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White Paper

Best Practices for Building a Mobility Strategy

Introduction: A Mobile Workspace Strategy Is an Imperative

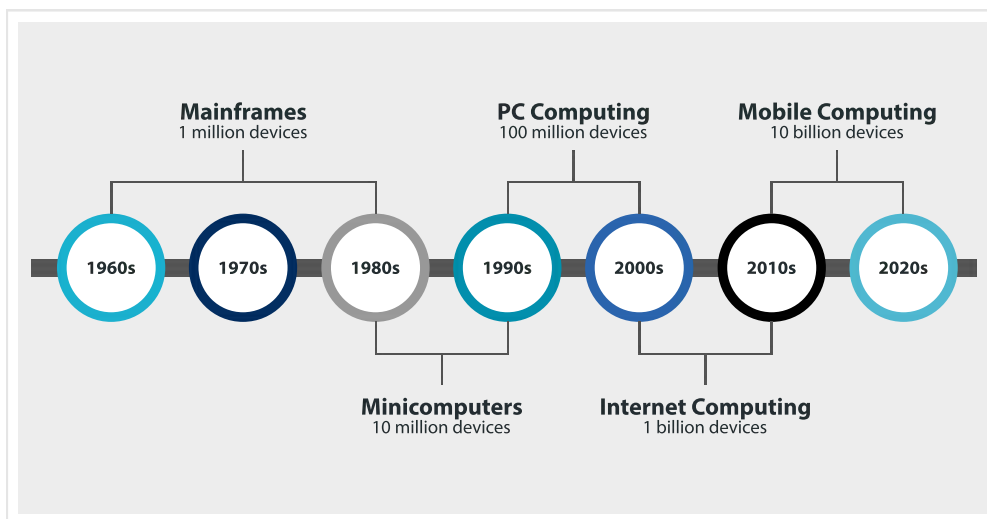
The technology that powers organizations has undergone several major transitions since the birth of computing. In the 1960s, the mainframe was the dominant compute model, and it gave way to minicomputing about a decade later. In the 1990s, businesses eventually shifted to PC-based computing in the client/server era. This model was eventually supplanted by Internet computing as the dominant compute model. Today, the technology industry finds itself in the midst of the most significant transition ever: the shift to mobile computing (Exhibit 1).

The shift to mobile computing will impact IT in a number of ways:

- As mobility continues to mature, computing will become location independent. Workers will look to perform any task or access any content from any location over any network.
- There will be an order of magnitude more devices for IT to manage—both corporate-owned and employee-owned devices, which will make things even more complex.
- Mobile computing will anchor the network and become a strategic asset that will be used as the basis of competitive differentiation.

However, the evolution from business connectivity to business mobility is unlike previous compute transitions because it redefines how people work. Historically, companies provided access to the necessary applications and data from corporate-issued devices such as laptops and desktops in controlled operating environments. This tightly integrated environment tethered workers to a specific device and operating system, and even sometimes to a location. Mobility breaks these shackles and enables workers to change the way they work.

Exhibit 1: Mobility Will Be the Most Significant IT Shift Ever



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As mobility becomes more deeply integrated into businesses, the following developments will occur:

- **The nature of work will change.** Mobility will make employees' work styles and lifestyles more fluid. Employees will increasingly view work not as something that's done in a specific physical location, but as a set of activities that can be effectively accomplished from anywhere. These activities will be facilitated by an increasingly wider array of mobile devices such as laptops, smart phones, tablets and new devices that are still on developers' drawing boards.
- **Addressing bring your own device (BYOD) will become an imperative for most organizations.** Many IT departments initially pushed back on BYOD strategies and the use of consumer devices for work activities primarily because of security concerns. However, supporting mobile devices—from just a few to a few thousand—has become integral to raise the level of employee productivity and attract the new generation of employees. This shift has prompted some companies to provide their workforce with smart phones and tablets. It doesn't really matter how consumer devices make their way into the workplace; what matters is that they do.
- **Applications will become device and context aware.** Legacy applications function the same for all users and devices across the business, and this was sufficient several years ago. But modern, mobile workers need access to applications, resources and services that are customized to their role, the device they are using, what they are trying to achieve, and even where they are physically located.
- **Customer engagement will be transformed by contextual applications.** In addition to improving worker productivity, context-based location-aware applications will change the way organizations interact with consumers of their services and products. Roaming employees such as campus workers, clinicians, insurance agents and retail representatives can access personalized information from tablets and respond immediately to customers. Additionally, organizations can build applications that interact with customers directly to provide personalized information that improves convenience, saves time, and promotes products and services.

By delivering a mobile workspace that combines applications, content and communications services optimized for any networked device, user and location, workers can be increasingly effective and agile from anywhere, at any time.

Mobility is evolving from just being about the device to being about delivering a powerful work environment that any device can access. By delivering a mobile workspace that combines applications, content and communications services optimized for any networked device, user and location, workers can be increasingly effective and agile from anywhere, at any time. This gives workers the freedom to select the best tool for the task at hand and not be concerned with interoperability issues, operating system compatibility challenges or application integration. To leapfrog the competition, businesses must act immediately to capitalize on mobility.

Section II: The Challenges Associated with Implementing a Mobile Workspace

The vision of building a broader mobile strategy makes sense today given the evolution of mobile devices combined with an increasingly capable workforce. However, implementing a mobile workspace involves a number of business and technical challenges that cross multiple stakeholder organizations including the following.

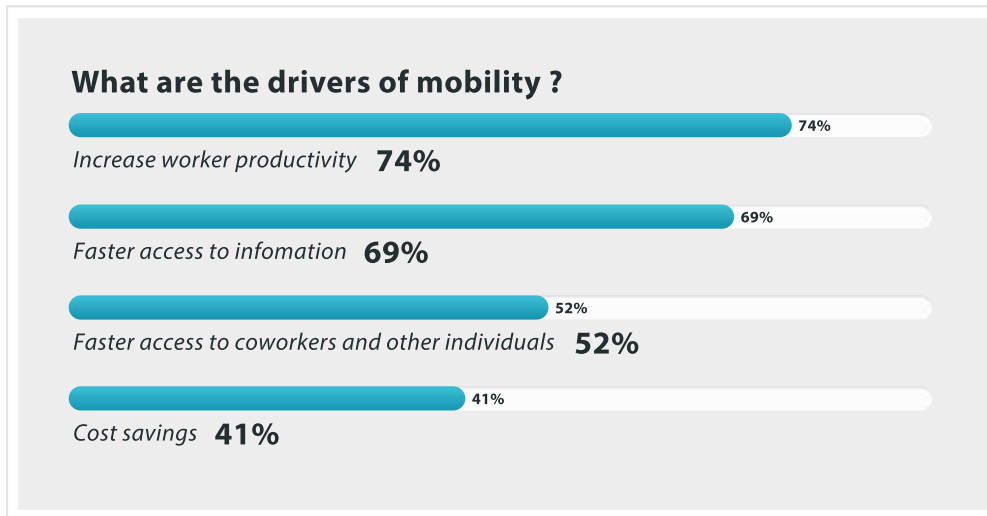
IT and Line-of-Business Executives

- **Creating the business case for employee mobility:** The business case for mobility can be challenging to create and must extend beyond just a traditional ROI calculation. The business case should be viewed through the lens of improving specific key performance indicators (KPIs) such as boosting productivity, saving time and enabling new mobile processes that deliver business benefits (for example, attracting and retaining more qualified employees, measuring the increased accuracy of patient care for clinicians, or increasing the number of loyal customers by providing a more personalized customer experience). These benefits need to be offset by several factors including the cost of additional infrastructure, applications and mobile services fees.
- **Prioritizing which business processes to mobilize:** Implementing a mobile workspace involves more than just adding mobile devices to the current worker toolkit. It's critical that line-of-business managers and IT leaders work together to understand how specific processes can be redesigned around mobility rather than just bolted on. Good places to start are time-sensitive processes that have high amounts of human latency due to the lengthy times spent communicating with others or accessing information.

Mobility Managers

- **Supporting more mobile users, devices and applications:** A 2016 iHealth's survey shows CIOs are now embracing mobility to increase worker productivity and speed up information delivery (Exhibit 2). This means mobility managers must find a way to support more mobile workers. However, legacy support models are based on the standardization of endpoints, operating systems and applications. Every worker toolkit was almost identical, allowing IT to build a scalable support model around a well-defined set of factors. A mobile workspace includes a wide variety of devices, mobile operating systems, work styles and applications, and it's impossible to support more mobile workers in this environment while using legacy support processes. To scale, the mobility manager must develop new smart, self-service and automated support models to ensure users have the assistance that they require.
- **Ensuring a consistent, quality user experience:** Users expect to have a high-quality mobile experience regardless of device, network or location. This has become particularly challenging with the rise of interactive HTML5, mobile video and other media-rich applications. To ensure a consistent user experience, mobility managers must consider devices, networks, application models and processes when building a mobile strategy. A disappointing user experience will result in a disappointing ROI.
- **Calculating mobile service provider charges:** Many factors must be included when calculating the cost of mobile service, such as whether to implement individual- or corporate-liable plans, roaming costs (particularly for international travelers) and data bundles. Additionally, mobility managers must understand which applications can leverage the WiFi network to offset cellular charges.

Exhibit 2: Mobility Improves Productivity



Source: 2016 iHealth's Consumerization Survey

Network and Security Managers

- **Providing optimal network performance from any location:** Implementing a mobile workspace can triple or even quadruple the number of devices on the network. This alone can wreak havoc with the network. But since most of these new devices have outstanding multimedia capabilities, the once orderly and manageable system can become chaotic. Furthermore, network and security managers must ensure that employee use of personal applications does not impact the performance of business-related applications. A mobile workspace strategy requires network professionals to rethink their management strategies, and move from a reactive model to a more proactive one.
- **Providing security for users, devices, applications and data:** Legacy networks with corporate-controlled devices were never easy to secure, but the methodology was straightforward. Securing the single ingress/egress point and monitoring each device provided adequate security. Mobility introduces many more entry points to the corporate network, and provides the ability to remove company data from a secure environment simply by downloading information to a device.

- **Managing and enforcing contextual access policy:** With legacy computing, granting access to a device was akin to granting access to a user because each user had only a single device. Today, users can enter the network using multiple devices from both secure and unsecure locations, and they are running unmonitored applications that carry a much greater risk of introducing malware. Network managers must develop access policies that can be managed and enforced consistently. They need to consider who a user is as well as what device he or she is using; whether the device is compliant and what it is accessing; whether or not the access is coming from a secure network; and whether granting access to the device breaches any compliance policies.

Application Managers

- **Building a flexible application strategy for mobility:** Many organizations are under pressure to deliver applications to a broader-than-ever set of devices and operating systems. The application development strategy must consider a number of factors such as the required user experience, the security risk, how quickly the application is needed, the size of the target user audience, and the back-end integration requirements. Based on these considerations and others, application managers can implement different application delivery models, such as native on device, browser-based HTML5, hybrid, SaaS and virtual apps. Application managers need the mobile infrastructure designed to secure, manage and optimize delivery of all these models so that they have the freedom to use the most appropriate model for each application.
- **Evaluating application performance across multiple delivery models and networks:** The performance of mobile applications can vary greatly depending on whether the user is utilizing a high-quality, business-class WiFi network; a branch office hotspot; or a saturated cellular network. Application managers need to consider all the various network environments in order to provide an optimal user experience whether users are working with a native, HTML5, virtual or real-time voice/video-delivered application.

Organizations looking to leverage a mobile workspace must broaden their vision. Instead of implementing a reactive approach to BYOD, they should develop a proactive, holistic mobile strategy that combines the requirements of all these mobility stakeholders. The next two sections will help identify best practices from a business and technology perspective, respectively.

Section III: Best Practices for Building a Mobility Strategy

Building a mobile workspace could be a daunting task given the number of challenges associated with the process. The following best practices can help businesses meet the challenges of mobility:

- **Organize your IT mobility team for success.** To ensure that your mobility initiative meets the priority needs of your organization, create a mobility team that represents the interests and requirements of both business and IT stakeholders.
- **Build the business case on business opportunity rather than purely ROI.** Use mobility to take advantage of emerging opportunities, such as improving the in-store experience or better equipping field service professionals. Building and prioritizing mobile processes will create new revenue streams and obviate the requirement for a detailed ROI.
- **Identify which partners best align with your mobility strategy.** Base your strategy on a small core set of strategic partners and technology vendors that have proven mobility execution capabilities and roadmaps that align with your own vision and strategy.
- **Support a broad set of work styles.** The mobile workspace must be flexible to support a broad set of work modes and use cases. Both horizontal use cases (such as sales, knowledge worker, teleworker and executive) and vertical use cases should be considered.
- **Implement an IT self-service model.** The self-service support model is common in the consumer world but has been slow to catch on in businesses. Self-service of mobile devices, applications and services can drastically reduce IT overhead and increase user satisfaction because most workers are quite comfortable with the self-service model.
- **Leverage both cloud-based and on-premises solutions.** When choosing between cloud- and premisesbased solutions, the decision is not easy. Both models have strengths and weaknesses. Businesses should combine cloud-based and on-premises solution components to provide maximum flexibility to align with technology and business priorities.

- **Define policy and trust models to protect your business and meet compliance requirements.** Create policies that protect the business without eliminating the benefits of mobility. Trust models will help identify the fine balance between business risk and benefit. For example, in a risk-averse organization, company data may not be allowed to reside on any employee-owned device. In a less security-sensitive organization, the policy might allow employee-owned devices to download company information as long as the data is encrypted.
- **Consider mobility to be a platform for innovation.** Deploy a mobile workspace solution that can address today's requirements and provide a platform for future innovative mobile experiences. Such innovations could include location- and proximity-based capabilities; Internet of Things; machine-to-machine support; selfconfiguring, ergonomic and flexible workplaces; and new mobile device formats.

Section IV: Best Practices for Building a Mobility Infrastructure Platform

The technology challenges related to mobility are no less daunting than the business challenges. IT leaders must consider how they support the business while addressing key technical requirements such as security, user experience, flexibility and IT simplification. The following best practices can help businesses meet these technology requirements:

- **Support a broad set of application delivery models.** The mobile workspace should support multiple delivery models including native, HTML5, hybrid, virtual, SaaS and real-time communications. Support requires security and user experience requirements to be addressed for each application model. This will ensure an agile application development approach with the broadest and fastest mobile capabilities.
- **Optimize user experience.** The mobile workspace platform needs the intelligence to optimize the performance of business applications regardless of the delivery model or location. The user experience for business apps must be consistent whether users are accessing applications from the campus, branch, home, hotspot or cellular network. This requires a combination of intelligent network infrastructure across the WiFi, LAN and WAN networks.
- **Enable centralized security policy and enforcement.** Secure the mobile environment across the stack (user, network, device, app, content) to support the full spectrum of trust models. You must be able to provide access to resources depending on such things as user role, device type, location, network connection and application model. The policy should be enforceable consistently, company-wide regardless of the access method.
- **Address the increasing threats posed by mobility.** Bringing unmanaged mobile devices into the corporate network increases the risk of introducing malware. It is critical to create a threat defense model that can quickly and effectively identify and eliminate malware risks as they appear on both mobile and fixed-location devices.
- **Implement the right enterprise mobility management (EMM) strategy.** Until recently, most IT organizations have focused their mobile management efforts on managing the devices in an effort to reduce risk. As organizations turn their focus to delivering applications, they need to securely manage and deliver applications. Emerging mobile application management (MAM) approaches offer ways to compartmentalize business apps on mobile devices.
- **Enable mobile collaboration.** A mobile workspace is incomplete without collaboration capabilities. Most of the new consumer devices have great multimedia capabilities and can be used for more than just checking emails and browsing the web. Secure and seamless mobile voice, video communications, and conferencing and collaboration tools should be part of every organization's mobile workspace strategy.
- **Deploy a robust, scalable WiFi network.** A robust WLAN infrastructure can handle the stresses of supporting the growing number of mobile devices that increase the density of endpoints, and the growing amount of bandwidth from increasingly media-rich applications. WiFi networks are on the same trajectory as wired networks that need to be periodically upgraded to handle increasing bandwidth requirements. The importance of implementing a WiFi and LAN architecture that can support these upgrades as they are required cannot be overstated.
- **Simplify the user experience and IT operations.** Simplifying the way workers order services, on-board new devices, install applications and receive support is key to the success of these projects. Implementing centralized service portals, enterprise application stores and community-led support facilitates these activities with much less IT intervention.

- **Reduce spikes in mobile carrier service costs.** Implement ways of automatically offloading voice, video and data traffic to the WLAN or hotspots to reduce carrier roaming charges. This can have a significant impact on costs for international travelers.
- **Take a modular approach to implementing a mobile workspace solution.** By developing a modular approach, the mobile workspace can be deployed incrementally to support additional use cases over time. Many IT organizations will implement mobility in phases. They might start by providing access for guests and BYOD for basic email and calendaring, and then add access to CRM and productivity apps anywhere, followed by collaboration apps and so on. A modular approach allows deployments at a rate that IT can support as well as the opportunity to use a mix of on-premises and cloud-delivered modules.

Section V: Conclusion

The era of mobility is here. Line-of-business managers and IT leaders must consider how to evolve the business to maximize the new opportunities created by mobility.

Mobile computing represents the most significant shift in IT since the birth of computing. Organizations that embrace this shift can gain a significant advantage over the competition. Meanwhile, in many industries, organizations that do not embrace mobility risk becoming irrelevant quickly.

To successfully implement your mobility strategy, begin with the most pressing use cases in the context of your longer term mobility plans.

Mobile computing is a network-centric compute model. Therefore, the network plays a critical role in the success or failure of mobile workspace deployment and should be considered a strategic asset.



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