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By Chris Murphy

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[PLUS]

iPADS AT WORK

Like it or not, tablets are coming p.49

INTERNET EVOLUTION

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IN THE ENTERPRISE

By David F. Carr

An emerging generation of tablets unleashes new mobile applications but requires IT support, security policies, and potentially development effort, too

The market for tablet computers, which sputtered with an earlier generation of devices, is growing rapidly this time, thanks to Apple's iPad. And it's not just a consumer phenomenon, as doctors, lawyers, and other businesspeople adopt the iPad for a range of mobile applications.

James Gordon, VP of IT at Needham Bank, initially wondered if the iPad wasn't merely a glorified iPhone. "The answer is yes—but it's a really good glorified iPhone," he says. In addition to providing iPads to senior executives at the bank, Gordon gave one to the committee responsible for checking on construction projects before releasing loans to builders, enabling that group to do more of its work from the field.

Gordon didn't hesitate in approving the iPad for enterprise use, because the bank had already established device management and information security policies for the iPhone, which uses the same iOS operating system.

That's a common uptake pattern, according to Dave Dahlberg, chief marketing officer at Model Metrics, which helps companies extend

Salesforce.com applications for mobile use. Companies that already went through an enterprise evaluation of the iPhone are giving the iPad their stamp of approval in weeks, rather than the months it took for the iPhone.

Hyatt Hotels, Medtronic, and Wells Fargo are among the companies that have purchased iPads for some employees. SAP indicated it could buy as many as 17,000 of the devices.

Apple ignited this tablet excitement, but it won't have the market to itself for long. Samsung and other manufacturers are selling the slim, portable devices based on Google's Android operating system, Research In Motion is developing the BlackBerry Playbook, and Microsoft will be getting into the market, too. This generation of tablets tends to be smaller and lighter than before, with touch-screen rather than pen-based user interfaces, and daylong battery life.

So far, the iPad is the runaway favorite and the one building a track record within the enterprise. From a security perspective, the iPad even has some advantages, says Andrew Jaquith, CTO of Perimeter E-Security, a provider

of managed security services. For example, whether through the Apple App Store or a corporate applications portal, the distribution of software is tightly controlled, so malicious software "is unlikely to be a problem the way it has been on the PC," he says.

Many basic security concerns—the loss of data if a device is lost or stolen, for example—can be addressed with encryption, a remote wipe capability, and a policy mandating that data get wiped after four or five incorrect password attempts. If important information on the device is synchronized with an enterprise data store, such mishaps do little harm, he says.

In some cases, enterprise data is viewed on the device but not stored there, using a remote access utility and encrypted connection. Needham Bank, for example, uses Array Networks' DesktopDirect for that purpose, while other companies we talked to employ Citrix Receiver. Beyond that, Jaquith sees a market opportunity for compa-

nies like Perimeter to provide managed security services for tablets.

Displacing The Laptop

The iPad let Robert Pharr, CFO of North Texas Real Estate Information Systems, a provider of IT systems for real estate data, ditch the laptop he used to lug around. "I pretty much decided over a week or so that there wasn't anything I wanted to do remotely that I couldn't do with an iPad," Pharr says.

Most of the work he did remotely involved tasks like checking e-mail or looking up numbers at the request of the company's CEO, tasks that the iPad performed perfectly well. He uses an iPad app that works with Windows Terminal Services for remote access, and retrieves digitized contracts and other documents through the company's CNG-SAFE document management system.

When Pharr needs to do serious number crunching, he goes into the office and uses a desktop PC with dual screens. "You're not going to do heavy

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- 21%** Agree or strongly agree that "road warrior" employees will prefer tablets over laptops
- 24%** Agree or strongly agree that tablets will be the main device for users in certain roles
- 24%** Agree or strongly agree that IT will provide basic support to employees' personal tablets

Data: InformationWeek Analytics survey of 552 business technology professionals, November 2010

spreadsheet work on an iPad," he says. "I can go in and manipulate it a little, but I don't get into formatting a spreadsheet or writing complex formulas."

Most IT pros are highly skeptical tablets will replace a lot of laptops or PCs. Just 12% of 552 business technologists we surveyed agree or strongly agree that at least 10% of employees

VIRTUAL CONCIERGE

Hilton CIO: Idea To iPad App In 90 Days

When 2,500 Hilton hotel owners from around the world came to the U.S. for the annual meeting in October, they got more than a conference badge and tote bag at registration. They got an iPad.

Pretty nice tchotchke, right? Hilton Worldwide CIO Robert Webb's goal was to make it about more than glitz, of course. He wanted to show off two custom-built apps and demonstrate to owners how the tablet and mobile computing could change the hotel guest experience.

One was a virtual concierge app, through which guests could order room service, ask for a car from valet parking, book tee times, and get information about the area. The second was a collaboration app for the owners. It showed photos and bios of the attendees, and let them exchange messages and arrange in-person meet-ups.

Webb says it was only about 90 days before the meeting that Hilton leadership decided to do the iPad project. In that time, the team had to equip the Waldorf Astoria Orlando, where the event was held, for higher-speed

wireless broadband than any of its hotels in the country. They needed to write the two apps. And they had to provision 2,500 personalized iPads in one day.

For that, Webb's team converted the Waldorf Astoria's bar into something like a traveling Genius Bar, where staff took a picture, added it to the iPad, and quickly showed the owners how the apps worked. For the infrastructure and app development, Hilton worked with Accenture, IBM, AT&T, and a few smaller vendors with specialized skills in iPad app development.

Now, Webb is expanding Hilton's iPad use in three areas. One is corporate, with 350-plus senior executives getting iPads and IT piloting business intelligence on the devices for operations reporting. Second is with hotel owners, as a way of sharing operating and customer information with them. Last is with guests. Webb believes the iPad and other tablets could be used for "next-generation in-room entertainment" and allow new kinds of interactions with guests, such as the virtual concierge.

—Chris Murphy (cjmurphy@techweb.com)

will get a tablet in place of a PC or laptop. Twenty-one percent strongly agree that tablets will be a "non-event" for their company. Still, a sizable minority sees potential among mobile users (see box, p. 50). And IT is being open minded to tablet use. Only 13% agree or strongly agree that they'll ban tablets on the company network.

That leaves the door open to employees finding their own uses for the devices. Rory Miller, a trial attorney in the Los Angeles office of Quinn Emanuel Urquhart & Sullivan, says his iPad has replaced "a large binder full of paper that was seldom, if at all, referenced during proceedings." These were printouts of all the cases and reference material he brought to court.

For Miller and several other attorneys we spoke with, the iPad is a per-

sonal device, purchased by the individuals but with configuration assistance and other support provided by the firms' IT departments. Almost a fourth of technologists say they'll offer basic support for personally owned tablets.

Elsewhere, iPads are being provided by companies for certain employees who can really benefit from them. TaylorMade has equipped 70 of its sales reps with iPads, so they can carry a digital library of marketing material about its golf clubs and sports apparel. Jim Vaughn, head of U.S. sales development, uses Box.net's content-sharing service to distribute material to the iPad users.

"We upload it into their iBooks, and they can then access it on planes or in hotels, which has worked out really well," Vaughn says. TaylorMade's IT team is evaluating the feasibility of giv-

ing iPad users broader access to enterprise systems such as Microsoft Exchange, Vaughn says.

At University of Chicago Medical Center, iPads have been issued to all 150 medical residents. These junior doctors had been struggling with the combination of increased reliance on electronic medical records and a lack of access to desktop computers, since those on the hospital floor are shared with the nurses.

"While you were in search of computer to get your work done, that took you away from the bedside, which is really where the physician should be," says Dr. Bhakti Patel, the chief resident who developed the program. With iPads tucked in their lab coat pockets, the residents get instant access to patient records, X-rays, and medical literature.

The hospital's IT group is looking at

[TABLET COMPUTERS]

the possibility of broader deployment of iPads. Residents were first in line because, given the nature of their jobs—long hours on their feet and limited access to desktop PCs—it was determined they had the greatest need.

For security, the residents must log in each time they access a medical record, using a Citrix client and the hospital's virtual private network. Network logins time out after two minutes of inactivity, and the iPads are automatically wiped of data after five unsuccessful password attempts.

App Tuning For Tablets

For Web application architects, the most natural answer to supporting tablets and other mobile devices is to serve up HTML with a different style sheet, or tap some of the new multimedia features of HTML 5.

That may be the best approach to making applications available across a range of devices. On the other hand, there's a strong argument to be made in favor of creating native applications that take advantage of device-specific hardware for graphics acceleration, motion sensing, and GPS location.

"When I first got an iPhone, I thought I would use it to browse the Web a lot more," says Sanju Bansal, chief operating officer of analytics specialist MicroStrategy. "But after you've had one of these devices for a while, you find browsing the Web is about the last thing you want to do, as opposed to using native apps on the device that are purpose-built for the task at hand."

Existing server software can often be repurposed in the form of a Web service that's paired with a rich user interface specific to the mobile client. MicroStrategy is developing native iPad applications for viewing reports and data dashboards generated by its business intelligence platform. MicroStrategy is also excited about upcoming Android and Windows tablets, Bansal says.

"Our view is that mobile BI is better than Web-based BI—a little more consumable. It's also enriched by a lot of information that potentially speeds query flow," Bansal says. For example, with GPS readings, a retailer's BI system could display data specific to the store a user is standing in.

For its internal use, MicroStrategy has deployed a corporate approvals iPad app to speed up purchasing and personnel decisions. "We've reduced the cycle time from many, many days down to a day or two for all routine approvals," Bansal says. "These are managers and executives who travel quite a bit and are not always in front of a Web browser."

Car-shopping site Edmunds.com is testing a MicroStrategy automotive market data application to be launched in early 2011. By monitoring consumer behavior on its Web site, Edmunds can tell auto manufacturers and dealers which cars are generating the most interest. Instead of delivering those reports in Excel, Edmunds wants to provide

[TABLET COMPUTERS]

them through an interactive iPad application.

Edmunds experimented with using iPads to distribute PDFs of the reports, but interactive visualization proved more compelling. "There is a whole different aspect when you can actually touch the data," says George Kang, VP of strategy at Edmunds. "Once you were touching the data with your fingers, the data literally became alive."

Up to 60 Edmunds execs and sales people will be given iPads loaded with the application. The company also plans to make the software available free to hundreds of business partners.

Learning Curve

Businesses wanting to create their own iPad apps face a few hurdles, such as finding programmers who know Objective-C, the native programming language for iOS. There are tools to help bridge the gap in developer skills. Rhomobile offers a model-view controller framework for developing applications in HTML, JavaScript, and Ruby, together with a compiler for iOS and other mobile platforms. "This lets you use your Web development skills, but you're still building native apps," says Adam Blum, CEO of Rhomobile.

Learning Objective-C isn't necessarily the biggest challenge of iOS development, though. "There's a lot of learning to be done about the environment," says Jayaraman Raghuraman, VP with mobile development firm Endeavor Software Technologies. "It takes a good six to eight weeks to get comfortable with the platform."

Because of an ongoing feud between Apple and Adobe, the iPad is off-limits to Web applications that use Flash and to rich client applications based on Adobe Air. The same is true for rich Internet apps based on Microsoft's Silverlight development platform. With those exceptions, most Web applications work fine in the iPad's Safari Web browser, and PDFs don't pose a problem.

Elkay Manufacturing, a maker of sinks and counters, worked with Model Metrics to develop an iPhone app that accesses a subset of its Salesforce system. But iPad users at the company tend to prefer the full Web version. "This lets you get the best of both worlds," says Eyal Altman, director of strategic management at Elkay.

In addition to about 100 of its own sales reps, Altman expects the combination of Salesforce and the iPad to be adopted by several hundred independent sales representatives who will buy the devices themselves but get free accounts on Elkay's system. So far, Elkay's application has only been piloted with a handful of users, but all signs point to growing adoption. There's so much momentum, says Altman, "that it's hard to go back."

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