

# Enterprise CIO Decisions

*Guiding technology decision makers in the enterprise*



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## Managing the Mobile Workforce

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# Managing the Mobility Megatrend

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**RAISE YOUR HAND** if you, or someone you work with, is using his or her own mobile device for company business. You, in the back, get your hand up!

Most of you *should* know how many personal mobile devices are being used in your organization, but likely the number you are guessing is way low.

If you're not sure, read our report on bring-your-own-device (BYOD) initiatives in this issue of *Enterprise CIO Decisions Ezine*. In an informal survey of 81 U.S. CIOs at the recent Gartner CIO Leadership Forum, "when asked about what percentage of their workforce they expect by 2013 to own the mobile devices they use at work, CIOs' responses averaged 38%. Another one-third of the CIOs, however, pegged their BYOD population at less than 20%, and almost 20% of the CIOs expect 80% or more of their employees to own the devices they use."

In other words, we have no clue what's going on.

What used to be a relatively easy process of procuring mobile and wireless contracts and provisioning devices to users has become a complex guessing game involving every-

thing from corporate email to VPN accounts to privileged data being exchanged over noncorporate assets.

There's plenty of opportunity with mobile device and mobile workforce management, but also risks—unless CIOs and senior IT managers get ahead of the issues, as contributor Niel Nickolaisen notes in this issue.

"People and groups react to change in one of three ways: They deny it, they resist it or they embrace it," he writes. "I have pondered these three reactions, and would like to add one more possibility to the list: Deal with change by leading it."

He recommends that IT professionals deal with the mobile "megatrend" the same way we eventually came to understand and manage the Internet revolution: Figure out the potential of the technology and go there; don't wait for it to evolve out of control; and keep an open mind to what others are doing.

Sounds like good advice no matter what the problem is. ■



**SCOT PETERSEN**

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# Toss Out Your Tokens



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## ON THE JOB

### MOBILE DR: THE NEXT FRONTIER

**NOT SO LONG** ago, when the issue of disaster recovery and mobile devices came up, the conversation was assumed to be about how organizations could take advantage of employee cell phones and the handful of executive not-so-smart-phones to instruct and inform personnel in the event of a disaster. The advent of the iPad and other mobile devices that not only access data but also can be used to generate and store data means that disaster recovery plans now have to consider them as endpoints.

Consider the caseload of Atlanta-based mobile device management (MDM) vendor AirWatch LLC, which supports the spectrum of mobile platforms, from the Apple iOS to Symbian. In January alone,

the company worked on three cases involving business executives losing personal iPads that held sensitive corporate data and lacked the security software to wipe it clean. One iPad, left behind by a CEO in a back-seat pocket on an airplane, contained notes on a top-secret acquisition.

"This is not a classic example of disaster recovery, where a catastrophe brings down a data center. But let me tell you, this is a disaster that has to be dealt with," said AirWatch Chairman Alan Dabbieri.

One of the ways companies are dealing with IT disaster recovery and business continuity for mobile devices is by investing heavily in desktop virtualization, said Ted Ritter, senior research analyst at The Nemertes Research Group Inc. in Mokena, Ill. "You can still get to the desktop and even edit a Word doc on the device, but technically, all that is going on in the data center.

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The device is only a remote client.”

Another approach is focusing on “secure containers,” products offered by such MDM vendors as AirWatch, Good Technology Inc. and BoxTone that address the security issues posed by the errant iPad.

“Rather than focusing on trying to back up mobile devices, what we have seen organizations do is restrict the amount of data that can be downloaded as much as possible,” Ritter said.

That’s pretty much the approach taken by The Vanguard Group Inc., a Valley Forge, Pa.-based investment firm, said Abha Kumar, its principal for IT. Employees are given the option of using a company-issued BlackBerry or the smartphone of their choice.

Nothing is stored on the personal device, Kumar said. “We provide a pipe [using software from Good Technology] into our email and calendar at this point, so the device is secure from that point of view,” she said. “There might be something on

the cache that holds data, but as soon as we find that a person has lost the device, we can zap the application.”

With their company-provided BlackBerry, Vanguard crew members, as they are called, can access their work email, calendars and some business applications, such as Vanguard’s Siebel customer relationship management application and the company intranet.

“If a crew member submits an expense report, I can approve it on my BlackBerry,” Kumar said.

And, being a regulated business where security is paramount, client data is off-limits to mobile devices. Vanguard client service reps, who routinely deal with client information, do not have BlackBerrys because Vanguard does not want client information to go outside its four walls. “So, even as we talk about new technologies and being more flexible and being more mobile, the thing we protect above all is client information,” Kumar said. —LINDA TUCCI

**BY THE NUMBERS**

An average **44%** of employees are carrying company-owned devices, a number expected to skyrocket past **70%** by 2012. At **11%** of those organizations, employees rely solely on smart devices for communication.

SOURCE: THE NEMERTES RESEARCH GROUP INC.'S IT BENCHMARK, AN ANNUAL STUDY OF 200+ ORGANIZATIONS SPANNING 18 VERTICAL INDUSTRIES.

ONE ON ONE

## MERGE MOBILITY AND ITIL

**NAME:** Sharon Taylor  
**TITLE:** President  
**COMPANY:** Aspect Group Inc.  
**HEADQUARTERS:** Ottawa

**MOBILE DEVICES THAT** function as mini-computers are changing how employees work and how IT supports them. The trend to bring your own device to work—or BYOD—adds complexity to IT’s already complicated job of mobile device



management. Some question whether standard frameworks for delivering IT services apply. **SHARON TAYLOR**

(left) chief architect for the IT Infrastructure Library and president of Aspect Group Inc., an IT Service Management (ITSM) consulting and training company in Ottawa, assures us that ITIL is there to help, not hurt, IT organizations.

**Is ITIL appropriate for mobile device management? Some people have said that it isn’t a useful framework for mobile platforms.**

ITIL is a set of practices for managing all IT services and thus not related to specific platforms, per se. It works with cloud computing, it works with mobile computing, it

works with any kind of IT typology. And I think the people who are saying that it is not a useful framework really miss the point about what it is actually for.

The whole trend toward mobility has largely come from the raised awareness about cloud computing and how it lends itself to device-agnostic services. And it raises additional issues from an IT Service Management perspective that cause us to look at things in new ways.

BYOD is slightly different in terms of service-managing a mobile workforce. Managing a mobile workforce that has company-issued devices is much more straightforward. ITIL keeps up with that, and it is all about service management.

BYOD adds another layer of complexity to the things that best practices try to espouse, such as conforming to a corporate standard to lower cost of utilization and to enhance security and lower vulnerability and business risk. If you bring your own device, that changes how we think about service-managing a workforce. However, it is still managed in the same way, using the same processes.

**And what about the observation about mobility that the technology is just moving too fast for these best practices, in terms of the number of devices out there to potentially control and the number of**

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### new releases of the software for those devices? Can a service desk even keep up?

The fact that the technology is changing at a rapid pace has never stopped best practices from keeping up. It just means that people have to change what they focus on. But if you use the service desk trying to script and prepare and educate service desk staff to deal with ever-changing device access to a corporate infrastructure, for example, [it] does become very cost-intensive. So, one way to get around doing that is by establishing some base standards for the use of those kinds of products on a corporate infrastructure—and how often they can be changed.

But the reality is that that's been going on for eons, ever since the first mobile devices, like the PDAs in the old days that couldn't even fit in your pocket. People will find a way

to use them as a work productivity tool. So, you have two choices: You can either ban their use as a policy statement, or you try and select the middle ground, where you can allow them to have access and be part of the employee's productivity. But, knowing that there are inherent risks and costs associated with that, you have to make a business decision about who pays for that and how much of it you pay for.

So it comes back to business policy in many cases. Are we going to try to keep pace with the change from a service desk perspective, or do we just throw best efforts at it? Do we pass on the costs to the users? That is becoming a more common business cost model. But all this is really as old as ITIL is old, making the consumer aware of the cost of providing service by the choices they make is something that ITIL has talked about all the time. —L.T.

#### ON THE AGENDA

## ALL WORK, ALL THE TIME

**APPARENTLY, the work/life balance could stand to swing a little more toward *life* for the 900 IT professionals in U.S. organizations recently polled about the unified communications features they desired. The results:**

**56%** Access to work email and voicemail via smartphones

**46%** Ability to receive voicemail messages via email

**45%** Video conferencing ability

SOURCE: CDW 2011 UNIFIED COMMUNICATIONS TRACKING POLL

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# Embrace change

Mobility has the chance to bring about more change than the Internet revolution did. How can IT succeed? By taking charge and leading the way. **BY NIEL NICKOLAISEN**

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**A FEW YEARS** ago I decided to take one item off of my "bucket list" by completing the MBA program I had started about 600 years ago. So, for about 20 months, I spent my Friday nights and Saturday mornings in a classroom with a group of students much younger than I.

At first, the other students were shocked to see someone my age in their program. But they soon learned that I was the ideal person to have on their project teams. It turned out that after 15 years of leading IT and large put-the-business-at-risk projects, all it took for me to complete a case study or case analysis was to blow the dust off and update some project I had worked on years before.

The topic of one of the MBA

courses was organizational development. One section of the course was of particular interest to me: the section on how individuals and organizations deal with change. According

**People and organizations deal with change in one of three ways: denial, resistance or embrace.**

to our textbook, people and organizations deal with change in one of three ways: denial, resistance or embrace.

Ever since that class, I have pon-

dered these reactions to change and would like to add one more to the list: *lead*. It seems, particularly as IT leaders, that when we are faced with changes in technology, business

devices that are getting smarter and smaller.

I believe that this megatrend will rock our worlds just as much as the Internet revolution did 15 years ago.

## If we, as IT leaders, deny change, we make ourselves obsolete.

rules, market conditions, etc., one of our best options is to be leaders. This goes beyond embracing the change by being in the forefront of the change. In my experience, it seems that how we react to change has a direct effect on our careers. If we, as IT leaders, deny change, we make ourselves obsolete. If we resist change, we get fired. If we embrace change, we keep our jobs. But if we lead change, we prosper, IT prospers and the organization thinks we are geniuses!

Leading is very important in the face of megatrends, and we are now in the early stages of a megatrend that creates an incredible opportunity. This is the mobility megatrend and includes advances in wireless technologies, the consumerization of IT and endpoint

But this megatrend has one critical difference: While the Internet drove changes in IT that connected us with our customers and partners, the wireless/consumerization/smart small-device megatrend opens the door to dramatic change for our workforce.

Since I want to lead the way into this megatrend, I have come up with four specific things I can do to be a mobile workforce leader:

- **THINK FUTURE PERFECT.** This means that, over time, all technologies become perfect. So, as I put together my thoughts of how to support an increasingly mobile workforce, I should not let current technological barriers limit my thinking as to what I can eventually do with mobile technologies.



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For example, don't let current bandwidth constraints define what things you let mobile workers do. Those constraints will ease, and your "future perfect" thinking will keep you at the forefront.

■ **BE A PATTERN MATCHER.** Recall how the Internet changed business rules and interactions and extend those patterns to how mobility will change how work is done. One of the words the Internet age taught us was *disintermediation*. What processes and roles will mobility *disintermediate* for our employees?

■ **BE WILLING TO EXPERIMENT.** I always form a small group of users—usually some of IT's toughest critics—to be the test case for the new technologies and processes we are considering. Members of this group put the new technologies through their paces and let me know what they think will and won't work. This allows me to test, and fail, on a small scale and gather early feedback that I can use to course correct as needed.

■ **BE OPEN. I DON'T KNOW EVERYTHING.** I certainly cannot imagine

everything. So I need to be open to the ideas and experiences of others. To lead in the face of the mobility megatrend, I probably need to think

**I always form a small group of users—usually some of IT's toughest critics—to be the test case for the new technologies and processes we are considering.**

well outside the box. I can't do that if I have already made up my mind about what will and will not work for the mobile workforce.

Mobility represents a seismic shift in how we interact with customers, each other and our employees. I want to react to this change by being a leader. ■

**Niel Nickolaisen** is vice president of strategy and innovation at EnergySolutions Inc. in Salt Lake City. Write to him at [nnick@accelinnova.com](mailto:nnick@accelinnova.com).

# Employees Mobilize *for* Mobile

In companies building a mobility strategy, the question has shifted from what's best for the business to how to accomplish what's needed on the mobile devices employees demand. **BY LINDA TUCCI**

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**QUESTION:** What's the most salient feature of mobility in the enterprise? Answer: Employee preference.

"It's gone viral. Everybody is using mobile devices for everything, for good and bad reasons," said Ken Dulaney, vice president and distinguished analyst at Gartner Inc. "Users are getting kind of sneaky, saying, 'Well, I could do this with this,' when what they really want you to do is go out and buy them this new piece of hardware."

Developing a mobility strategy to optimize business processes is both in its infancy and beside the point at many companies, mobility experts say. As the deployment of mobile

devices has become epidemic in the enterprise, these devices' fine points—manageability, cost and actual business benefits—are trumped by one thing: employees pressuring to be allowed to work on consumer mobile devices. In this environment, analyzing a business process and figuring out where mobile computing provides a competitive edge seem moot to many technologists, as well as something of a luxury.

"Companies' investment priorities are not that refined yet," said Ted Schadler, an analyst at Cambridge, Mass.-based Forrester Research Inc. "They are really going after more

low-hanging fruit, like finding a way to get the consumer smartphones or tablets to do the basic stuff the company needs to get done.”

### APPLES PROPAGATE IN WINE COUNTRY'S MOBILE STRATEGIES

Take, for example, Gary Coverdale, chief information security officer (CISO) and assistant CIO for Napa County, Calif. Like many businesses and government agencies today, he said, the county has employees who love to use iPhones and iPads—so much so, in fact, that they insist on bringing these devices to work.

Mind you, Napa County is under pressure—make that “incredible pressure,” according to Coverdale—to comply with the Health Insurance Portability and Accountability and Health Information Technology for Economic and Clinical Health acts. “This means we’re subject to high penalties if tablets and other smart devices aren’t secured properly,” he said.

In a high-stakes security environment like that, a CISO/assistant CIO might be expected to balk at an influx of consumer devices. Yet Napa County’s IT department is doing everything possible to allow county workers—department by department, no less—to use the mobile device of their choice, Coverdale explained. The new mobility program includes both corporate-liable devices (those paid for

by the county) and employee-owned devices. He added that he expects hundreds of BlackBerry users to switch to Apple devices during the next 12 months under the county’s individual-liable program. A mobile device management product from Good Technology Inc. (whose customers include many federal agencies) will help secure and manage the new hybrid mobile program.

Napa County officials point to the costs savings they expect to reap by allowing employees to bring their own devices (or BYOD, as the practice is referred to generically) to work. Even using corporate-owned iPhones or iPads should translate into a reduction in training costs, they argue, because employees already know how to use them.

Mobility computing, of course, also is expected to help Napa County employees be more productive and efficient. iPads are a natural for mobile health care workers, for example. Mobile devices with secure access to SharePoint sites will help employees communicate and collaborate on the go, county officials said. But as with many organizations in the throes of going mobile, the county—and its IT department—isn’t waiting for all the numbers to be crunched before plowing ahead with its mobility strategy.

“We like to be slightly ahead of the curve,” Coverdale said, adding

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that the county plans to run its own app store for deploying in-house and third-party mobile apps.

Another benefit of accommodating the employee push to use Apple devices? By embracing the so-called *consumerization of IT*, Coverdale's department is "seen as an enabler that helps employees get their jobs done on the devices they want to use."

### A MOBILITY STRATEGY THAT WINS MORE BUSINESS

That may sound a bit touchy-feely, even for California, but an IT team that employees perceive as "cool" can be an important first step in developing a mobility strategy.

Just ask Dick Escue, CIO at St. Louis-based RehabCare Inc., a \$1.5 billion provider of post-acute health care services. During the past few years, he has helped RehabCare develop a mobility strategy that's paying real, not hypothetical, dividends. You won't hear *him* scoff at the value of letting employees choose their own smartphones or tablets.

In 2007, despite pushback from his staff and technology consultants, Escue instructed his IT department to support iPhones, on the premise that a happy employee was a more productive employee. RehabCare's team has since gone on to "solve business problems with mobility," he said.

That work has included the development of a prescreening admissions iPhone app that has boosted revenue by cutting from seven hours to one the time it takes RehabCare employees to follow up on a referral. The first version of that application was developed in four days on the Force.com platform by a .NET developer who had never done a native iPhone app. Some 10,000 RehabCare field workers now use their iPods to record the care they give to patients and care delivery time, and iPads are becoming the device of choice for bedside staff and doctors.

Being entrusted with crafting a mobility strategy that's actually strategic to the business would never have happened, however, had IT played its "traditional role of saying no," Escue insisted. Technologists who think they can go back to the days of calling the shots on end-point devices are "fooling themselves," he said. Letting users take responsibility for their computing devices at RehabCare has freed up IT to work on more strategic projects.

"IT is still very necessary to *run* the business, and there are innovations that can make a difference there, too. But it's exciting and fun to think about how we can use IT to *grow* the business. That's what has worked out here," Escue said. ■

**Linda Tucci** is senior news writer for Search-CIO.com. Write to her at [ltucci@techtarg.com](mailto:ltucci@techtarg.com).

# Usher in *the* BYOD Era

The astonishing incursion of personal devices  
into the enterprise requires a new look  
at mobile device management.

BY CHRISTINA TORODE

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**IF MOBILE DEVICE** management is not at the top of your agenda, take a look at these numbers from leading research firms: IDC predicts the smartphone market will grow by nearly 50% this year, and the number of these phones in use will surpass 450 million. In addition, Deloitte LLP forecasts companies will buy more than 10 million iPads this year.

Gartner Inc. predicts that 90% of companies will support corporate applications on personal mobile devices by 2014. By that date, 80% of companies will have a mobile workforce armed with tablets, with the iPad expected to dominate the market through 2015, according to the Stamford, Conn.-based consultancy.

CIOs simply can't afford to repeat

the mistake they made with the iPhone—namely, dismissing these new tablets as toys for the elite, experts warn. These little business and personal computers are here to stay.

"The so-called *consumerization* comes from bringing your own device, but also from the pressure employees put on the organization to supply or issue those new consumer devices," said Dimitri Volkmann, vice president of products and management at Good Technology Inc., an enterprise mobility software provider based in Redwood City, Calif.

According to these same experts and CIOs, however, many enterprises still lack mobile device management (MDM) strategies and formal mobile use policies that take into

account the proliferation of consumer mobile devices in the workplace. That goes for both corporate- and employee-owned devices.

"Most companies do not have a

*formal* mobility policy. They have *lots* of [policies] because, fortunately or unfortunately, mobile is not a centralized provisioning at most companies," said Brownlee Thomas, an

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## CIO Takes Bite Out of Apple

**DICK ESCUE**, CIO at RehabCare Inc., a St. Louis-based provider of post-acute health care services, has a leg up on many of his peers when it comes to mobile device management (MDM). He foresaw the infiltration of personal mobile devices into the workplace four years ago. When his tech services team warned him in 2007 that the company's BlackBerry-carrying management would be clamoring for iPhones and told him IT had better nip those requests in the bud, he did the opposite: He instructed his department to figure out a way to say yes.

"We embraced the iPhone, gave it to the people who wanted it, and they were thrilled," Escue recalled. "And they loved us as a result of it."

Since then, step by step, Escue has made the Apple iOS integral to RehabCare's computing environment—and, in his view, a competitive business advantage. His IT team has equipped thousands of field therapists with iPhones and iPod Touches to mobilize mission-critical processes, from a pre-admission hospital screening app built on the Force.com platform to a caregiver app developed with health care vendor Casamba Inc. The iPad is the business meeting tool of choice for RehabCare executives and is fast becoming the workstation for RehabCare's clinical staff.

As for the demarcation between personal and corporate devices, Escue said he suspected that employees would take better care of their devices if they regarded them as their own. If iPhone and iPod Touch users need help connecting their iTunes accounts, IT tells them how to do it.

That's not to say all this mobile convergence has been easy or inexpensive to control. Escue signed up with MDM vendor MobileIron Inc. to manage and monitor its mobile devices. Company executives remotely access corporate servers from their iPhones and iPads, using virtualization applications from Citrix Systems Inc. "I just wouldn't accept the answer from anybody that we couldn't manage thousands of these devices and make them secure," he said.

That determination has paid dividends many times over, Escue said. After his team developed its first iPhone app in four days, his CEO said that in his 40 years in business he had never seen an IT department operate that way. —L.T.

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analyst at Cambridge, Mass.-based Forrester Research Inc.

Plus, despite the drumbeat of steadily climbing sales—and a steady parade of CIOs on the lecture circuit touting their new smartphone or iPad deployment—CIOs seem uncertain about the degree to which personal mobile devices will become part of their enterprise's computing infrastructure. More significantly, perhaps, their views on the question diverge widely.

#### **CIOs DISAGREE ON BYOD**

The lack of consensus about personal mobile devices showed up recently in an unpublished Gartner survey of 81 U.S. CIOs who attended a March workshop on managing mobility and surviving consumerization at the firm's CIO Leadership Forum in Scottsdale, Ariz.

For example, when asked about what percentage of their workforce they expect by 2013 to own the mobile devices (laptops, tablets and cell phones) they use at work, the CIOs' responses averaged 38%. Another one-third of the CIOs, however, pegged their bring-your-own-device (BYOD) population at less than 20%, and almost 20% of the CIOs expect 80% or more of their employees to own the devices they use at work. That's quite a range of possibilities.

Nevertheless, when asked what percentage of their staff in five years

would *not* be eligible to use employee-owned devices or laptops because the data they access is deemed too sensitive, the CIOs' responses averaged just 25%. That suggests that the BYOD model is poised to grow.

**In today's mobile environment, there is no dominant, single platform to write to.**

In a BYOD era, however, mobile device management and the policies that have served IT well in a predominantly BlackBerry and Windows world are insufficient—or even moot—in the brave new business environment where the user controls the endpoint, said Paul DeBeasi, research vice president at Gartner.

"The enterprise would lock down the software, put on the antivirus, control the operating system, control the application. How do you lock down an iPad?" DeBeasi asked.

Applications were designed for Windows because Windows controlled 91% of the market, DeBeasi pointed out. In today's mobile environment, there is no dominant, single platform to write to. "People don't know where to begin," he said.

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Standard good practice, of course, tells CIOs to begin with the business, by defining the use cases for mobile computing in their enterprise. In conjunction with the business, they then should develop a strategy for why, where and how the company wants and needs to use mobile devices.

But after the head-scratching effort of mapping out a mobility strategy with the business, what then? Well, it's important for CIOs to put the horse back in front of the cart. Given that consumer smartphones and tablets are probably already in use at their business, it's imperative for CIOs to isolate business operations from personal ones on these devices—both the company- and user-owned ones—to reduce business risk, Gartner warns.

#### FOUR WAYS TO REDUCE BYOD RISK

Guidance published in December by Gartner analysts Ken Dulaney and John Girard lays out four approaches that can limit the business risk from consumer smartphones and tablets. The authors caution CIOs that users don't like isolation methods that require or even give the impression of toggling between personal and business modes. Plus, no solution out there now is likely to please both IT departments and the user.

Here is a summary of those four approaches:

**1 Use comprehensive device management and security controls to enforce policy.** Think BlackBerry Enterprise Server, or BES, the leader in this field with its nearly 1,000 specific policies that protect BlackBerry use. Microsoft Exchange offers the second-most inclusive framework, with some 49 policies. Those in turn serve as the basis for augmented solutions from MDM and other third-party vendors.

The great strength of this approach, the analysts say, is its low cost—assuming, that is, that the platform's management tools are sufficient for the user's mobile environment. Its chief challenge is that most workers want Apple Inc. and Google Inc. devices, but the cross-platform standards aren't there. Comprehensive MDM and security platforms can add \$50 or more per device and put additional demands on the help desk. Moreover, these third-party management tools are limited to just what the device platforms allow them to control.

**2 Application certificates are another way to go.** Mobile devices support certified-based access to services. IT departments can extend the concept—and their control—by tagging enterprise-controlled applications with encrypted certificates. If something bad happens, all the enterprise's apps can

be zapped, eliminating the need to separate business and personal applications. In fact, that is the appeal of this approach.

## A sandbox might not prevent users from copying and saving information in unprotected areas inside and outside the device.

On the other hand, application certificate controls are hard to implement and support. Implementations differ from device to device, and the apps' vendors will fight them if they hinder the user from accessing their app stores, the analysts warn. Other cautions: These controls create more work for the help desk, and fakes have already surfaced on a few mobile platforms.

**3 Sandboxes isolate processes and data.** Sandboxed apps are protected from each other and from attacking the OS. Sandboxes can be built into the common app; embedded in the OS; included in a Mobile Enterprise Application Platform, or MEAP, or a Mobile Consumer Application Platform, or MCAST; or they

can be added by a third party. They can run locally in the device or use a server-based portal. Examples include Apple's iOS, Citrix Systems Inc.'s Receiver and Microsoft's Java Virtual Machine. The analysts see this approach as an acceptable short-term fix for isolating processes and data until virtualization on consumer mobile devices matures.

There are many challenges to this approach. The first are apps that don't work in a sandbox, and a security archive that the analysts describe as "riddled with sandbox vulnerabilities and exploits." In addition, a sandbox might not prevent users from copying and saving information in unprotected areas inside and outside the device. Finally, users will balk at sandbox technology that gets in the way of their work.

**4 Virtual machines are the "ultimate approach to privacy on full workstations,"** according to the analysts. The problem is that the technologies "are waiting for the hardware to catch up," they say. The current generation of smartphones and non-Windows tablets doesn't have the processing power or battery power to handle running two OSes at the same time. Another roadblock? Users don't like interfaces that change the personality of their personal mobile devices. ■

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# Empower *your* Mobile Workforce

The decision to deploy devices to support a mobile workforce is an easy one. Choosing which devices and platforms to deploy, however, isn't so easy. **BY STAN GIBSON**

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**THE IPAD IS** no stranger to popularity—interest in Apple Inc.'s tablet device is surging beyond besieged stores and spilling over into the halls of enterprise IT. Many CIOs are seriously considering putting iPads into the hands of their mobile workforce.

Historically, mobile employees, such as delivery staff and insurance claims adjusters, have used pagers, laptops, earlier-generation tablet PCs and custom-created mobile devices. The iPad, however, with its relatively low cost and user-friendly interface, is turning heads in a field that traditionally has been more comfortable with durable and reliable, rather than sexy, technology.

Is the iPad too sleek and elegant for the rigors of the mobile workforce? Some companies say yes; others, no.

In February, the utilities operating unit of Skanska UK PLC announced that it will give its field workforce Apple iPhone smartphones and iPad tablets. The unit will run Click-Software Technologies Ltd.'s Service-Optimization Suite and its Mobile Enterprise Application on the devices. The move will raise efficiency, improve customer service, enhance workforce productivity and reduce the impact on the environment, Skanska officials said.

In another iPad implementation,

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Arhaus Furniture in Walton Hills, Ohio, is giving all 50 of its delivery people an iPad. They will use the tablets to get signatures from customers, as well as to interest them in additional merchandise, according to reports about the implementation. Arhaus will use mobile workforce management software from Cleveland-based TOA Technologies Inc. to arrange delivery schedules.

### IPAD NOT TOUGH ENOUGH FOR A MOBILE WORKFORCE?

Some organizations are looking for something a little sturdier than the iPad, however. Alliance Inspection Management LLC (AIM), an automobile appraisal firm headquartered in Long Beach, Calif., has outfitted all 400 people in its mobile-appraiser workforce with a Panasonic Toughbook CF-19, a ruggedized laptop-convertible tablet.

"There's a lot of interest in the iPad, but it's not rugged," said Jim Yates, the firm's CEO. And, Yates added, the iPad doesn't have a USB port, which AIM appraisers require for connecting to cameras and printers. For AIM, those are critical factors. "There are other tablets we're looking at that are rugged. The iPad is not real attractive right now," he said.

With \$5,000 invested in the total cost of each device, it's unlikely that AIM will run out to the nearest Apple Store—or snap up a bunch of

Android devices for that matter—anytime soon. AIM's devices run Windows, and the company is likely to stick with Windows on future end-user devices.

**"There are other tablets we're looking at that are rugged. The iPad is not real attractive right now."**

—JIM YATES,  
CEO, Alliance Inspection  
Management LLC

Enstar Natural Gas Co. in Anchorage, Alaska, has deployed Panasonic Toughbook C-30 laptop PCs running Windows 7 and Oracle Corp.'s Mobile Workforce Management application for its mobile workforce of 35 service people.

"We're considering Android devices and the iPad, absolutely," said Pat Shelton, manager of information technology at Enstar. A major inducement is price. Toughbooks cost some \$3,000 each and \$5,000 fully outfitted, but an Android device would start at \$500 to \$600.

But whether Enstar makes the move to the new generation of tablet devices depends on whether Oracle certifies its applications on

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them. So far, only Windows environments are supported. Oracle plans to support Android sometime this year but has no plans yet for iPad, a company spokesperson said.

Meanwhile, Shelton is planning to try out some Panasonic Toughbook H-1 tablets running Windows 7 this summer. Enstar's applications include a geographic information system, and tend to run better on a full-scale PC operating system, he said.

Enstar was attracted to Oracle's Mobile Workforce Management application because it integrated readily with Oracle ERP applications. "The integrated approach between Oracle products takes the complexity out of the interfaces," Shelton said. "In the future, we would like to use asset management, meter management and portfolio management applications."

### **RIVALS ON THE MOBILE WORKFORCE STAGE**

Besides Windows, there are many other iPad rivals, including Android devices from a number of vendors, as well as BlackBerry OS machines from Research In Motion Ltd.

"In the business world, the fight between the iPad and other products will be intense," said Moshe BenBassat, chairman and CEO at ClickSoftware Technologies Ltd. Faced with an uncertain outcome, the vendor is designing its product

to run on a variety of operating systems. "We developed a layer for the user interface that is device-agnostic. It can run on Android, Apple iOS, Windows and BlackBerry OS," he said.

**"In the business world, the fight between the iPad and other products will be intense."**

—**MOSHE BENBASSAT,**  
chairman and CEO, ClickSoftware  
Technologies Ltd.

Ventyx Inc., an Atlanta-based vendor of mobile workforce management software, had developed its application for Windows Mobile 6, only to face the advent of the incompatible Windows Phone 7. "There's real fragmentation," said Michael Hamilton, director of product management for workforce management at Ventyx.

Ventyx wanted its software to operate on devices from a number of hardware vendors in industrial environments. Because the iPad is available only from a single vendor and there's no indication that Apple is planning a ruggedized version, Ventyx chose not to target the iPad. Instead, it chose Android as its plat-

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form—but isn't closing out all options forever, including the iPad.

"This year is going to be the year of the tablet. For a software vendor, it's an agonizing choice to pick a platform. We're writing a layer for Android, but the core application could be ported to another platform. We could redeploy to iPad or another leading mobile device," Hamilton said.

### MOBILE WORKFORCE 'CONSUMERIZES'

The mobile workforce arena has not missed out on the widely remarked trend known as the *consumerization of IT*, whereby workers bring their own mobile devices with them and expect corporate IT to provide support, according to Yuval Brisker, president and CEO at TOA Technologies.

"Field workers are bringing consumer-based mobile devices to work. They're not just opting to use what the company is giving them. We're talking about hard-core blue-collar people. They're voting with their feet," Brisker said.

With iPads showing up in workers' pockets, the devices are bound to become more prevalent in the enterprise. Third parties could play a role here: Several have come out with

ruggedized cases for the iPad. For the iPad to succeed in a big way with mobile workforces, however, Apple will have to meet the requirements of enterprise IT—historically, however, the company hasn't put enterprise needs first on its to-do list.

**"This year is going to be the year of the tablet. For a software vendor, it's an agonizing choice to pick a platform."**

—MICHAEL HAMILTON,  
director of product management  
for workforce management,  
Ventyx Inc.

"CIOs have to be worried. If you choose iPad, you're stuck with Apple for a long time," Hamilton said. "You see a lot of [iPads] on the road. They've got a good battery, a good screen and good email. But when you're deploying in the enterprise, the choice is not so clear-cut." ■

**Stan Gibson** is a Boston-based contributing writer. Write to him at [editor@searchcio.com](mailto:editor@searchcio.com).

# Governing Your Mobile Staff

Mobile won't fly in your organization if you haven't established the proper governance groundwork.

BY PAUL F. KIRVAN

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**THE EVOLUTION OF** mobile technology has dramatically enhanced workforce management. By extending a mobile field staff's reach through advanced wireless systems and enhancing its ability to manage mobile resources with mobile workforce management systems, organizations can provide better customer service, increase revenues while managing expenses and boost their competitive position.

Let's examine each of these briefly: Effective mobile workforce management helps organizations improve service quality through the provision of accurate, timely information that ensures they consistently meet or exceed customer expectations. With the right technical and operational solutions, organizations can ensure that they respond to the right job at the right time with the right resources. Get-

ting it right the first time is a key factor in best-in-class customer service.

Good mobile workforce management can increase service revenues through enhanced customer retention and the systematic identification of up-selling and cross-selling opportunities. Further, an appropriate mobile workforce management system can become a key way to differentiate your organization, helping you win new business in highly competitive markets.

Mobile workforce management systems can reduce the cost of delivering quality service by eliminating wasted efforts and optimizing available resources. Such a system can provide real-time scheduling and resource-allocation and location information. This can minimize unproductive visits, reduce travel time and fuel costs, eliminate

unproductive time and reduce costs of inventory.

### **MOBILE WORKFORCE GOVERNANCE**

Clearly, a mobile workforce can be a vital asset to an organization. By managing it properly and using the right equipment, the organization can achieve or exceed its business goals.

However, according to Susan Young, a risk management professional in London, "Despite the availability of technology to provide mobile services and management systems to support them, without a governance scheme, the 'solutions' may not provide the best results."

One key part of a governance scheme is compliance with government regulations. In the U.K., organizations must increasingly comply with a growing body of legislation—and be able to prove it. These pieces of legislature include the CP12 Gas Safety law of 1996 (landlords renting a property must certify all gas appliances and piping), the Traffic Management Act of 2004 (which addresses all aspects of vehicular traffic control) and the Corporate Manslaughter and Corporate Homicide Act of 2007 (whereby organizations can be prosecuted for serious breaches in duty of care in management, such as health and safety activities). Organizations

must be able to prove that they have satisfied requirements in order to avoid significant penalties upwards of tens of thousands of pounds per day.

"Mobile workforce governance initiatives should also ensure that risk assessments, vehicle inspections and other surveys are completed prior to any work," Young said.

Another area of governance is the provision of policies and procedures that address key aspects of mobile workforce management. Areas that ought to be included in such a set of policies include the following:

- Support for and adherence to service-level agreements.
- Time frames for resolution of customer inquiries.
- Audit trails of all mobile workforce activities.
- Continuous improvement programs.
- Timely and sufficient management visibility of critical workforce information.
- Provision of information security and data protection, especially for mobile workers.
- Response to emergency situations such as vehicle accidents.

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- Rules of conduct by field staff.
- Capability to support performance management.
- Internal and external communications, especially email.

### GOVERNANCE GUIDELINES

When developing policies and procedures for mobile workforce management, be sure your policies address the key issues, such as vehicle management, dispatch, customer service, training, human resources (HR), data security and rules about email and file transfers. Notes Peter Barnes, managing director of 2C Consulting in London, "Once policies are in place, keep monitoring operations to be sure they are being followed."

Assuming you depend heavily on mobile communications systems, regularly review your technology. If operational servers and network infrastructure need to be updated to better support communications requirements, employee tracking and performance, added Barnes, "Analyze your options regularly to ensure that your technology adequately supports the organization and the mobile workforce."

Additional governance guidelines include:

- **UPDATE MANAGEMENT STYLES.** The command-and-control style of pre-

mobile days may not work with mobile workers. Work with HR to define and deploy the most relevant management approach for mobile workers.

- **ENSURE UNIFORM BUSINESS ATTITUDES.** Without consistent and periodic guidance, remote workers may establish their own priorities. Make sure mobile workers have the same business goals as all employees.

- **ANALYZE SECURITY REQUIREMENTS CAREFULLY.** Access to company information needs to be defined by the company. Define data security and data protection policies on a day-to-day, staffer-by-staffer basis. Mobile workforces need to build and reinforce perceptions of reliability and trust.

- **REALIZE THERE'S MORE THAN JUST BEING MOBILE.** Communicate and follow up regularly with mobile employees. For mobile workers, relying on instant messages, emails or texts may not be enough. Real-time phone conversations and periodic in-person updates can ensure that mobile workers are fully engaged with the entire organization.

- **LINK HR AND IT.** Be sure that your mobile workforce policies address people issues, such as dealing with illness, taking advantage of company benefits or training programs and

providing access to HR forms, benefits and policies.

■ **MANAGE THE MOBILE ENVIRONMENT.**

Keep tabs on all mobile devices and technology in use. Look for ways to integrate personal mobile technology, such as cell phones and home wireless LANs, with company firewalls. Will all personal digital assistants talk to each other? One approach is to establish policies and standards for all mobile technology.

■ **MEASURE PRODUCTIVITY, NOT**

**ACTIVITY.** Be sure to establish clear goals and expectations for your mobile workforce. Establish remote-performance benchmarks.

A highly productive mobile workforce can help ensure that your organization delivers best-in-class service and meets and exceeds customer service expectations. Policies should be developed that address key mobile workforce management issues such as timely dispatch of staff with the right solutions, rapid assessment of situations, communications with the necessary human resources and access to relevant information when needed. ■

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