines need to accommodate elaborate cooling systems and large batteries). And, yes, having two GPUs in a laptop is better than having one GPU when it comes to gaming performance.

CPU: Important but not paramount

Intel has conditioned us to splurge on CPUs, but for gaming, your laptop's CPU will never be as critical as its GPU.

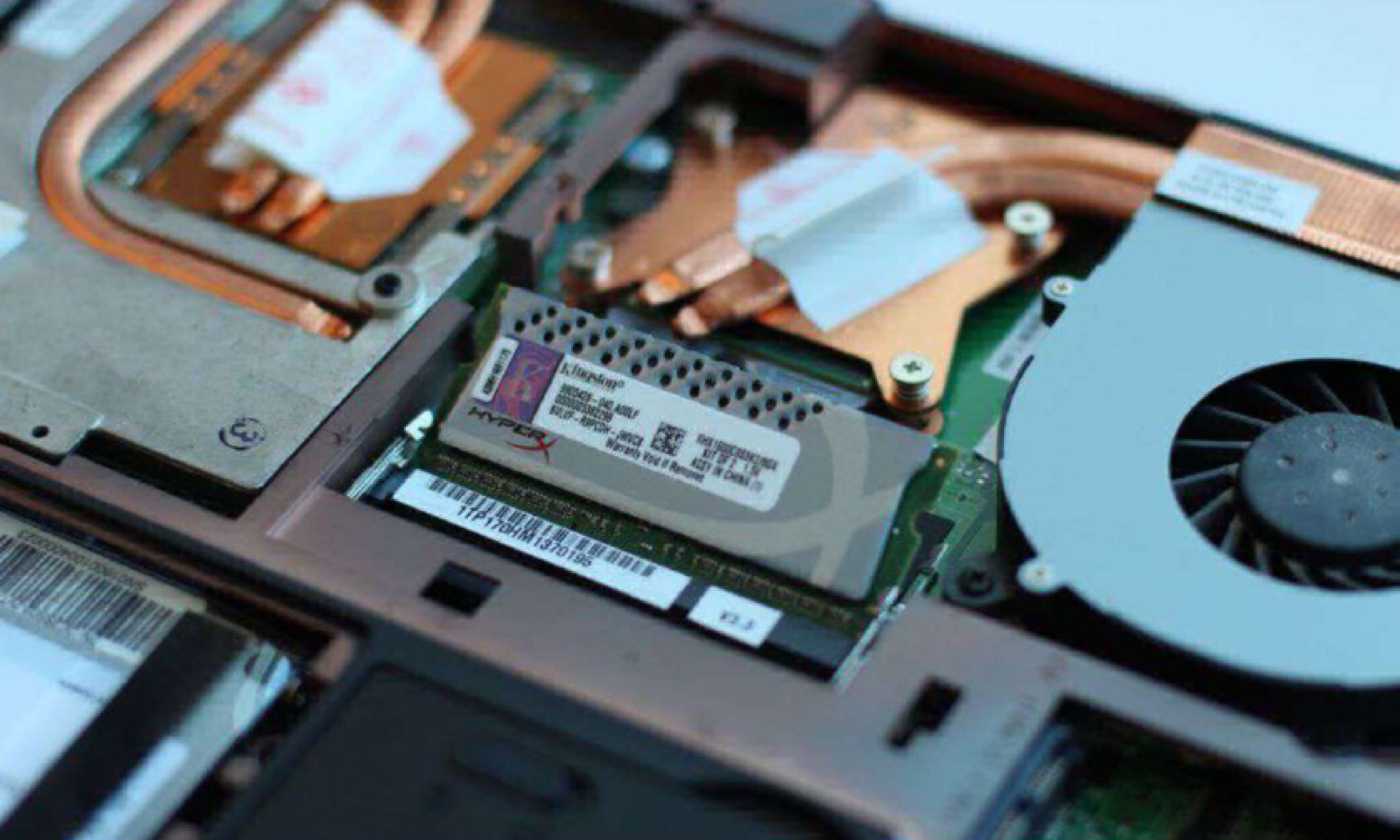
Keep that in mind when you're debating whether to spend extra money on a faster or more advanced CPU. A CPU with a higher clock speed or more cores will help in video encoding or even photo editing, but it rarely pays dividends in 3D gaming once you're above a certain threshold.

Let's look at three increasingly powerful Alienware notebooks, each armed with a different CPU. At the bottom, we have dual-core 2.6GHz Core i5. The middle choice comes with a quad-core 2.9GHz Core i7. The high-end model features a quad-core 3.1GHz Core i7. These are all strong processors, and each supports Hyper-Threading, which tackles simultaneous processing tasks, much like multi-core technology does. But the price for that 3.1GHz machine is almost \$850 more than the price of the 2.9GHz machine. The more expensive model also comes with extra RAM and better storage, but these are relatively unnecessary upgrades if your only goal is kick-ass PC gaming.

And remember: Faster processors require bigger fans, which make for bigger packages.

The reality is you'd be hard-pressed to see a difference in games

A CPU with a higher clock speed or more cores will help in video encoding or even photo editing, but it rarely pays dividends in 3D gaming once you're above a certain threshold.



running on the two-quad-core Alienware models. We're starting to see more games exploit multiple cores, but, frankly, that dual-core Core i5 might be fine for most titles you ever end up playing—especially because it supports Hyper-Threading.

And, yes, I'd mention AMD processors, but it's pretty rare to see a gaming notebook using AMD CPUs today.

RAM: Eight is enough

Pay close attention to how much RAM you're buying, because many people get snookered into buying more than they really need for PC gaming.

Today, 8GB is fine for the vast majority of games on the market. It doesn't hurt to get 16GB, but it's difficult to find legitimate benefit for that much memory in today's games. Even worse, some system vendors like to offer extreme configurations—like 32GB of RAM—in their gaming laptops. That may pay off in some extreme content-creation scenarios, but gamers would be better off paying for a faster GPU or bigger SSD.

You really don't need more than 8GB or 16GB of RAM for gaming yet vendors sell up to 32GB of RAM in gaming laptops.

SSD: Check 'yes' for faster load times

An SSD (solid-state drive) isn't essential, but it's definitely preferred. Because it uses memory chips instead of mechanical platters for storage, an SSD speeds up Windows boot time, overall system responsiveness, and even how fast games load. Having an SSD usually won't improve frame rates in 3D games, so if you have to pick between faster frame rates and faster game loads, choose the benefit that appeals to you most.

SSDs are definitely a nice luxury, but don't settle for one with a small capacity. Indeed, if your preferred laptop only has one storage option, going for a larger hard drive or hybrid hard drive (which pairs a small-capacity SSD with a large-capacity mechanical drive) is the better idea. You'll need that storage space for today's big games.

EA's Titanfall, for example, is a 48GB download. If your main drive is a 128GB or even 250GB SSD, you'll run out of space in no time. So while SSDs provide a lot of great benefits, they can also leave you ass-out when you need storage space the most.



With game loads reaching 40GB, a small SSD won't cut the ketchup any more for a gaming laptop

Display: Play it sensible

Gaming notebook displays tend to run the gamut from lackluster to luxurious. The problem is you really don't get to pick what you want. The vast majority of gaming notebooks ship with twisted nematic (go.pcworld.com/twisted) LCD displays, which generally offer faster response times, but their off-axis viewing can run from fair to terrible. IPS panels are preferred for their better color accuracy, but they also increase laptop prices, so few vendors will deploy them.

The other criterion you should ponder is resolution. You'll want a machine with a sensible native resolution, and this typically means 1920x1080. While 4K is spectacular for pixel density and reducing



the need to run anti-aliasing, this resolution will kill frame rates, at least if you run games at the display's native resolution.

Then there's the latest Razer Blade (go.pcworld.com/razer). This gaming machine has an insane 3200x1800 resolution, but the display is arguably overkill, especially if you want the fastest frame rates possible. We say stick with 1920x1080, and consider 1366x768 only if you're looking at a low-end model.

Keyboard

Other than some fancy backlighting schemes, gaming laptop keyboards tend to be pretty generic. The Alienware 17 keyboard features steel pillars under the WASD keys, the keys most often used for directional control in PC games. This gives the keyboard a more solid feel, and prevents you from damaging the laptop when you're fighting for your life.

Aside from these subtle touches, gaming laptops typically all use the same scissor-switch keyboards that productivity laptops employ. But then there's MSI's new GT80 Titan. As insane as it may sound, this

MSI's new GT80

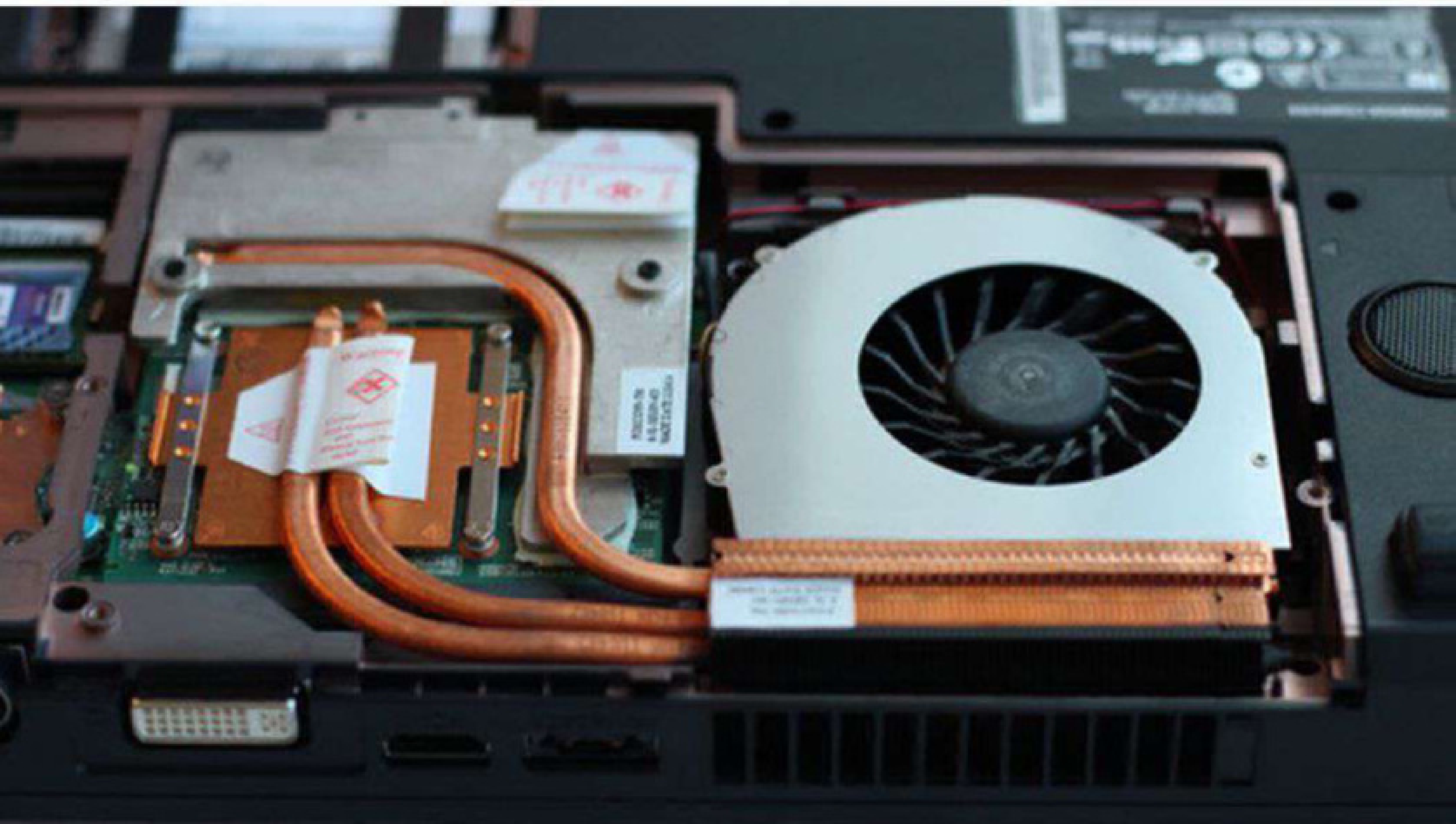
Titan will be the first gaming pc in a long time to use mechanical switches.

upcoming gaming laptop is touted to feature a mechanical keyboard. These haven't been common in laptops since the late 1980s. Mechanical keyboards require extra space for key travel, and this defies the general consumer desire for thinner, more streamlined chassis designs.

Size and weight compromises

You can buy a gaming laptop with two graphics cards, multiple bays for storage drives, an optical drive, and a super-large screen. But it'll weigh more than the boat anchor for the *USS George H.W. Bush*. For soldiers who live out of their foot lockers, that weight penalty may be worth it.

Of course, not all gaming laptops have to be 12-pound monsters.



With great gaming power comes great heat and great big fans too.

You can definitely find thinner notebooks that still come with discrete graphics cards, but you'll have to give up some performance.

And that's ultimately the rub: The more portable the laptop is, the less likely it will crank out super-fast frame rates. This is unlikely to change until there's some breakthrough in physics. So for now, just resign yourself to compromises.

Heat and acoustics

Gaming notebooks may be physically huge, but those large chassis sizes can allow for more efficient heat dissipation. The manufacturers can pack in larger heat pipes as well as larger fans running at slower RPMs. This delivers sufficient cooling with less noise.

But you never really know what you're getting until you run a hardcore game for more than 10 minutes. So if you have the opportunity before buying a machine, put it under a real-world gaming stress test. Does the laptop get uncomfortably hot? Or does the machine stay cool, but sound like a hovercraft because its fans are spinning in overdrive? This is a problem you may encounter in some of the thinner gaming notebooks.

Upgradability: Almost off the table

This last point is probably the stickiest. For the most part, gaming laptops have fairly limited upgrade options. You'll probably be able to drop in more RAM, or a larger SSD or hard drive. You might even be able to swap out the wireless card. But don't expect to upgrade the CPU or GPU without some serious warranty-breaking surgery.

I won't say it's impossible, as it can be done. But counting on an upgrade path in a gaming laptop is a fool's errand. Just buy the laptop and be prepared to live with it for the next few years.

See why the gaming desktop has an advantage? 🔌



Some large gaming notebooks do offer the ability to upgrade the CPU and GPU... but it's not an easy path.

Five handy uses for a secondary PC

BY IAN PAUL

WITH BLACK FRIDAY and Cyber Monday past us, the holiday shopping season is now in full swing, and many people are pondering a new PC purchase. Whether you're getting a new tower for gaming or an ultra-portable to tote around at meetings, don't throw out your old PC (go.pcworld.com/oldpc)!

Sure, its glory days may lay in the past, but as long as the aging machine still runs, there are plenty of ways to put it to good use.



Stream gaming client and 802.11n Wi-Fi can transform your old hardware into an impromptu gaming PC.

Home theater PC

1 It always sounds like a good idea, but few people are willing to take the plunge and turn a PC into a media streaming and playback powerhouse (go.pcworld.com/powerhouse). Now that you've got an old PC kicking around, why not give it a try and plunk that PC in your living room's entertainment center?

You can use it for streaming music and videos, playing downloaded files, and, depending on your hardware, watching DVDs and Blu-ray discs too. Slapping dedicated home theater PC software (go.pcworld.com/pctheater) on the system will make it even better for couch surfing. And on top of that, your living room will have a built-in slideshow machine and a way to play PC games on the big screen!

Speaking of which...



Slapping dedicated home theater PC software on the system will make it even better for couch surfing.

Steam stream

2 If you're swapping out your old PC for a more beastly rig, the aging machine can be used as a conduit to bring the glory of PC gaming anywhere in your house. Valve recently added a new feature to its Steam PC gaming client that lets you stream your full-blown games from one "host" machine to another "client" machine, effectively transforming your old hardware into a powerful, impromptu gaming PC—though it takes either a hardwired or 802.11n or 802.11ac Wi-Fi network for best results. The results are utterly magical (go.pcworld.com/magical).

Playing Assassin's Creed IV: Black Flag on a crusty old 2006-era MacBook with the help of Steam in-home streaming and a gaming PC to power the actual gameplay.

And if you've got your old PC hooked up to your living room PC and a nice set of speakers, well, grab a controller, pop open Steam Big Picture

mode, and get your game on! It's also a great option for portable gaming—connect your old laptop to your gaming rig via Steam in-home streaming and suddenly you're able to play modern games from the comfort of your couch, bed, or wherever.

Even better, the technology is dead simple to set up. We've got a primer on how to turn your old PC into a gaming beast (go.pcworld.com/beast) with Steam in-home streaming.

Kids' PC

3 Why hand down your old iPad when you can give your young ones an education on how to use a proper PC? The way the world's going you can never start teaching your kids about technology too young.

There are even a number of lightweight, kid-friendly operating systems (go.pcworld.com/kidos) you can swap out for Windows to give your old PC new life.

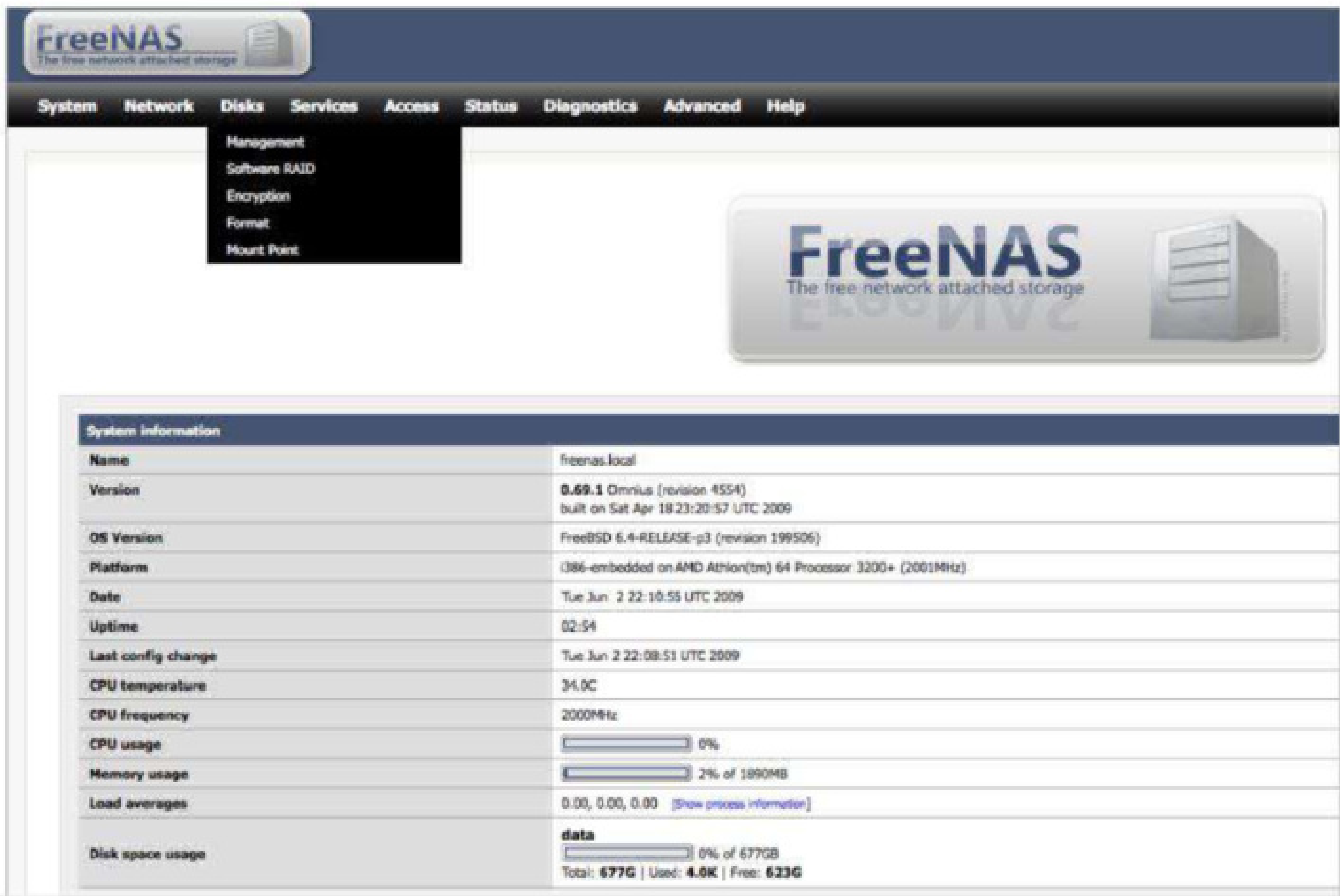
bash										bitnami@ip-10-...									
1	[
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PID	USER	PRI	NI	VIRT	RES	SHR	S	CPU%	MEM%										
5307	daemon	20	0	167M	45356	27920	S	0.0	0.6										
5317	daemon	20	0	166M	38784	22804	S	9.0	0.5										
5309	daemon	20	0	171M	54148	31984	S	2.0	0.7										
5303	daemon	20	0	170M	49928	29172	S	0.0	0.7										
5327	daemon	20	0	166M	36088	19484	S	0.0	0.5										
5296	daemon	20	0	164M	35856	21112	S	0.0	0.5										
5289	daemon	20	0	167M	46180	28528	S	12.0	0.6										
5401	daemon	20	0	166M	23208	6340	S	1.0	0.3										
5294	daemon	19	-1	163M	42952	28744	S	0.0	0.6										
3050	daemon	20	0	166M	56176	38808	S	0.0	0.7										
2497	daemon	20	0	170M	57480	39084	S	0.0	0.8										

Web server

4 An old PC is also a great opportunity to learn more about how websites work by running your own web server. If you're currently running a WordPress blog with a custom URL that only you and your mom read, why not try managing the whole enchilada yourself? You'll save that \$100 you spend every year on hosting, and you'll soon be acquainted with the ins and outs of the LAMP stack.

If WordPress isn't your bag, you could also try running a simplified site written in HTML running on an nginx-powered server.

Manage a
whole WordPress
blog and become
acquainted with
the ins and outs
of the LAMP
stack.



Just don't try to run a high traffic website out of your home. A few hits a day is no big deal, but websites running on a home Internet connection tend to be slow. Plus, if for some reason you become an Internet star you may run afoul of your ISP's terms and conditions due to all the increased web traffic.


Open-source

FreeNAS, is extremely stable and easy to set up.

Home file server

5 If web administration isn't for you, how about improving your home network with a shared file server for all the devices at home? Think of it as a central repository for all the photos, music, and movies that are spread across various devices right now.

With some free software, creating a file server is pretty straight forward and you'll have the peace of mind knowing that all your files are finally in one place and accessible by every device in your home.

Intrigued? PCWorld's tutorial on how to turn an old PC into a home server with FreeNAS (go.pcworld.com/home) can help get you up and running in no time. 



Find free Internet for your laptop while traveling



SURE, YOU CAN do a lot on a smartphone, phablet, or slate, but there are times when only a laptop will do. Unfortunately, situations like this always seem to pop-up while I'm on the road with no obvious Internet access.

But have no fear, weary traveler. This is no time to cave and start paying for Wi-Fi. Instead, put this three-step plan for finding free(ish) Wi-Fi into action before you even think of paying for that Boingo or Gogo day pass.

Wi-Fi hotspots

When you're on the hunt for free Wi-Fi the first thing to do is ask yourself if you've got default access to free hotspots already. If you're a Comcast (wifi.comcast.com) subscriber, for example, you've got access to millions of free Wi-Fi hotspots across the U.S. Verizon FiOS (go.pcworld.com/vhotspots) subscribers also get free Wi-Fi access at thousands of locations, as do AT&T customers.

Check with your wireless carrier, Internet service provider (ISP), and your cable company to see if you've got free access to Wi-Fi hotspots as part of your service.

Beyond your own subscriptions, there are also numerous major and regional chains with free Wi-Fi, such as Panera Bread or Starbucks. You can also often find free Wi-Fi in libraries and public parks in larger cities.

Wi-Fi Finder

If you come empty after scouring for national chains and free access from your various service providers, then it's time to turn to your smartphone.

There are many apps that will help you find free Wi-Fi. A popular choice is WiFi Finder for Android (go.pcworld.com/9thdecimal) and iOS (go.pcworld.com/jiwire). This app has a database of 650,000 Wi-Fi hotspots worldwide.

Comcast subscribers can also grab the Xfinity WiFi app (go.pcworld.com/xfin) for Android, which tells you where the closest Comcast hotspot is. WiFiFreeSpot.com maintains a comprehensive list of public Wi-Fi hotspots, though its database is largely US-centric and more clunky than the other Wi-Fi-finding options.



NinthDecimal, Inc's WiFi Finder is available for Android and iOS.

Go mobile

So you've exhausted your search for free Wi-Fi. There are no chains with free Wi-Fi and your home ISP hasn't got a nearby hotspot, but you absolutely have to get online with your laptop. Now is the time to consider using your smartphone or broadband-enabled tablet as a Wi-Fi hotspot or USB-connected tether.

Most modern smartphones allow for tethering. The iPhone definitely does, and most modern Android and Windows Phones do too—though some carriers may make you pay extra to tether to your phone, depending on the specifics of your mobile plan. Third-party tethering apps (go.pcworld.com/tether) can help you sidestep that, though.

But here's the thing about tethering: It's a great solution in a pinch when you have no other option, but it's often not a sterling experience.

Many people complain of frequent dropped connections and slow performance, not to mention the hit your phone battery takes even when it's getting a bit of a charge from your laptop.

Beyond the technical considerations, however, there's also the issue of your carrier and data plan. If you don't have an unlimited data plan, or at least a generous serving of monthly data, you can go way over your bandwidth limits pretty quickly.

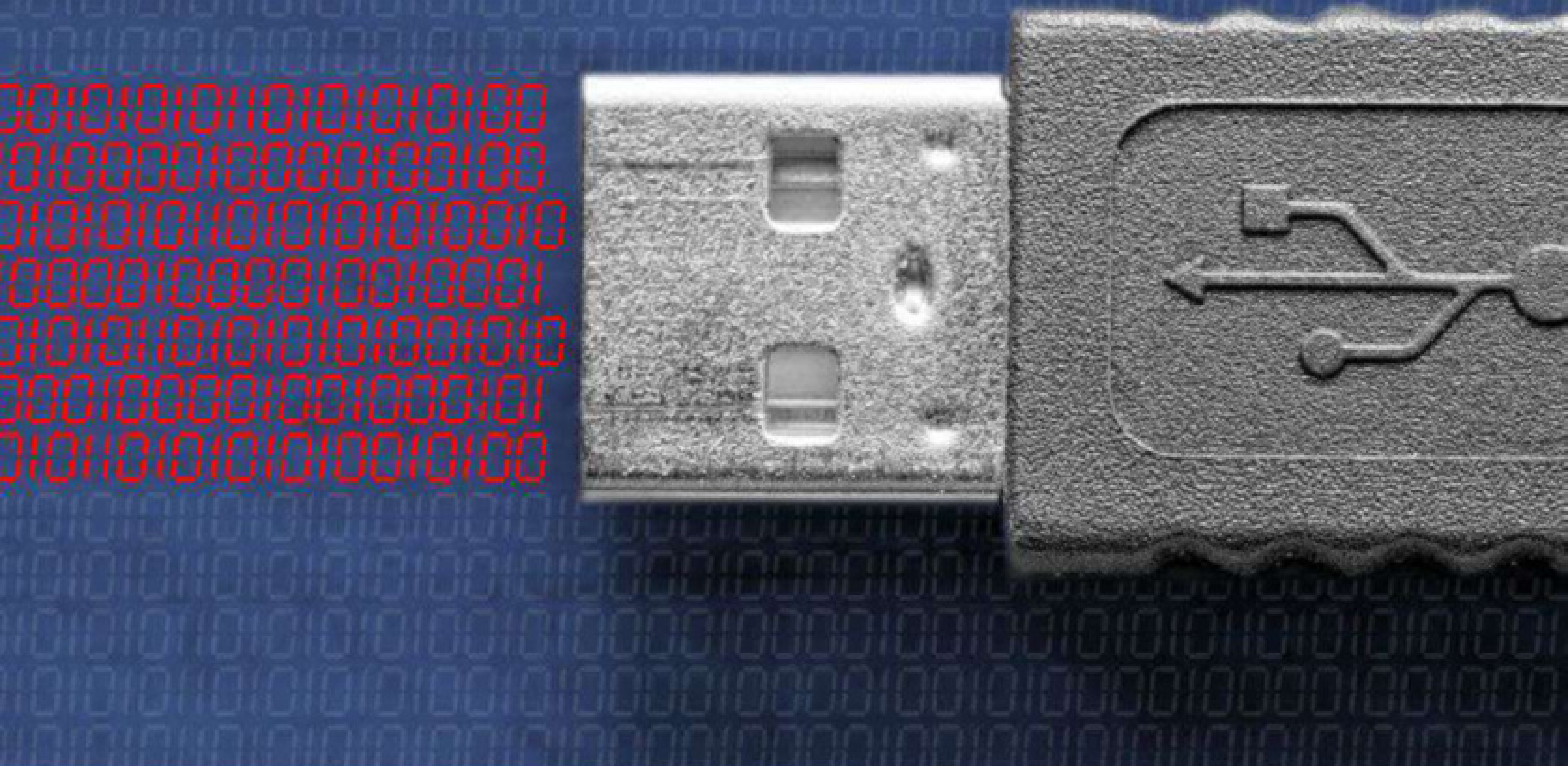
You can offset this a little bit in Windows 8.1 by setting your tether as a metered connection (go.pcworld.com/metered), as well as turning off any sync apps like Dropbox and OneDrive. If you end up using your tethered connection, consider a proper mobile hotspot like a MiFi or a laptop card instead.

Just pay up

Finally, if you can't get free Wi-Fi and tethering won't work, then it's time to look at paying for Wi-Fi. Sorry to break it to you. 📶



Most modern smartphones allow for tethering.



What you can do about undetectable malware on a flash drive

After reading about BadUSB (go.pcworld.com/badusb), Barbara asked if it was safe to share files through a flash drive. “Would we be safer using a cloud service?”

A cloud service might be safer than a flash drive, although that has its own dangers—especially with privacy (go.pcworld.com/private).

BadUSB shows us that malware can infect and reside in a flash drive's firmware, which your antivirus program can't scan the way it can scan the drive's main storage. It's like having the malware in your motherboard's BIOS—except that this motherboard will likely get plugged into multiple computers.

Better flash drives would fix the problem.

As far as we know, as I write this, BadUSB is not yet malware. It's an experiment intended to prove this sort of thing can happen and that we need to protect ourselves.

But if it were malicious, it could trick your PC into thinking it's a USB keyboard, and then tell it to download something bad. It could take over your DNS settings and send you to the wrong websites.

Luckily, your antivirus software would probably catch and block this sort of activity. But that's probably, not definitely.

Better flash drives would fix the problem. IronKey (go.pcworld.com/ironkey) claims its drives use digitally signed code, which makes it impossible for anyone else to change the firmware.

If IronKey is correct, and if other companies follow their lead, the problem will go away...eventually.

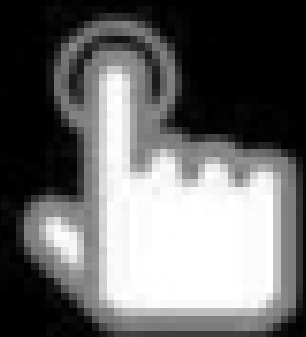
In the meantime, here's what you can do to protect yourself:

Don't share flash drives. Stick with the cloud for file sharing.

Follow the general rules of PC security: an up-to-date antivirus, a firewall, Web protection, and so on.

Let the manufacturers know that you want BadUSB-immune portable storage. 

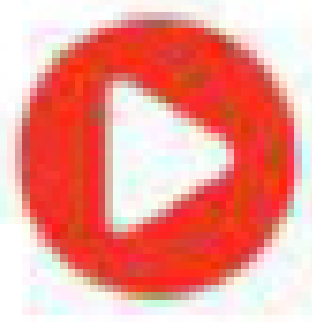
Send your questions to answer@pcworld.com.



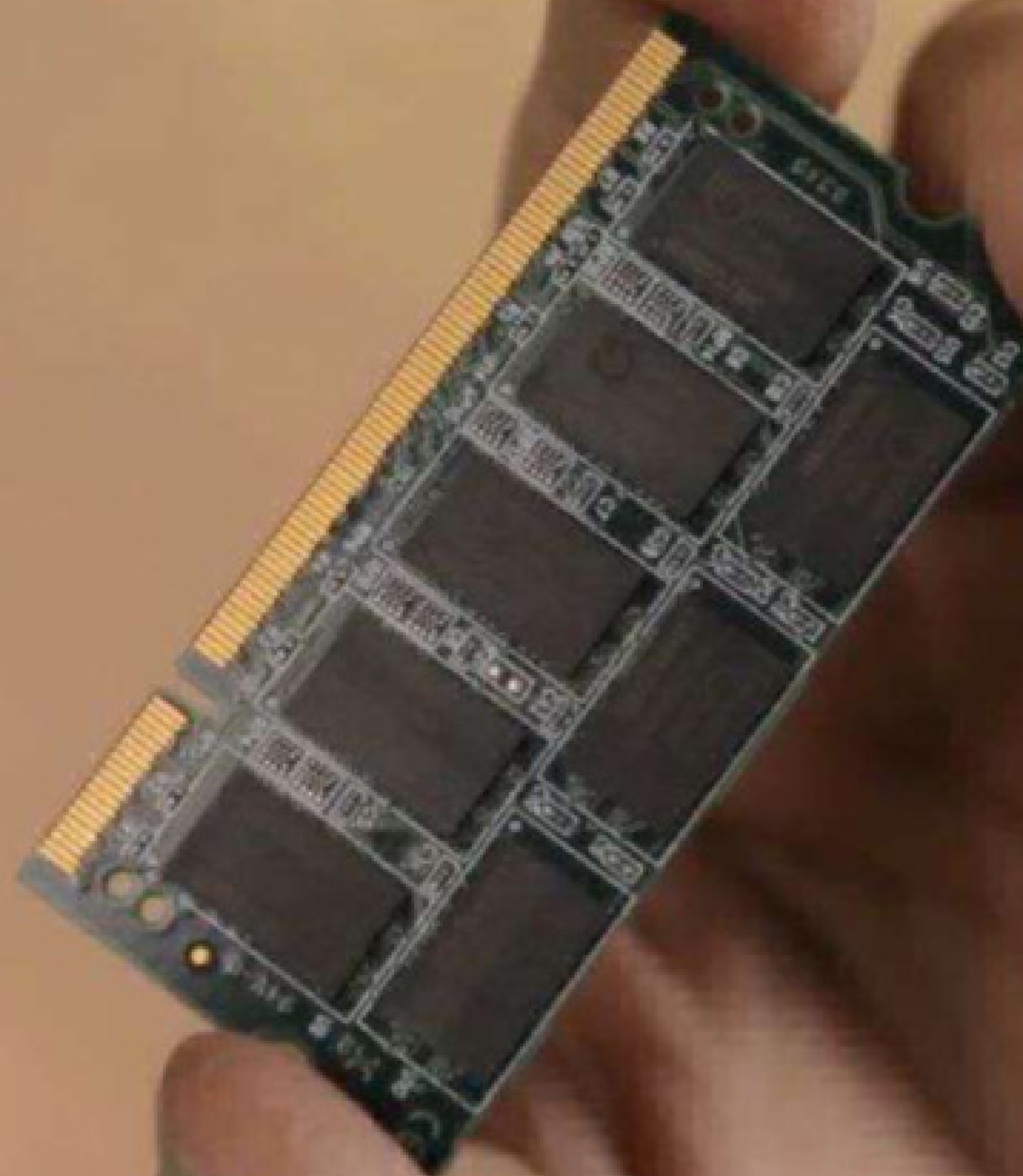
TAP THE IMAGE TO PLAY.
INTERNET CONNECTION
REQUIRED.

Tech Spotlight

A video showcase of
the latest trends



Watch the
video at
go.pcworld.com/gotcha



Buy the best PC laptop: 5 gotchas to avoid

» Don't be the one who buys a crummy laptop because you didn't watch this video. Whatever your budget, whatever you want to do with your laptop, Gordon Ung tells you what you absolutely shouldn't compromise on, unless you *like* hating your PC.