

Mobility Tipping Points

Multiple Tipping Points Are Creating
Mobile Mayhem for IT

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LSI-1049 BB/AZJUJ

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Introduction

The devices you can't see or don't know about are the ones that can hurt you the most. Having a greater vision of your entire IT environment is crucial to managing and securing your business data. Extending your vision to include other issues that may affect IT is the topic of this paper—we will explore three tipping points that will affect IT for the next five years and beyond. Mobility and mobile devices are the catalyst for these three tipping points.

In the next five years, mobile technologies and the people using them will significantly and irreversibly change the ways worldwide businesses operate, much the way previous disruptive technologies have. Consider the following:

- By 2015, there will be nearly *one mobile device for every person alive*. Projections indicate there will be over 7.1 billion mobile-connected devices—approximately equal to the world's population in 2015 (7.2 billion).¹
- By 2013, more than a third of the world's workforce will consist of mobile workers, potentially 1.2 billion people.²
- In the fourth quarter of 2010, 100 million smartphone units shipped compared to 92 million PC units. For the first time, smartphones out shipped PCs.³
- The ownership and management model of owning all the computing assets is changing. With the influx of mobile devices—driven by smartphones and tablets—organizations are taking a hybrid approach, supporting and leveraging devices as both a corporate and personal device.

In light of the previous information, we need to acknowledge the following:

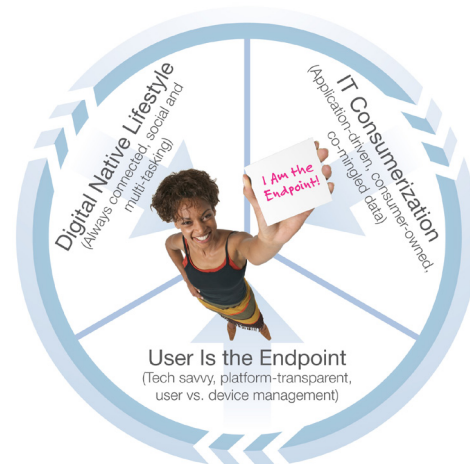
- With the established patterns of workforce usage and device adoption, mobile computing is central to the future of corporate computing.
- The work conducted and created in a mobile environment will continue to increase—and may equal or surpass the work created in a traditional setting in the near future.

- Data co-mingling and a shift to more employee-owned assets will create significant exposure points and challenges for IT. With mobile devices largely controlled by the end user, IT will have only partial control over data access. Gone are the days when the vast majority of data on a device comes from “the corporation.”
- The separation between personal and corporate information is even more blurred by the lifestyle and work styles of the new generation or “digital native” workforce.

In the past, executives were the only employees with exotic new mobile devices. With prices for smartphones, netbooks and slate/pads falling, most employees now have mobile computing that fits in their pocket or in their hand. But it's not just the executives that are driving the change in this corporate behavior; it's many of the employees who are using their personal devices for work-related tasks. The employees are the ones who are bringing varying devices into their work environment for convenience, increased efficiency, constant communication with their business and person social networks, and who are either younger and “digital natives” or who are migrating to that connected lifestyle.

If we take a closer look at some of the trends that are influencing mobility, we see three different but interrelated tipping points that are occurring and influencing the challenges facing IT:

1. The accelerated migration to the digital native lifestyle
2. The consumerization of IT
3. The shift of focus from the devices themselves to the mobile user and all of her attendant devices—in other words, managing the user as the endpoint rather than the devices.



1 “Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update 2010-2015,” Cisco.com, February 1, 2011, http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-520862.html (accessed February 11, 2011).

2 “More than One Billion Mobile Workers by Year's End, According to IDC,” IDC.com, February 18, 2010, <http://www.idc.com/about/viewpressrelease.jsp?containerId=prUS22214110§ionId=null&elementId=null&pageType=SYNOPSIS> (accessed February 14, 2011).

3 Seth Weintraub, “Industry first: Smartphones pass PCs in sales,” Fortune, February 7, 2011, <http://tech.fortune.cnn.com/2011/02/07/idc-smartphone-shipment-numbers-passed-pc-in-q4-2010/> (accessed February 10, 2011).

Notice that these are intertwined. The more we migrate to a digital native lifestyle, the more IT consumerization will occur; and the more IT consumerization occurs, the more the user becomes the focal point of IT management. The cycle repeats and continues to circle in toward the user with greater velocity.

Tipping Point 1: Accelerated Migration to the “Digital Native” Lifestyle

(Always connected, social and multi-tasking)

IT Mobile Mayhem: Providing applications and supporting multiple platforms based on roles, user context and location.

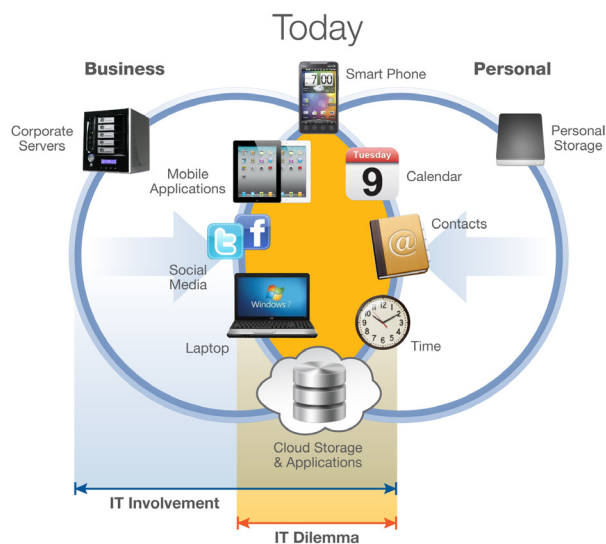
The impact of mobile and intelligent devices is accelerating the movement to the shores of the digital native lifestyle. The way we will do business, communicate and socialize within business and in our personal lives will continue to increasingly co-mingle. “Digital immigrants,” or those born before the age of the Internet, are more conscientious of the changes technology makes on their lives, while digital natives simply use any and all forms of digital communication and don’t recognize the technology because it’s always been a part of their experience.

A digital native can text a friend, look up a price quote for office supplies, send a picture of their healthcare provider card to a billing office, post to a blog, and answer a technical phone call all in a matter of minutes and not delineate between what was really business related and what was personal. It’s just life as they see it. And it doesn’t matter whether they did all of this communicating on a laptop, tablet, smart phone or all three at once—the digital native can pick up nearly any device and communicate instantly.

Ten to 15 years ago, people had a more physical separation of time between work and their personal lives. You were either in the office or not. You could literally leave your work behind after your nine-to-five job—that is until the laptop came along, followed by access to data through the Internet. Move forward to only five to seven years ago. People still had some separation between business and personal communication. They had separate phones, phone numbers, computers, work spaces, contact lists, calendars and plenty of other separate data and devices.



Now what do we have? We have increasingly inexpensive mobile, smart devices that contain all we need to interface both professionally and personally at the same time. Our time, data, and devices are all co-mingling. Our physical world of work and personal lives has been virtualized. Our interactions with our work colleagues and our friends are primarily digital. Much of our entertainment is now transmitted or played digitally. Our calendars are kept digitally. You can hear the death-knell of our old analog world and the news of its demise will be read by millions on a tablet e-magazine or digital book. What does this look like and how does this expand the pain for IT?

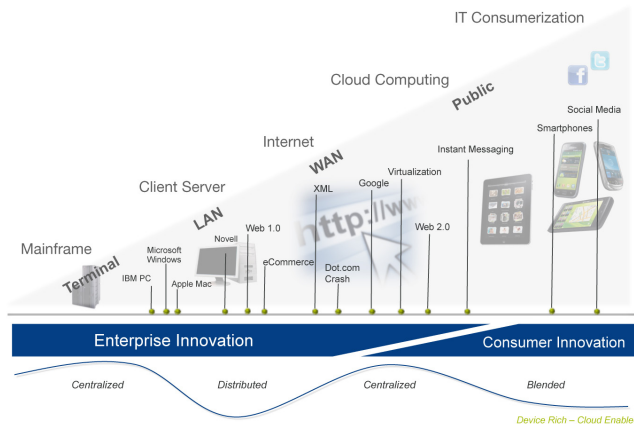


LANDesk Vantage Point: This migration will continue to add new challenges to the way IT thinks and operates in this post-PC era. It will also lead to a more detailed examination of what IT needs to manage and secure data and how much latitude and privacy employees will have when co-mingling their data with that of the corporation. To solve this problem, IT solutions will need to look across all devices a user owns and be able to tag the data to distinguish between corporate and private information—then manage and secure it accordingly.

Tipping Point 2: IT Consumerization

(Application driven; consumer-owned; co-mingled data)

IT Mobile Mayhem: The business data frequently now sits on employee-owned devices, which is co-mingled with personal data. Identifying what information and data belongs to the business and what belongs to the individual and how to manage and secure that data becomes a real challenge.



If we look at what has been pushing technical innovation over the past several decades, it's been the enterprise and business, starting with centralized computing and mainframe computers, and then becoming more distributed with PC and Local Area Networks and later WANs and the Internet.

Then we witnessed a shift in technology that was more consumer-driven as more businesses began conducting business on the Web. Even then, companies had more centralized control because everything was contained on their websites. But with the introduction of more smart devices and innovations in social media, consumers and employees are pushing IT toward a more blended mix of centralized management with distributed data.

Gartner, Inc. states,

*“Mobile consumer innovations are so far-outpacing enterprise efforts that enterprises are being forced to adopt them, despite security and management concerns.”*⁴

Looking back, we've progressed from mainframe to client server to Internet and now into cloud computing, which are all different ways of stating where the data is stored and how it is accessed. We are entering a phase many call the “consumerization of IT,” which focuses on how the data is consumed and the interaction and communication that goes

on based on the data. It's where the technology that makes people productive is less expensive, often owned by the user, and driven by numerous, inexpensive applications. The technology is really just keeping up with the needs of this new workforce—the digital natives, along with those digital immigrants among us who have crossed over.

LANDesk Vantage Point: IT systems management, endpoint security, and service management solutions will need to be able to span multiple platforms and devices. This will also require solutions that create a common experience across devices to make users more efficient in their jobs. Consider the use of Apple's technologies within the enterprise: Which vendors manage not only Mac laptops, but manage and secure iPads and iPhones? That's just a subset of what's needed because it may only be for one employee. Now add other platforms and vendors to the mix, like a person with a PC laptop, an Android phone and a tablet from yet another PC vendor. The key is to find IT solutions vendors that deliver greater value to cross-platform environments.

iPads and Android slates are cutting into PC sales, shifting endpoint management burdens (IDC, Jan 2011, PC Market Records Modest Gains During Fourth Quarter of 2010)⁵

Tipping Point 3: The User is the Endpoint

(Tech savvy, platform-transparent user vs. device management)

IT Mobile Mayhem: 1) Supporting so many different devices, platforms and user needs at varying levels. 2) The user is mobile; the devices simply follow the user. 3) Losing track of users and their data with the influx of so many different devices—while managing and securing all these devices.

The consumerization of IT also brings both benefits and challenges. Users can now be more productive no matter where they are, and from devices they own, which reduces the need for IT to provide all the tools. The challenges come from both the shifting ownership of the devices and the co-mingling of data.

IT must now focus on providing consistent and secure workspaces for the user. This may mean setting up the right policies and providing applications that run on smartphones as well as PCs.

⁴ Gartner Report ID #G00201608: IT Market Clock for Enterprise Mobility, Pg. 1, by Monica Basso, 3 August 2010.

⁵ IDC, Jan 2011, PC Market Records Modest Gains During Fourth Quarter of 2010.

Gartner, Inc. states,

*“Important trends that will affect and change these markets include cloud, collaboration and social computing—as well as consumerization that mostly originated from mobile products and has already changed the context for IT organizations. That consumerization is changing IT management requirements and priorities, forcing IT organizations to change IT rules and management policies.”*⁶

The role of IT will change to provide availability to data and to protect the assets—physical, software and intellectual—of the company. The first and greatest need is to understand all of these assets and where and how the data and assets are used.

IT is understaffed, overworked, and now must deal with thousands of unknown mobile devices connecting to the network. CIO Magazine reports that a properly deployed mobile device management tool could reduce operational costs by 49 percent.⁷

LANDesk Vantage Point: This post-PC era means looking past the devices we used to call the endpoints and understanding that the user is the endpoint, not the device. When there was a one-to-one or even two-to-one relationship between users and their devices, it usually meant that both devices, such as a desktop and a laptop PC, still had the same operating system, making it easy to focus just on the device and its operating system. However, when users have three or four devices with different operating systems, they begin to have their own little computing ecosystem. Solutions need to provide a complete view of that user’s ecosystem, so you can provide a more seamless environment for productivity.

How Do We Shift Our Thinking?

We need to accept that the corporate computing model we’ve lived by for nearly 50 years is flip-flopping. Consider what happened when we moved from centralized to distributed computing—it changed the entire ecosystem of data creation and sharing. It spawned new technologies and industries such as networking; caused convergence of technologies (data and voice networks); anointed new industry leaders (PCs, operating systems and applications); and gave rise to new ways of designing systems and applications (client/server, browser based, etc.). In short, it changed everything.

A recent study by Kelton Research indicates that IT managers anticipate supporting about eight different mobile platforms or operating systems by the end of 2011.⁸ And these are not limited to smartphones. According to Apple, the iPad has been tested or deployed at 80% of Fortune 100 companies, and industry tracker iSuppli predicts Apple will ship 43.7 million iPads in 2011 and 63.3 million in 2012, up from an estimated 14 million in 2010.⁹

So how can IT look to manage—as we cannot fully control—this mobile technological shift?

You can make two changes to your IT management orientation to embrace the reality of mobile device adoption:

- **Take an “endpoint-in” approach to managing data in an increasingly mobile environment.** Many IT mobile management strategies are still based on the data-center driven approach (IBM, HP, etc.) which adheres to an “inside-out” view, where the data center is the beginning and end of all information distribution to a specific device in a one-to-one, closed model. This is an antiquated approach. Data accessing behaviors are moving to an “endpoint-in” approach where the device is accessing many sources that include corporate applications, as well as other applications through the cloud that the corporate IT department does not know about. This access expansion will grow as companies continue to move to virtualized and cloud computing models.
- **Take a “user is the endpoint” orientation for managing data delivery.** In the past, IT would worry about managing a user’s PC or laptop—now IT must worry about every device an employee owns. The user is now the endpoint, not the device. Solutions need to map data delivery—not to a specific hardware asset—but first to the user and then to all of their assets. Rather than pick point solutions that focus on endpoint devices, look at comprehensive systems management and security solutions that look at the user along with all of their devices.

⁶ Gartner Report ID #G00201608: IT Market Clock for Enterprise Mobility, Pg. 13, 2010 by Monica Basso, 3 August 2010.

⁷ CIO. Com Seven Principles for Effectively Managing Mobile Devices, Mark Gentile, May 25, 2010 (http://advice.cio.com/mark_gentile/10480/seven_principles_for_effectively_managing_mobile_devices) accessed March 25, 2011.

⁸ Sybase Survey Finds Mobile Enterprise Apps Poised To Take Off In 2011,” Sybase.com, January 12, 2011, <http://www.sybase.com/detail?id=1091062> (accessed February 11, 2011).

⁹ Scott Martin, “More Companies Put iPads to Work,” USA Today, March 2, 2011, http://www.usatoday.com/tech/products/2011-02-28-ipad-enterprise_N.htm.

To the point of managing mobile devices, Gartner, Inc. explains the trend in mobile device management (MDM):

“Trend Analysis: As consumer smartphones become more popular in business contexts, and personal-liable devices and data contracts are increasingly adopted to meet users’ preferences and contain mobility costs, organizations have to deal with increasing challenges in mobile management and security. MDM products and capabilities are maturing too, so a growing number of organizations have decided to invest in this area... The adoption rate of MDM tools is still pretty adolescent, and MDM deployments are often an isolated tactical initiative, rather than a step in a wider strategy that also encompasses notebooks, media tablets and PCs. Mobility deployments continue to expand beyond e-mail to other corporate applications; organizations will require stronger MDM strategies, processes and tools to deal with growing complexity—and they will need to converge with more traditional PC management. Gartner expects to see a growing demand and adoption for MDM tools.”¹⁰

It appears that many organizations are taking a tactical approach because of the immediate pain these devices are causing IT. However, mobility is a trend that isn’t going away, so a better direction is to look across all the issues of mobility and take a more strategic approach.

How Do We Get There?

Where do you start? You will most likely need to set your sights a little higher as you approach this multi-faceted challenge. Look at solutions that give you broader reach across platforms with a broader vision of what’s in the environment, even when a user-owned device tries to access your data. Many organizations will also be motivated to look at how to manage information on user-owned devices and do it with tools that centralize the administration of those co-mingled devices.

Here is a checklist of some of what you need to look for in a comprehensive mobility solution:

- View, manage and secure across all users’ devices
- Manage at the platform level, across multiple platforms
- Manage and secure corporate data in a co-mingled environment with personal information
- Discover user-owned devices as they attach to corporate information
- Provide centralized management of all devices with tiered functionality and role-based administration
- Maintain a consistent and secure experience by automating such things as application and patch distribution
- Provide significant ROI through centralized administration and automation of IT tasks

We are at the doorstep of a profound change in the business of IT. Several interrelated tipping points are occurring due to a new digital native lifestyle, the consumerization of IT and focusing on the user as the endpoint for data.

Mobility, and all the change that comes with it, has the ability to change business models, processes, customer behaviors and market leaders. There will be pain at the beginning, but the long-term benefits will shape things in ways we’ve never imagined. Organizations that figure out how to incorporate strategic mobile solutions effectively into their current ecosystems will be the ones that come out ahead.

¹⁰ Gartner Report ID #G00201608: IT Market Clock for Enterprise Mobility, Pg. 23, 2010 by Monica Basso, 3 August 2010.