Mobile Technology:
The Productivity Edge

Mobile computing devices are now firmly established as indispensable tools for legions of workers in myriad industries.

The good news for companies is that employees armed with mobile devices have access to data anytime, anywhere, giving them productivity advantages that are measurable. Many IT leaders and managers agree. According to a recent CIO magazine mobility survey, more respondents—87%— identified productivity benefits as a top driver for their mobile technology investments than any other factor.

Yet IT leaders have to consider the benefits of mobile devices—whether they are laptops, tablet computers, smartphones, or convertible devices—and make sure that the information assets on them are protected. In this regard, IT needs to find a workable balance between ease of use and necessary security. That's one aspect of mobile technology that IT has to think about. There are, of course, others as well. For instance, IT should help employees determine what kind of mobile device is the best option for the application. A tablet may be the far more productive choice over a smartphone in many instances, or vice versa.

As you will read in the following pages, many IT and business leaders have found the right balance for their organizations. The CEO of a New York City company is always on the road and armed with her laptop, which contains sensitive corporate data. Security, availability and reliability of data are all critical for her (and her COO)—and the company has a Dell solution that takes care of all of it.

If you are at the forefront of building a mobile strategy and are looking for some advice, then you will find some useful information in the checklist on the last page.

In any case, the content in this guide will use your time wisely—and productively.

Form Meets Function

AS ORGANIZATIONS ASSESS THEIR GROWING MOBILE COMPUTING NEEDS, TABLET COMPUTERS ARE EMERGING AS AN IMPORTANT NEW OPTION.
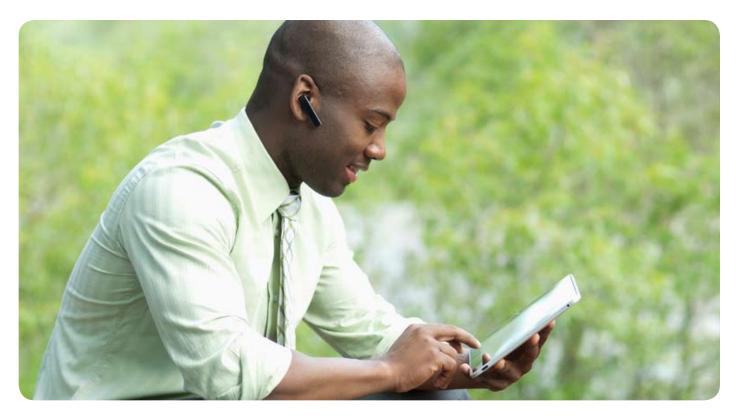
Over the past few years, organizations of every stripe have come to recognize the benefits of workplace mobility, in the process moving from a haphazard collection of devices carried by a few employees toward comprehensive policies that encompass the entire enterprise. Today, almost every professional carries a mobile device of one type or another; by the end of this year the number of mobile workers worldwide is estimated to surpass 1 billion.

IT leaders understand that selecting the right form factor for their mobile strategy is essential, and many are reexamining their mobile computing environments and approved devices to determine whether they produce optimal results

and maximum return on investment. Although laptop PCs provide a high level of portability, and netbooks and smartphones are unsurpassed in their convenience, tablet computers are rapidly moving into the mainstream.

But not all tablets are created equal. Organizations should assess such devices with an eye toward the type of work to be performed, and should look for high levels of usability, flexibility, reliability, durability and security.

Coping with a changing workplace

With organizations embracing mobility and the types of tools their mobile

workers need to be productive—including smartphones, netbooks, tablets and laptop computers—there's an increasing emphasis on form factors. IT leaders see huge benefits in mobile computing: simply put, the ability to tackle work anywhere and at any time brings greater efficiency and bottom-line results. More than two-thirds of respondents to a recent IDG Research survey reported that they achieve or expect to achieve increased productivity from their mobile devices. In addition:

• 69 percent of respondents report an increase in overall productivity
• 64 percent see faster access to real-time business-critical information

• 37 percent see improved customer service
• 30 percent see higher employee morale
• 16 percent see reduced costs

But choosing a device that's in line with business needs is paramount. For example, a device should allow for easy data input and movement across devices. At the same time, organizations are looking to consolidate solutions and manage IT costs more effectively.

Fortunately, advances in technology—and especially battery power—are enabling new types of devices, including tablet computers and convertible tablets, that are proving more convenient than a laptop or notebook PC alone.

Tablets have evolved remarkably over the past decade, moving from niche devices to mainstream tools. The latest models feature sleek design, pen input, multi-touch and gesturing controls; the ability to seamlessly connect to the Internet via Wi-Fi or cellular networks; high-resolution displays; and enterprise-level security features. Some convertibles even offer the best of both worlds: they can be used like a conventional laptop computer, but the user can also twist and fold the display screen back to be used as a tablet PC.

Not surprisingly, as usability improves and their underlying functionality becomes more sophisticated, tablet computers are appealing to a growing array of environments and industries, including health care, manufacturing, engineering, construction, hospitality, real estate, retail, pharmaceutical and insurance. Delivering data to the point of action—and interaction—fundamentally changes the way work gets done. No longer does a nurse or physical therapist have to locate a laptop sitting on a cart, or take handwritten notes and

enter chart data at a desktop computer later. A sales rep in the field can demonstrate products, view real-time inventory, input data and complete a transaction immediately. A clerk at a hotel can step out from behind the front desk and into the lobby, greet guests and check them in on the spot, eliminating the need for tired travelers to stand in line. With the right device in hand, work is faster, more casual and far more efficient than ever before.

Making it all compute

Understanding all the specific needs of a diverse workforce goes a long way toward maximizing technology investments and achieving best-practice results. Ultimately, an organization must ensure that its entire mobile infrastructure integrates seamlessly across the network, so

that data is available exactly where and when it's needed.

Yet best-practice results don't come easily. Forty-three percent of respondents to the IDG survey say data security is the No. 1 challenge in managing mobile devices, 28 percent report that managing multiple types of devices represents the biggest challenge, and 13 percent worry about network security. Other challenges include supporting multiple operating environments and ensuring network reliability.

Data security concerns are magnified by the decentralized nature of computing environments—and the fact that organizations increasingly rely on a tangle of mobile gear. Not only does data reside on various devices outside the four walls of the enterprise, it often travels over public networks, including unse-

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cured Wi-Fi hotspots, to reach its final destination. Without built-in security features—including encryption—and an infrastructure that supports data protection, a business may find itself at risk.

As a result, many organizations are looking to implement devices that provide maximum flexibility, agility and protection. Any supported equipment must not only enable business functions but also provide sophisticated security features, including data encryption.

But it's a moving target as the nature of data input changes. E-forms are becoming common as companies migrate away from paper and look to capture data electronically. Thus it's increasingly necessary to rely on devices that accommodate pen input as well as multi-gesture capabilities. These features allow workers to quickly sift through forms and size them appropriately. However, the hardware and software must also address sophisticated security and government-mandated compliance rules.

Although smartphones consolidate a variety of functions and greatly simplify e-mail management and other tasks, their size and form factor make them less than ideal for many business and industrial settings, and they're not designed to withstand heavy use in punishing environments, such as construction sites, medical facilities and manufacturing plants.

Here again, tablet computers—including convertible devices that serve as both a full-fledged laptop computer and a tablet—offer a solution. These systems offer the best of both worlds and ratchet up efficiency and productivity.

Moving to a new computing model

It's no secret that today's mobile devices pack enormous functionality. Smartphones have dramatically altered the computing landscape, while tablets are making mobility more convenient, ergonomic and

Dell Latitude XT2: Redefining Mobility

With organizations looking for more efficient mobile computing solutions, convertible tablets such as the Dell Latitude XT2 are grabbing the spotlight. What makes tablets so attractive is the ability to use them for presentations, sales calls and other laptop-centric functions—yet convert them into a tablet to input data into forms and handle other functions on the go.

The Latitude XT2 provides a state-of-the-art display with both multi-touch and pen input. It's possible to scroll through Web pages and graphics files, and zoom and enlarge text, among other tasks. It can change quickly from tablet mode to notebook PC mode, and the display offers a 360-degree swivel capability that allows for viewing at virtually any angle.

The device runs on a fast Intel® Core™2 Duo ULV processor and features an Intel® Integrated Graphics Media Accelerator, long battery life, a high-quality keyboard, wireless and mobile broadband connectivity, and a rugged design for maximum durability. It is also backed by a three-year warranty and 24/7 phone support. Simply put, the Dell Latitude XT2 redefines mobility.

flexible. The challenge, of course, is how to harness all these devices in a coherent and strategic way. It's critical that data flow seamlessly across the enterprise and beyond.

Mobility has taken a huge leap forward over the past couple of years thanks to advances in both hardware

and software. Microsoft Windows 7, which includes improved security features and touch-screen capabilities, makes mobility far more attractive and accessible to workers and organizations. Better e-forms and tight integration with applications such as Microsoft Exchange and OneNote make tablets increasingly useful across a broad spectrum of situations and industries. At the same time, cloud computing provides ways to share data more easily.

Convertible devices that combine the best of laptops and tablets are increasingly at the center of this trend. According to IDG research, several features are important for organizations looking to use tablet computers. The list includes wireless Internet capabilities, durability, touch-screen functionality, stylus input and a more advanced Windows 7 operating system. The most versatile devices combine PC and tablet functionality, and offer sophisticated touch-screen displays with fold-down and swivel capabilities, a full-function keyboard and stylus, and multi-fingertip support. A ruggedized design makes them ideal for use in adverse environments.

It's a concept that appeals to a growing number of organizations. At the Hoover City School System in Alabama, with more than 12,800 students and 2,000 employees, tablets are a fixture in the classroom. Using a combination of convertible tablets, computers on carts and multimedia gear, Hoover City has created "connected classrooms" that greatly enhance the educational process, according to district officials, and that allow teachers to engage students in ways that aren't possible using conventional desktop PCs. Overall, the setup has helped boost learning and improve teaching efficiency, they say. From the beginning, officials at Hoover City wanted to integrate Windows 7-based tablets into the technology mix without causing

a disruption. Today, IT installs a standard "image" onto devices via a thumb drive—a process that takes only about eight minutes per system to complete. CTO Keith Price also reports that by using Windows 7 tablets, applications run faster, teachers and students are able to work more quickly and effectively, and the platform is highly stable and reliable.

Another organization that has amped up its mobility initiative is Health-anywhere in Ottawa, Canada. The company, which provides health care services in private homes, has turned to a health-assist solution that uses convertible tablet computers to allow caregivers to input data on the road and in patients' homes. The tablets eliminate the need for multiple devices, and, by using a convertible system, the organization is able to realize the benefit of workers using two different computing styles on a single device.

By capturing data at the point of contact and entering it into the enterprise database immediately, Healthany-where can monitor patients' blood pressure, pulse, glucose levels, blood oxygen, lung capacity, body temperature and weight, and manage the information in a HIPAA-compliant database. In addition, direct data input has reduced errors and improved productivity—workers no longer scribble notes and then input them later into a computer. The devices connect to the company via a cellular modem and a Bluetooth connection.

As mobility evolves, organizations must adopt optimal strategies, technologies and practices to thrive. Selecting the right mobile devices for the job can help an organization lower costs, boost productivity and maximize return on investment. Tablet computers, including convertible devices, have come of age, and their versatility and flexibility are rapidly transforming the nature of work across a broad array of jobs and industries.

Intel Continues Innovations for Mobile Market

Among the features of Intel processors that are targeted to the mobile market include:

Intel® Core™ vPro™ processors have hardware-assisted capabilities for enhanced security, manageability, virtualization, and energy efficiency. The technology allows you to power on an entire PC fleet to update a virus patch or remotely diagnose and repair PCs out-of-band (OOB), even if the OS is inoperable.

Intel® AES New Instructions (Intel® AES-NI) accelerates the encryption of data in the Intel® Xeon® processor 5600 series and the Intel® Core™ i5 processor 600 series. It is composed of seven new instructions that accelerate encryption and decryption, improve key generation and matrix manipulation, and aid in carry-less multiplication. Intel AES-NI also helps alleviate the performance challenges inherent in cryptographic processing.

Intel® Anti-Theft (AT) Technology for Laptop Security. The security technology is built into the laptop's processor, and is active as soon as the machine is switched on—even before startup. If the laptop is lost or stolen, a local or remote "poison pill" can be activated that renders the PC inoperable by blocking the boot process. This means that predators cannot hack into the system at startup. It works even without Internet access and, unlike many other solutions, is hardware-based, so it is tamper-resistant. It is designed to give IT administrators maximum flexibility and secure control of network assets. Since it is built-in at the processor level, the IT administrator has a range of options to help secure mobile assets, such as:

Intel® Turbo Boost Technology 2.0. The result is a boost in power levels to achieve performance gains for high intensity dynamic workloads. Turbo frequency is adapted to conserve energy, depending on the type of instructions, and its power and averaging algorithm manages power and thermal headroom to optimize performance.

Intel® Hyper-Threading Technology. The technology enables each processor core to run two tasks at the same time. The benefits: more threads and smart multitasking result in better performance, as well as faster response times.

A Blockbuster Marriage of Form and Function

SEEKING TO MAXIMIZE MOBILE PRODUCTIVITY, CREATIVE ARTISTS AGENCY SELECTS THE DELL™ LATITUDE™ Z LAPTOP FOR ITS COMBINATION OF FULL-FEATURED, ENERGY-EFFICIENT PERFORMANCE AND ELEGANT DESIGN.

When it was time for Creative Artists Agency (CAA) to refresh its fleet of laptops, the company wanted systems that would reflect its commitment to visual aesthetics while delivering full-featured performance. "Just as the architectural design of our headquarters makes a statement about our work, so do our computers," says Michael Keithley, CIO at CAA. "We want products that look great and feature a streamlined design for maximum mobility. At the same time, we need true enterprise-class machines that can ensure that our agents can communicate effectively and access information reliably, wherever they are."

To help meet the company's needs for form and function, the CAA IT group selected Dell Latitude Z laptops with Dell ProSupport for its mobile workforce. "The Dell Latitude Z is the first enterprise-class product that takes design and aesthetics seriously," says Keithley. "It's thin. It's light. And it has a big, beautiful screen. The Latitude Z just nails it. It has pretty much everything you could want from an all-in-one mobile laptop."

Equipped with Intel Core 2 Duo processors, the Latitude Z can deliver plenty of performance for agents' processor-intensive multimedia tasks. At the same time, the primary battery and optional second battery help ensure that those tasks keep running when agents are away from power sources. "The battery life on the Latitude Z is

amazing," says Keithley. "It lasts twice as long as I would expect. Our agents will be able to keep working on the road without having to constantly search for power outlets."

Full-featured videoconferencing and multimedia

The Dell Latitude Z can provide robust videoconferencing capabilities to help CAA agents communicate effectively while traveling. The laptop can be configured with an optional two-megapixel, autofocus Webcam

and built-in array microphones, and includes a microphone input jack for mobile headset connectors. "The Latitude Z is a perfect fit for our videoconferencing needs," says Keithley. "With a high-quality camera, microphone array, and speaker system, we can have face-to-face meetings with outstanding audio and video quality. We have standardized on Microsoft Office Communications Server [OCS] for desktop videoconferencing, and starting a videoconference is simple. With just one click, we can be on a video call with anybody who is part of our network, no matter where they are located. Latitude Z users can also join room-based videoconferences with the same one-click ease." CAA employees can also use the Latitude Z and Microsoft OCS for telephony, enabling them to choose the most appropriate communication method for each situation. "With the quality of the mics and speakers, the Latitude Z is a viable phone replacement," says Keithley.

"By tapping into Microsoft OCS with the Latitude Z, we can give our agents and executives a range of communi-

> **Many agents prefer to use a laptop as their sole computer, and the Latitude Z makes that possible.**

cations options—instant messaging, voice, and video—to enable them to serve our clients better."

The large 16-inch LCD screen of the Latitude Z, meanwhile, will help agents review videos whether they are in the office or on the road. "As part of their jobs, many of our agents need to screen highdefinition [HD] video from their computers," says Keithley. "In the past, that task was particularly difficult while traveling— the laptops on the market did not provide sufficient screen real estate or the right aspect ratio. With a large 16-inch screen, the Latitude Z provides a great platform for screening HD video. Video looks gorgeous on that screen. More importantly, the ability to watch HD video directly from a laptop will help our agents be more productive on the road."

Innovative mobile technology

CAA agents will also use the innovative Dell FaceAware software technology to help protect access to information and conserve energy. Using the optional Webcam, FaceAware scans for the user's presence. If the user's face is not found, the computer locks and activates the power-saving features of the Microsoft Windows® OS. FaceAware can be set to recognize multiple faces so laptops can be shared.

"We've done extensive testing with Dell FaceAware, and it works amazingly well," says Keithley. "The software can even detect if I've turned my head to talk to someone so I can save energy when I'm not working directly on the computer. FaceAware will enable our agents to keep information private by locking when they walk away from their computers, and it will help them stay productive by extending the

battery life of their computers while traveling." In addition to supporting videoconferencing and face recognition, the autofocus Webcam can be used for scanning printed materials using the Dell Capture document scanner—a useful feature for traveling CAA agents.

Although most agents won't have time to contemplate the internal components of the Latitude Z, Keithley knows that they will appreciate the advantages of solid-state drives. "The solid-state drives will help the computer boot up faster, run cooler, and produce less noise," says Keithley. "We can also choose a model with a second drive, which gives us the option of installing a second OS or creating a backup drive to protect information. Using solid-state drives is a tremendous benefit. Once you go solid-state, you never go back."

Enhanced productivity on the road

The IT group at CAA plans to make the Dell Latitude Z the new standard laptop at the company. According to Keithley, the Latitude Z will help not only enhance mobile productivity but also simplify computing back in the office. "Many agents prefer to use a laptop as their sole computer, and the Latitude Z makes that possible," says Keithley. "The Latitude Z provides the performance for all of our agents' tasks plus the ability to connect to peripherals wirelessly, so agents can connect to large flat-panel displays or other devices without a mess of cords. By combining a smart design with full functionality, the Latitude Z simplifies computing and will help agents stay focused on providing outstanding services to our clients."

Checklist:
Pursuing Mobility's Productivity Promise

While there are many benefits to employees using mobile technology—the potential of increased sales and improved customer satisfaction, to name two—the one that is consistently at the top of the list is increased employee productivity.

According to a recent CIO magazine mobility survey, 87% of respondents identified productivity benefits—more than any other factor—as a top driver for their mobile technology investments. The survey offered further proof that increased productivity and the other benefits of mobile solutions are highly valued by IT and business managers.

At a basic level, the manner in which mobility solutions can boost productivity is self-evident: Workers equipped with mobile devices and the appropriate software and security clearances can access corporate data and applications from any location at any time. Some studies indicate that such workers spend as much as an hour a day longer performing business-related tasks than workers lacking such mobile access.

Really maximizing mobile worker productivity, however, requires that managers carefully evaluate a wide range of product and deployment options. As a first step in any evaluation process, managers must ensure that they have very clear and accurate knowledge about the business processes and practices their mobile employees perform. That knowledge is a critical foundation for informing all subsequent decisions.

For example, field service workers who currently fill out paper forms during their engagements would likely become more productive if they could begin completing and submitting electronic forms on a mobile device. But they might be most productive if the device provided was a pen-input tablet PC rather than a small-screen smartphone. In other work-process scenarios, lightweight but powerful smartphones might be more productive alternatives than tablet or laptop PCs.

Here are four other productivity factors managers should consider:

- **The need to find a workable balance between ease-of-use and necessary security.** For instance, workers will be more efficient and productive if they don't have to navigate through unduly complex authentication procedures before they can access corporate networks and data. But if the authentication process is too simple, it may also fail to provide the necessary data and network security.

- **Start with the low-hanging fruit of e-mail and data access, but don't stop there.** The most significant productivity gains can be realized by helping mobile employees better perform a wide range of business tasks, be they insurance claims adjustments or order entry uploads.

- **Look outside the box.** For example, evaluate the role that videoconferencing can play in boosting productivity (and cutting costs), and select devices and networks that can best support the identified videoconferencing requirements.

- **Don't overlook seemingly minor issues.** For example, a mobile device with a short battery life can be a productivity drag, forcing workers to find and use power outlets rather than just powering up on the fly.