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Adoption of server virtualization is a no-brainer for companies committed to producing the most output in the least amount of time. The desktop is the next efficiency frontier.
informationweek.com/analytics/vdimodels

Continuous Monitoring Action Plan
Federal agencies must transition from static cybersecurity defenses to real-time monitoring and response.
informationweek.com/analytics/continuous

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The editors of InformationWeek are pleased to launch a brand-new site and community, called The BrainYard (at thebrainyard.com). It’s dedicated to helping business and IT pros with a huge challenge: improving how their companies hatch ideas, share best practices, manage and execute projects, identify business opportunities, get closer to partners and suppliers, and tap into and anticipate customer needs. It’s about the latest technology tools, platforms, and services—as well as organizational approaches—for fostering business collaboration, social networking, and community building. You may know the subject matter by a couple of other names: Enterprise 2.0 or the social enterprise.

Companies in a range of industries, from giants like Procter & Gamble and Coca-Cola to small and midsize businesses, have identified improving collaboration among far-flung employees, suppliers, partners, and customers as one of their biggest strategic priorities. In our recent InformationWeek Analytics IT Pro Survey of 619 business technology professionals, 68% say their companies have adopted at least one Enterprise 2.0 application, and the rest are either rolling them out or testing them. The most entrenched vendors are Microsoft with SharePoint and Office, IBM with Lotus, and Salesforce.com with Chatter. But a range of smaller software and service vendors are making their mark, including Yammer, Drupal, Jive, OpenText, and SuccessFactors.

Why do we call this site The BrainYard? Well, this is heady stuff, and the practitioners, consultants, journalists, and other writers and participants will bring their expert perspectives. The BrainYard shouldn’t imply theoretical or wonky, however. Yes, plenty of big thinkers will write for this site—the likes of Xerox Innovation Group’s Venkatesh Rao, Community Roundtable co-founder Rachel Happe, CMS Watch’s Tony Byrne, and collaboration strategist Michael Sampson. But our mission is to deliver news, case studies, opinion columns, and other content that is practical and actionable.

And we won’t be a bunch of industry cheerleaders. We’ll analyze the best practices and products that are delivering true business value, but we’ll also extract the bloviation and hyperbole. If we don’t, call us on it.

Along those lines, we invite you to not only read and view what’s on the BrainYard site, but also participate. After all, what would a site dedicated to social business be without social participation? Those who register will get commenting privileges, our weekly BrainYard email newsletter, access to certain InformationWeek Analytics in-depth reports, and other premium content.

Later this year, in the site’s community area, participants will be able to share documents, upload files, participate in discussion forums, and create private groups. All site registrants also get attendee discounts at UBM TechWeb events, including the Enterprise 2.0 Conference in Boston and Interop in Las Vegas. (The BrainYard is a partnership between the editors of InformationWeek and the organizers of the E2.0 Conference.)

As always, we encourage your feedback. Write to me at the address below, and please dive directly into the site with your comments.

Rob Preston is VP and editor in chief of InformationWeek. You can write to Rob at rpreston@techweb.com.
SUZANNE KOSUB
Senior VP and CIO, Concentra

Colleges: University of the Incarnate Word in San Antonio, Texas

Leisure activity: Golf

Business-related pet peeve: Talkers, not doers

Tech vendor I respect most: Steve Jobs

Personal computer: Mac

Smartphone: iPhone

If I weren’t a CIO, I’d be ... a lawyer or judge

CAREER TRACK

How long at current company: I’ve been with Concentra, which operates medical centers and clinics in 40 states, for 10 years.

Career accomplishment I’m most proud of: Running a technology organization that’s viewed as a value-added partner.

Most important career influencer: Early in my IT career, I met the female CIO of a large tech company and asked about her career path. She told me that it took tremendous passion and bravery to do the job. To be an effective CIO, you must have passion for leading technology people, enabling the business through technology, and being focused on customer service. You must also show bravery to be a respected member of senior management and be engaged in strategy, finance, and operations.

ON THE JOB

IT budget: $27 million

Size of IT team: 160 employees

Top initiatives:
>> We’re deploying a customer management system, allowing us to better track customer interactions over time.

>> The technology team is closely aligned with the business side to develop and execute a new clinical systems strategy.

>> Continued rollout of the Medical Informatics Engineering electronic health record management system to all of our employer worksite locations.

How I measure IT effectiveness: Concentra ranks each business unit annually, including the technology organization. This allows us to understand the satisfaction of end users and make improvements.

VISION

The next big thing for my industry: The future of healthcare is boundless. There are many opportunities we can obtain through advanced information exchange, automation, and operational and quality improvement.

The federal government’s top tech priority should be ... to lead technology into more aspects of the healthcare system, creating more cost-efficient and quality outcomes.

Kids and technology careers: I’d encourage my child to find a career she’s passionate about and one that makes her happy. If that’s in the technology industry, I would support the decision.
Following AT&T’s $39 billion deal to acquire T-Mobile USA, InformationWeek Analytics research finds that the initial reaction among business technology professionals is to wait and see—unless they happen to be existing T-Mobile customers. For them, fully 77% say they’ll be shopping around for a new mobile communications carrier. And while it’s a good bet that many would remain with the new AT&T should the deal pass regulatory muster, you can also bet that Verizon and Sprint are cranking up their marketing engines to make certain that T-Mobile customers of all stripes are aware of their options.

Just 14% of our survey respondents say T-Mobile is their company’s preferred North American mobile communications carrier. But it has been the most aggressive price competitor, providing a “foil against the duopoly pricing of AT&T and Verizon,” says Berge Ayvazian, a consultant with market researcher Heavy Reading. Business customers won’t like losing that leverage even if T-Mobile hasn’t been a big part of their spending.

Business pros are polarized on whether the Department of Justice and FCC should allow the merger: 46% of our survey respondents think the regulators should nix it—a standout percentage, as our surveys rarely find so many respondents eager for this level of government intervention. Respondents worry that prices will rise with fewer competitors.

Ayvazian notes that the deal comes with a $3 billion breakup fee AT&T must pay T-Mobile’s parent, Deutsche Telekom, if the merger can’t be completed. Deutsche Telekom would also get rights to some of AT&T’s wireless spectrum, so either AT&T has little doubt the deal will go through or it will do whatever it takes to get approval.

The merger isn’t likely to come without conditions. While customers might like some kind of promise of lower rates, the discussion is more likely to center on coverage and bandwidth utilization. “I’m worried about the future,” Ayvazian says. “We’ve spent the past 20 years promoting competition and benefiting from competition.”

Business pros have plenty of other palpable reactions besides worry, with respondents to the free-form section of our survey using terms like “horrible,” “absolute worst,” “disaster,” “larceny” (and a few more that civility prevents us from publishing) to describe their feelings about AT&T and its cellular and customer service. But the vitriol is far from universal. The glass-half-full types hope that innova-
tive billing and other customer-care qualities they appreciate in T-Mobile will brush off on AT&T. But the real value AT&T is seeking isn’t T-Mobile’s friendlier pricing and customer service.

AT&T is well aware of its own coverage and quality problems, and its rollout of LTE (its high-speed, 4G data transport technology of choice) will further stress its network, which must remain backward-compatible with phones and other devices users have now. In some markets, buying spectrum is all but impossible, making acquisitions AT&T’s only option.

T-Mobile, instead of moving straight to LTE, had been pushing HPSA+, most recently to 42 Mbps in select markets—not quite 4G speeds, but well past 3G. “Each time T-Mobile has set the bar [on HPSA speeds], AT&T has had to match it,” Ayvazian says. This deal would let AT&T focus on its LTE investment rather than have to match T-Mobile in HSPA+.

The problem is worse for T-Mobile, whose spectrum holdings would make a true 4G rollout using a technology like LTE very difficult without making obsolete existing users’ devices. In many ways, the management of T-Mobile has orchestrated a perfect George Costanza moment for itself. By rolling out enhancements to its HSPA technology, T-Mobile has been an early provider of 4G-like performance, but it has no clear path to wider coverage or higher speeds. As such, it’s now taking a bow and selling to AT&T at the top of its game. (T-Mobile reportedly also was in merger talks with Sprint.)

Our data reveals that IT pros think the biggest benefit of the merger would be in better 3G and 4G service from AT&T (see chart, left). But at the same time, that’s about their only positive expectation. Survey respondents don’t think business customers will get any more plans to choose from, nor are they confident customer service will improve. And they’re convinced costs won’t go down.

So will T-Mobile customers flee? No doubt AT&T thinks the long-term ramifications of the merger won’t be as severe as our knee-jerk survey reactions indicate. AT&T’s research likely showed the same thing ours does: T-Mobile customers, particularly business customers, chose the carrier in the face of the accepted wisdom that only Verizon and AT&T are suitable business-class partners. The bottom line is that customers that made that choice either really like some aspect of T-Mobile service—such as more predictable data and voice performance in certain markets—or they really hate AT&T. —Art Wittmann (awittmann@techweb.com) and Chris Murphy

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**Merger Outcomes**

If the merger of AT&T and T-Mobile goes through, do you agree or disagree with these statements?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT&amp;T will have significantly better national 4G coverage</td>
<td>3.3 (Mean average)</td>
<td></td>
</tr>
<tr>
<td>AT&amp;T will have significantly better national 3G coverage</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>AT&amp;T customers will have a better array of handsets to choose from</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>Verizon will be the biggest winner in this merger</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>Overall, North American businesses will be better served</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>AT&amp;T customers will have a better array of business plan options to choose from</td>
<td>2.8</td>
<td></td>
</tr>
<tr>
<td>AT&amp;T customers will receive better account service</td>
<td>2.6</td>
<td></td>
</tr>
<tr>
<td>Overall, North American businesses will see their cellular service costs go down</td>
<td>2.3</td>
<td></td>
</tr>
</tbody>
</table>

Data: InformationWeek Analytics AT&T T-Mobile Merger Survey of 1,922 business technology professionals, March 2011

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**Quicktakes**
Industrial control systems have been considered unlikely security risks because attackers wouldn’t have the wherewithal and knowledge to break into the software, or the software doesn’t reside on a network. But as networked environments have become common, supervisory control and data acquisition software, or SCADA, can no longer count on “security by obscurity.”

This danger was highlighted recently when security researcher Luigi Auriemma posted to Bugtraq full-disclosure advisories and detailed proof-of-concept attacks for 35 vulnerabilities in SCADA systems. The disclosures raise questions about whether SCADA vendors are paying sufficient attention to security. US-CERT’s Industrial Control Systems Cyber Emergency Response Team released four related security bulletins.

SCADA is getting more attention following the emergence last year of the Stuxnet worm, which showed that network-borne threats can not only infect control system PCs but can damage physical equipment. SCADA systems, which may have life spans of 10 years or more, operate in some of the most critical industrial settings: food processing plants, airports, chemical refineries, and nuclear facilities.

The detailed vulnerabilities include buffer overflows, which a sophisticated attacker could exploit to run arbitrary code on SCADA systems, notes Auriemma. Also, the Siemens’ Tecnomatix FactoryLink 8.0.1.1473 software could be made to download a file, raising the possibility of a remote code execution attack. And 7-Technologies’ Interactive Graphical SCADA System 9.00.00.11059 could be hit by arbitrary file execution. Other systems cited include Iconics’ Genesis32 and Genesis64 10.51 with 13 vulnerabilities, and Datac’s RealWin 2.1 with eight.

SCADA systems brought in $4.6 billion in revenue in 2009 and are expected to rise to nearly $7 billion in 2016, according to Frost & Sullivan.

—Mathew J. Schwartz (iwletters@techweb.com)
Accept Consumer Tech

The iPad’s rise reflects people’s willingness to use IT in new ways. You need to channel this excitement about technology, not try to block it.

By Michael Healey

The 21-year-old intern didn’t mean to set off an email tornado. She simply asked the executive VP at a billion-dollar-a-year company why the e-commerce site didn’t work on an iPhone. The executive VP is the type of non-IT exec your staff fears: tech junkie who loves gadgets, from iPhone to Xbox to Xoom to Internet TV.

He didn’t have a good answer, especially since the company had been doing some major e-commerce upgrades over the last few years. You can guess what happened next—
a frenzy of emails, phone calls, and quick meetings to find out exactly where IT’s head was at for not iPhone-enabling the e-commerce site. A classic firestorm.

And a great opportunity for the company.

The truth is, the company’s IT leaders didn’t factor mobile devices into their upgrade plan. That decision, or nondecision, wasn’t based upon market research or any data analysis; it just wasn’t on their radar. They had bigger fish to fry and hadn’t really thought about mobility. Not good.

But rather than come up with a half-baked fix, the company’s IT leaders took a serious look at the opportunity. They started by analyzing existing customer buying patterns and interactions. Less than 1% of visits came from mobile devices, they learned. But that could be a chicken-and-egg problem; the company doesn’t have mobile visitors because the site isn’t mobile-friendly. So the team dug deeper.

The company has an active email marketing program, so IT looked at what devices customers use to open the email it sends. Less than 1% of the emails were opened on mobile devices. Day of the week or time of day didn’t matter. Customers just weren’t using mobile devices as part of their relationships with the company.

This finding told IT it didn’t have to go into panic mode, but it also created a benchmark data point to watch—if the company sees more people opening emails with mobile devices, a mobile site should

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move up the priority list. It also provided a golden opportunity for the company’s IT leaders to discuss customer data analytics with the executive team. They were already talking about the need for key performance indicators beyond just sales figures. And this led them to integrate stats such as Web activity, phone calls, and email volumes into analysis of customer behavior. Executives knew there were some big gaps in the data warehouse and business intelligence tools they needed to do that analysis, and this discussion helped get that software funded.

What would your company have done? Rush to implement a makeshift iPhone solution? Try to discount the intern as a kid who doesn’t know the business? Play the “security card” and walk away? Or would you have stopped with the basic analytics that showed low mobile usage and not dug any deeper?

Too many discussions around the consumerization of IT focus on how to defend against it, or how to minimize the damage. The consumerization of IT isn’t wrong; it isn’t a threat. It’s an evolution that’s more about the growth of technology in society, and not particularly about your IT department. An intern with an iPhone shouldn’t set the tech priorities for a business, but consumerization of IT does mean you need to be open to great tech ideas coming from employees throughout the company.

This is where IT just isn’t effective. Too many IT professionals have stopped talking to end users about how they use technology to do their jobs.

IT Must Bring The Pieces Together

However, just because they’re smart and use technology at home doesn’t make them IT pros. Like the intern, they’re aware of the technology options that can help the business but lack an understanding of how it all fits together.

This is where IT is falling down—big time. Too many IT pros have stopped talking to end users about how they use technology to do their jobs. Sure, we still do road maps for governance or finance groups, but when was the last time your IT organization did any documentation, training, or presentation for the entire company? When was the last time it solicited ideas across the company on how to leverage tech-
nology for competitive advantage? When was the last time the security team laid out the actual security threat, rather than just saying no?

Years ago, the end users just didn’t get it, and we were the experts. Ten years ago, around 55% of U.S. adults were online; now it’s around 80%. Usage of technology has gone up in every age level and across every category for the last decade, according to the latest data from the Pew Research Center. Think of the rise of iPads, iPhones, and other doodads as just the market reacting to this growing comfort and understanding of what technology can do. And think of yourself as having the same opportunity inside your business. IT isn’t a department anymore; it pervades the entire company.

But tapping into tech innovation from around the company requires IT to give up some control and let others in on decisions IT would rather own exclusively. Device selection, application interface design, and new technology analysis are the three biggest decisions that spring to mind. Opening these to a broader discussion not only brings in fresh ideas, but it also ensures that the entire company understands and accepts the final selections.

The good news is this approach also means you get to push other groups to take more responsibility for their technology domains. HR will now need to own, monitor, and enforce policies on social networking and public comments about the company (once it
Security Is No Excuse

You can’t stop consumer tech by claiming it’s not secure. Instead, take this as an opportunity to advance security goals.

By Michael Davis

Sorry to break this to you, but if you’re looking to use security as the reason to keep consumer technologies out of your company, you’ll have quite an uphill battle. Not because the security risks aren’t real (they are), and not because you can guarantee the data security on the devices (you can’t). It’s because, as with virtualization, the business benefits significantly outweigh the security risks. As I heard one CIO say recently: “Consumerization is a parade. You can either get out in front of it to stop it and get trampled, or you can grab the baton and lead the parade.”

Consumer devices are taking hold quickly in enterprises in part because it’s easy to access company data without having to get IT involved. Any employee with ActiveSync access to corporate email can get that email on their personal smartphone or tablet in less than a minute.

The first challenge in securing personal smartphones and tablets is knowing when those devices are being added and removed from the company network, and knowing if they adhere to company policy. Bob the engineer could connect with to his corporate email with a BlackBerry today and a brand new Android phone tomorrow. The problem is your company’s email server most likely can only push a security policy to BlackBerry or Windows Mobile devices. Without proper management, you don’t even know that Bob is no longer adhering to company policy.

Don’t despair. Securing the unknown starts with a tried-and-true technique: default deny. Through the use of mobile device management tools such as MobileIron, you can prevent devices your IT team hasn’t researched or approved from connecting to company re-
sources. Heck, you can even make it so that any device needs your mobile application installed on it before it can receive a single corporate email. These mobile device management applications can prevent unwanted applications from being installed, can force removal of certain apps, and can even remotely wipe devices, even if your email platform doesn’t support security policies on those devices. If a device is rooted or jail broken, you can prevent it from connecting to your infrastructure altogether.

Oh, great, you’re thinking: This guy thinks I’m going to default deny and then spend my life managing a whitelist of every single Android smartphone variation and every firmware variation.

But that isn’t the point of this type of whitelisting. The goal of preventing unauthorized devices from connecting isn’t about figuring out if the device is capable and secure enough to connect to the company’s network; it’s about identifying who is connecting that device to the network. Wouldn’t you rather focus on whether the CFO, who has critical earnings data in his email, is trying to connect email to his new tablet, instead of worrying whether iOS 4.2.1 is on the approved list? I would. Focus your consumer IT security strategy around people and their roles, not around products.

Focusing on people relates to another major risk of these new devices: the speed at which people replace them. Think about how many employees are changing or upgrading their smartphones—some as often as twice a year. That can mean the SD cards and internal memory stored on their old phones are sitting at some store or have been resold.

Mobile device management (MDM) software can prevent device churn from affecting security by letting only one device connect per user. When the new device is provisioned—since you have a default deny policy, you’ll have to approve it—you can disable and wipe the old device without having your IT team physically touching the device. MDM is gaining steam mostly because it lets companies offer employees a large range of devices, because most MDM technologies implement security policy using a custom-built application that’s loaded on the device. You no longer have to plead with Apple or Google to implement a new security feature in the next OS release. Most MDM vendors support BlackBerry, iOS, Android, and Windows Mobile.

Those companies that can’t afford MDM software need to look at data flows to these devices and pick the points they can secure. In our experience reviewing mobile risks, the most critical and confidential data is stored within the email app on the device, followed...
by the calendar, contact list, and any apps the user has to write notes, such as Evernote. Start with the basics: Force devices to be locked when not in use, and encrypt the email stored on the device if possible.

It’s unlikely that an attacker will access critical, confidential data in an enterprise application other than email, calendar, and contacts. There are just too many variations of enterprise apps and devices to make it worth most attackers’ time to write malicious code to get at data from those other apps.

**Value In What You Already Own**

Your existing security technologies inside the firewall also can help cope with consumer tech, since the email, calendar, and contacts sync with the corporate infrastructure. You can use capabilities such as data loss prevention and attachment monitoring to keep critical or confidential data from reaching employees’ mobile email boxes. Still, that approach isn’t as effective as combining data loss prevention with MDM.

When you start looking at the data flow, you’ll see that most devices can’t access the company’s file server or intranet without setting up VPN access. Most of these new smartphones and tablets do support VPNs out of the box, but hopefully your VPN software can prevent access from unauthorized devices. If not, see if you can update the software so that it performs a check before any device accesses the internal network, and then blocks VPN access from devices that don’t meet security policies.

However, any time you block access, be sure to also offer ways to let people securely do their work with mobile devices. Otherwise, they’re more likely to just download their own apps and work around you. For example, we recommend giving employees remote desktop access to a secure and locked-down desktop via one of the many remote access apps, at the same time you’re blocking VPN access from mobile devices. This approach prevents files from being copied to the device but lets the worker read and view documents. If done properly, this approach removes the risk of rogue apps and Trojan horses because company data won’t be on the device in the first place.

The companies we have worked with that embrace consumer tech are getting a great side benefit: centralization of security controls. If you take our remote access example, this is actually an opportunity to provide more robust controls on a virtual desktop, while still giving employees what they want. You get the ability to audit, monitor, and prevent data loss without having to worry about the device the user is coming from—the perfect opportunity for a give and take. You give mobile computing and anywhere access, in exchange for more security controls. Remote desktop client apps are available on all major platforms.
device platforms, including Android, iOS, and BlackBerry.
So get out and lead the parade. Doing so will require some assessment of devices, software security tools, and MDM software. Do these assessments even if you don’t have a company policy governing consumer devices, or if your policy is to flat-out ban them. In our experience, when employees feel like IT is embracing change, they’re much more likely to work with you rather than against you.

Michael A. Davis is the CEO of Savid Technologies, a technology and security consulting firm based in Chicago. Write to us at iwletters@techweb.com.

Support, Or Not?
There’s no consensus on whether to support employees using consumer tech. But having no policy isn’t a strategy.

By Randy George

There’s a rule of thumb for most CIOs: When the CEO makes a request, the answer is YES. If you’re a systems administrator, therefore, you’re on the lookout for your CIO saying YES to mobile device support, because that means a big yellow school bus is getting ready to run you over.

The consumer effect is turning companies’ IT labs into something that resembles the return bin at Best Buy, thanks to the variety of devices they’re testing for business use. After CIOs make the call on whether to allow consumer tech into their companies in the first place, based on risks, costs, and benefits, the next big call is the glorious task of figuring out how to deploy, secure, and manage the gadget of the week.

Should you even offer IT support to employees bringing in consumer tech? The answer is all over the map, our survey of 551 business technology pros finds. Only 22% say their companies draw a hard line of no support, but another 20% offer only very limited support. About one-third don’t have any policy, so IT helps where it can, while 23% encourage their device mavens to contact tech support.

It’s not a simple decision. If these devices were completely frivolous, you could make a case for ignoring them. But if iPads become a productivity boon to salespeople, then eventually you’ll need a scalable plan to support them.

Big companies for years flocked to the BlackBerry because its operating system is stable and secure, and BlackBerry Enterprise Server makes quick work of managing and deploying a huge number of those devices. Sure, you can’t play Angry Birds on your BlackBerry, but...
are company employees really supposed to be playing games, watching movies, and listening to music on the job?

Not on the clock, perhaps, but many employees expect to use one device for personal and professional tasks. Companies are starting to meet them at least halfway. According to our research, 67% of companies let employees get company email on their personal devices, and 48% let them connect those devices to the VPN.

So if you’ve accepted that you have little say and even less control over what devices pop onto your LAN, then you’re ahead of the game. However, you still need a plan for supporting the wide range of consumer devices headed your way. Prepare for some problems in the following areas.

**Messaging**

Your support woes will begin with email, and the amount of work will depend on the device, the mobile OS, and the carrier. One of the mistakes Google and the wireless carriers made early on with Android was failing to anticipate how many customers would want to use the Droid device to access work email. Early versions of Android OS had support for Exchange ActiveSync that was shaky at best, so systems admins (after letting some exple-tives fly) had to use third-party messaging software such as Touchdown for Android. Newer versions of Android have a rock-solid ActiveSync client, but some Droid users may still need third-party software to make up for some of the controls they get from Research In Motion for the BlackBerry.

The native ActiveSync client included with Apple’s iOS works well. There are still plenty of security issues (see story, p. 13), and some companies will turn to software such as Good Technology’s to add additional management benefits. But if you’re worried only about remotely
wiping messaging data from the device, that’s now available right from the Exchange Management Console. Just make sure you test it on new devices that you need to support first.

Application Deployment

When it comes to supporting applications on your mobile devices, setting expectations is key. Before you give a shiny iPad 2 to top execs, make sure they understand that a tablet can’t do everything a laptop can, and they can’t go to the App Store and install Microsoft Office.

However, at some point you’ll need to figure out a way to serve the applications your company uses on every device. Today, that’s actually pretty easy thanks to application streaming technology.

Before the Citrix XenApp client, now available for many mobile operating systems, companies determined to deploy business applications on handheld devices had to build the mobile app from scratch using development tools from each manufacturer. Today, they can stream corporate apps instantaneously to a wide range of devices with very little effort and cost.

With Citrix XenApp, for example, you can launch a desktop session and run apps inside that session. It looks and feels like a remote desktop connection, but it works amazingly well. Third-party management tools can push out content and apps to a range of devices.

But get ready for some more work on the support side, because as tablets and smartphones evolve, you’ll need to apply the same desktop management tools and procedures to them as you do to your fat clients. That might mean supporting a management client, or troubleshooting connectivity problems that prevent apps and content from being published. It might mean monitoring application usage and storage utilization on mobile devices. Mobile devices aren’t (yet) as prone to virus or malware infections as PCs are, so managing consumer-oriented mobile devices isn’t as onerous as managing a PC, but it will add an additional burden nonetheless.

Provisioning And Management

You need a scalable way to manage the mishmash of gadgets you’ll be supporting. Neither Apple nor Google supplies a management server for devices based on iOS or Android. Microsoft offers a plug-in to System Center for Windows Mobile management. As a result, finding a way to somehow centrally manage these devices is your problem.

For Apple and Google devices, third-party providers such as Zenprise, BoxTone, and AirWatch have stepped in with software for provisioning, deployment, management, reporting, and security tasks. You can use them to keep an eye on mobile OS hot fixes, patches, and updates. The reporting you’ll receive from scalable mobile device management software will be a huge help in keeping on top of who’s running which mobile OS.

One last thing: If you have any interest in getting out in front of stability and compatibility problems, make sure your support staff has the devices they need to support in the lab. There’s nothing more frustrating than not being able to quickly support a device simply because IT doesn’t own one.

Buying those devices costs money, but so does most everything covered here, and CIOs need to decide if the cost is worth what their companies get from consumer IT. Companies don’t have to provide support—as we note, more than 40% offer none or little. But another third leave IT to figure out how and when to help employees. That’s not a policy. Consumer IT is here to stay; CIOs need a strategy.

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Think you can hold the line against the forces pressuring the corporate desktop as we know it? Maybe, if you’re in an extremely security-conscious or heavily regulated company. But the better question is: Should you?

The InformationWeek Analytics 2011 End User Device Management Survey of 551 business technology professionals shows that the device landscape has, in some ways, changed tremendously since 2009, when we last surveyed our readership on how they equip their companies’ employees. The Android OS and tablets are now on everyone’s radar, and virtual desktop infrastructure is making gains. But some things have stubbornly remained the same: 51% of us still equip the majority of our users with fat desktops; laptops and smartphones follow in popularity. We’re still trapped on a three-year replacement cycle treadmill. And 24% are still tied to expensive PC leasing arrangements.

In 2009, we predicted that native desktop applications would become less important, and we got that one right. In our 2010 InformationWeek Analytics SaaS Survey, 47% of respondents were using...
software as a service. In our April 2011 survey, 60% said they were using applications in the cloud, up 13 points in a year—an impressive jump for a technology category largely viewed with suspicion by IT.

Moreover, mobility continues to transform the nature of work. In 2009, 64% of respondents said screen size was a major barrier to smartphone use, but in our 2011 survey just 51% worried about screen real estate. We spoke with a large communications firm in North Carolina that’s no longer issuing laptops to salespeople, because, frankly, speed trumps rich functionality. The company’s portable computing platforms are now built on the new generation of tablets.

Consumerization? Well, we said that it was coming in our 2009 report and advised readers to prepare a risk/benefit analysis that clearly states the dangers and the costs of mitigation, as well as the upsides. As we discuss in our cover story, these include significantly lower gear prices due to manufacturing volume and commoditization. Yeah, there’s going to be chaos, but there also will be chances to shine. If you like the idea of experimenting with rapidly evolving, low-cost technologies and techniques, you’ve come to the right decade. Take VDI: In 2009, just 18% had adopted or were considering it. Now, that number is up nine points, to 27%. This year, we asked for the first time about tablet use, and 15% say they see no barriers. We’ll bet that by next year, that number also will jump significantly.

The ultimate purpose of IT is to innovate to improve
how business gets done—whether faster, cheaper, or smarter. Yet IT pros tend to think that their main job is to attain technology operational excellence. While operational excellence is great, it tends to encourage linear thinking: Keep doing X (say, change management) and you’ll get Y (uptime). Fail to do X exactly the same way every time, and you might not get Y, and that would be bad. Except, if you keep doing the same thing all the time, by definition, there’s no innovation. And if you’re sticking with the same end user device choices that you offered 10 or 15 years ago, let us assure you that innovation just ain’t happening—if for no other reason than you can’t afford it. Exhibit A: 66% of respondents spend more than 10% of their IT operating budgets on end user devices; 23% spend more than 21%. In fact, the percentage of respondents who spend between 21% and 40% increased by four points from 2009 to 2011.

Where’s the money to port your applications to tablets, or invest in comprehensive mobile device management? Here are some ways to free up funds:

>> **Do you really need desktops?** Terminals, for example, typically last six years or more, rather than the three or four years you’ll get from PCs. Sure, smartphones and tablets will turn over faster, but they’re also less pricey.

>> **Start thinking “fleet management.”** If a business has vehicles that hardly ever get driven, they don’t get replaced. IT has spent years creating man-
agement systems for desktops, but how many of us run utilization reports on PCs? In our experience, not many.

**Update your application plans.** Our research shows that smartphones have already outstripped cellphones (53% equip more than 10% of employees), and they’re only going to get less expensive and thus more plentiful. Smart CIOs are already working to port relevant business applications; in our InformationWeek Analytics Application Mobilization Survey of 693 business technology professionals, fully 50% of respondents say they’re willing to develop their own mobile applications. In fact, 25% say they’re ready to develop mobile software that executes on the device itself—in other words, a client that uses the device’s native language.

**Get away from PC leasing.** Yes, it’s a hard habit to break. But let’s be honest: We do it because we want to protect our spending on PCs. More than once we’ve heard, “I’ve got a contract; we can’t stop now.” Seriously? How about focusing more on agility than protecting your slice of the pie? Seven percent of respondents say they lease because operating funds are more plentiful than capital dollars—but a buck spent is a buck spent. If there’s value in replacing 25% of your PCs every year, your company will continue to fund it. If there isn’t value, it needs to stop.

One way to quantify value is via chargebacks—or, if not formal chargebacks, at least what’s referred to as “showback.” In our survey, we asked about both and came away with an interesting theory: Maybe one reason end user device expenditures as a percentage of IT budgets haven’t gone down since 2009 is that over two-thirds of companies neither charge back nor engage in cost allocation. That means there’s no incentive to reduce, or control in any way, the number of end user devices being deployed.

In 2009, we asked respondents to rate the likelihood they’d adopt the following policy by 2011: “Assuming an enterprise desktop suite, including enterprise applications, can be provided as a virtual machine, Web-based desktop, or other network-delivered package, most employees will be given a stipend to purchase...
whatever device they desire. “Just 17% said they’d be likely to go that route. But this year, just 35% define their general approach to consumer-centric new technology as strict or restrictive. Now, whether or not you buy the BYOD (bring your own device) model, there are always costs involved in adding endpoints to a network, whether it’s wireless access point growth or additional application licenses. Fail to reflect these costs, and business units will add devices without thought. Interestingly, for those respondents saying they do cost allocations or chargebacks, we found that most of the time, expensive items like support staff, desktop management, network ports, and cost of server access aren’t taken into account.

Could it be that IT is scared of appearing too expensive?

We also found that respondents are half as likely to treat end user device replacement simply as overhead in 2011 (24%) as in 2009, when 57% answered that way. Overall, we see unexplained overhead in IT becoming less and less acceptable. That’s a good thing—we’re big fans of IT transparency and would ask those who disagree: Who exactly does that overhead get charged to? Surely not IT. Our mission is to provide expertise and services for the company. We don’t need a pile of PCs to do that. Maybe the devices are issued according to IT’s strategy, but business units are the ones that require the PCs to process invoices, create airplane designs, and so on. So, while accountability can be uncomfortable, the truth can set us free—or at least provide impetus for change.

Putting the cost for PCs as “IT overhead” is totally missing the point, but even stranger is that 39% of our respondents don’t calculate ROI at all. The excuse we generally hear is, if the business units are the ones using the PCs, they’re really the only people who would understand how to calculate the return on investment. Our answer: Then you need to work with business units to understand how the devices are being used, how that use compares with alternative scenarios like VDI or SaaS, and how it translates into real cash flows.

IT isn’t large and in charge anymore, but we still have influence. Cloud and consumerization have (hopefully) taught us that business technology decisions are negotiations rather than edicts. The end user device paradigm shift offers significant opportunities for business technology innovation, but you’ll miss out if you’re purely focusing on span of control and defensive IT.

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