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# CIO Corner

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# IT without Hardware

Tom Costello, *UpStreme*

**F**ive years from now, some mid-size businesses might be functioning without any company-owned IT hardware—no laptops, desktops, or servers. Although this might initially be true for only a small subset of industries and firms, others will find themselves somewhere on the continuum between “only company assets” and “no company assets,” with the trend heading toward fewer corporate devices.

As a CIO, what will be asked of you and your IT team, and what should you start doing now to prepare?

## Recognize the Trends

Much like the advent of the Internet, consumer use of end-user computing devices—such as iPhones, iPads, and Android phones—is driving a grass-roots influx of such devices into the corporate computing environment. Corporate IT teams are in reactive mode on all fronts. They’re grappling with the challenges of supporting new computing devices and struggling to balance security

concerns with user demands for access to corporate data and applications on personal devices. At the same time, separate initiatives are dealing with cloud, social, and context-aware computing—all of which companies are implementing at varying rates.

When all of these forces are considered together, it’s clear there’s no “one size fits all” outline to define or manage a convergence. But more importantly, the question or possibility arises that future IT shops might exist without corporate-owned hardware. So what must we consider when envisioning a hardware-less IT shop?

## Reconsider Your Hardware

First, how many of the current array of enterprise devices and hardware could be moved outside the corporate IT sphere of control? Next, realize that the new consumer devices available or entering the market—and about to enter the workplace—are only the first wave. More tablet-oriented devices are on the horizon, and the Android operating system is

sure to be available on a broader array of devices in the near future.

## Integrate New Devices

As employees become familiar with new devices in their personal lives, and as those devices become more ubiquitous in our culture, employees will want to incorporate them into corporate computing. Traditionally, CIOs have resisted integrating new devices, but in the past year, more enterprises have started accommodating Apple and Android hardware, often adding them to their hardware portfolios. IT teams are allowing a limited number of users to connect these new devices (personally owned or company-purchased) to the corporate backbone. As this trend is sure to expand, these devices will become part of the corporate formulary.

The primary question is whether IT will choose to acquire all of these devices or have users purchase them on their own. At some point, it might be more practical to create a policy that reimburses users (in part or in full) and reduces

the IT cost of acquiring end-user hardware.

### **Continue Moving to the Cloud**

Nearly every organization is attempting to leverage software as a service (SaaS) for corporate applications remotely hosted on cloud servers. These applications range from specialized departmental applications to core enterprise applications such as enterprise resource planning and customer relationship management. Likewise, most IT shops have focused all application development and acquisitions on browser-oriented architectures.

The nuances of connecting to internal data sources tend to complicate any move to external hosting of all applications. The portfolio of applications in most shops includes legacy systems and platforms that are in various stages of conversion or upgrade. These factors are not road-blocks to a server-free environment, but they're certainly hurdles that would dramatically affect a timeline for pushing all applications to a cloud environment. If these challenges are addressed over time, the concept of a hardware-free environment suddenly isn't too far fetched.

### **Explore New Applications**

Although hosted SaaS and some home-grown enterprise applications have been constructed to be browser accessible, users of these new devices are often better served when the application in question is context and device aware and leverages the specific hardware capabilities. Corporate users will ultimately expect this.

In some cases, enterprises are coding or acquiring small utilities to run on corporate-approved devices (such as iPhones), typically

for connecting to existing corporate applications or data. If an organization allows for a wide array of new smart devices, implementing utilities built specifically for existing vendor packages will be much easier than trying to implement home-grown applications or packaged applications built by small vendors. Licensing for access to existing vendor applications could become an issue as each vendor considers modifying its pricing model.

### **Focus on Value**

Selecting consulting firms to help IT departments create device-aware applications (or add this capability to existing applications) will be challenging, as the techniques and devices are rapidly

purchasing such applications for end-user devices and on controls for prohibiting the rapid spread of "unauthorized" applications. Organizations should instead create a mechanism to encourage this testing, harvest the results, and disseminate useful applications across IT and to all end users.

### **Identify the Challenges**

There are certainly risks and uncertainty attached to the concept of a hardware-free IT shop. Although the following isn't an exhaustive list, these key considerations must be addressed along the way.

### **IT Support**

Companies will find it challenging to support hardware that their IT departments don't own. While

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evolving. It would be easy to fall into a trap of being active without being productive—that is, building tons of new applications without adding any value. IT shops must continue to focus more on value to the business and less on the squeakiest wheel or cool factors when deciding which applications to enable or build as device aware.

### **Encourage Experimentation**

In addition to existing or necessary applications, users will invariably add applications to their devices, especially if the organization doesn't provide the devices. While most will be for the end-users' personal needs or entertainment, some could be testbeds for department use or for use by the enterprise at large.

The first reaction of most CIOs is to focus on the cost of

SaaS contracts can address hardware upgrades, patches, maintenance, expansion, or contraction, there will be far less control over end-user devices.

Policies that include acquisition, use, and upgrades will also have to clearly outline the "who" and "how" of device issues, including the obvious device resets and rebuilds and the less-than-obvious service level agreements (SLAs) outlining how quickly an employee must replace or upgrade a device to meet corporate standards. The interesting question will be whether an employee's SLA can or will be more aggressive than the IT department's existing performance.

### **Security**

Securing these devices and the information stored on them and

*(continued on p. 63)*

(continued from inside back cover)

controlling access to corporate applications and data involve a virtual cornucopia of risks. Special care and consideration must be applied as devices and context-aware applications are brought online.

The greatest risks to an enterprise will vary depending on the IT team's ability to cleanse devices and close access to applications and data if a device is lost or stolen or if the employee leaves the company. This will be a special challenge in a hardware-free environment where the employee acquires the devices.

### Costs and Cultural Expectations

Any organization that attempts to expand the use of—and portability of access to—corporate applications and data for employees working anywhere in the world will ultimately have to examine costs and cultural expectations. Although bandwidth in the US is relatively inexpensive, this isn't the case in other parts of the world, so costs must be considered. A larger issue will be whether a corporate policy allowing or mandating employees to acquire their own devices will be embraced or even legal in other countries where the enterprise operates.

### Find the Right Pace

Are IT shops and enterprises at large ready for a hardware-free environment? Not today. But as the aging workforce continues to retire and the employee mix shifts to a larger ratio of device-savvy users who expect the capabilities described, CIOs will have to start considering (and implementing) this hardware-free model (or some version of it).


Like all things in IT, every company will move at the pace that's best for its culture. Some will move very fast, while others will

try to maintain the status quo and resist changes. Some industries and organization sizes will be better suited to experiment and move to this model, while others might be impeded by regulatory barriers, costs, or corporate culture. It would be easy to see government agencies enabling services for their constituents, as well as consumer-oriented organizations that provide deeper services simultaneously to their customers and

discussing which portions of the model might work for your organization. Although a purist might argue that the CIO should define the desired end state and begin working in this direction, these devices might be too early in their maturity life cycle for a CIO to select a dependable target. CIOs should define a zone that seems practical rather than a specific spot on the continuum and should align activities related to

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staff. Similarly, small organizations or startups might find such a model an appealing starting point.

hardware, cloud computing, security, and support to ensure business productivity and value. 

**R**ather than presuming that the only successful end state is a completely hardware-free environment, use this article as a framework for

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