

TREND BRIEF

# VIRTUALIZATION AND THE DIGITAL WORKSPACE

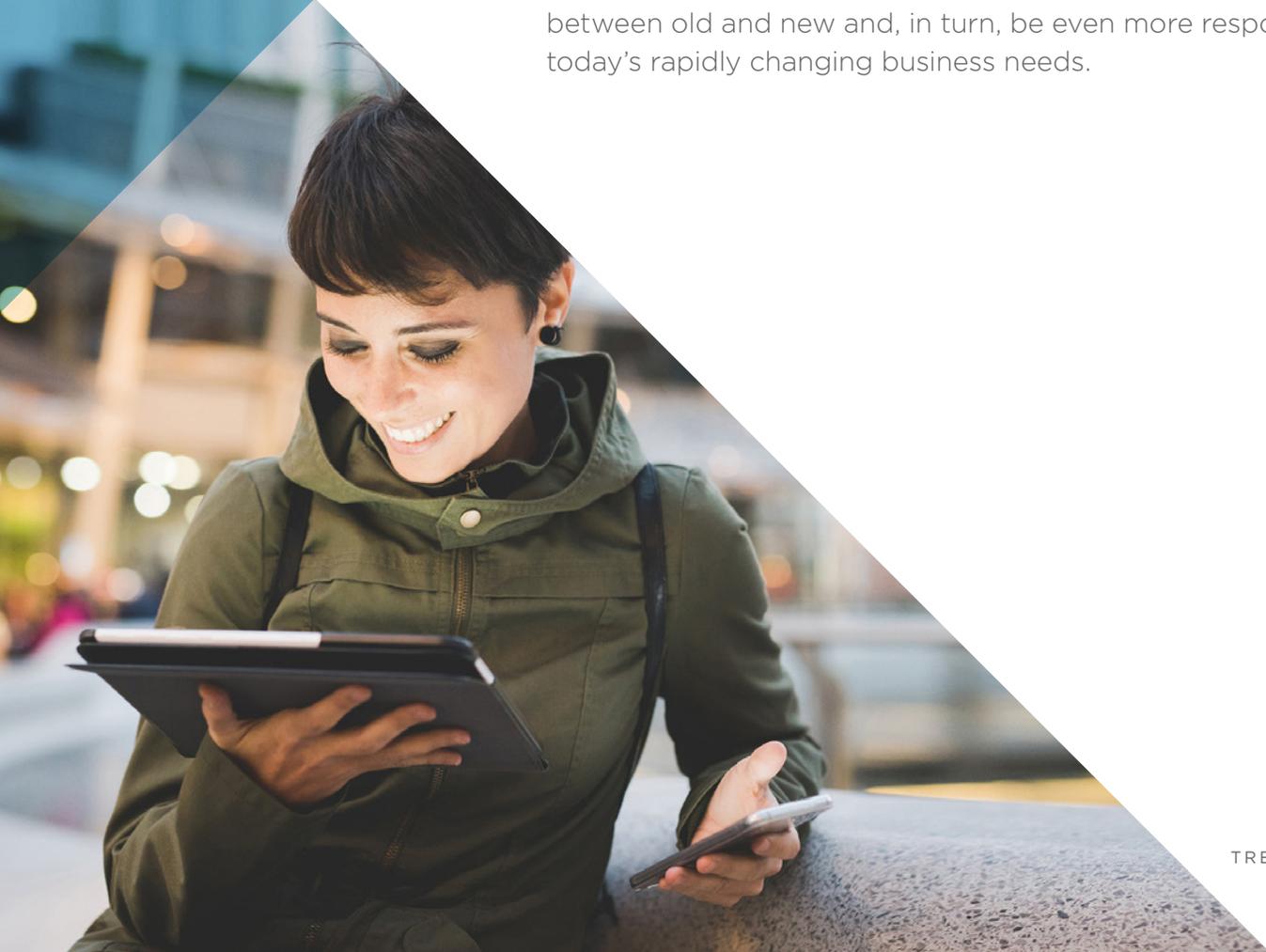


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## Introduction

As new technologies such as cloud, SaaS, and mobility change the way people work, the impact on business strategy has been profound. IT organizations face increased demands to meet the needs of users and line-of-business leaders that are routinely exposed to consumerized applications and services in their day-to-day lives. To deliver the flexibility, simplicity, and agility these users demand, end-user computing is moving beyond traditional device-based asset management models, and moving toward the digital workspace.

As organizations evolve toward a digital workspace strategy that focuses on enabling users across any device type and ownership model, an integrated approach to app and desktop virtualization is increasingly important. While this shift won't impact every user, app and desktop virtualization enables IT organizations to focus on users and use cases, bridging the gap between old and new and, in turn, be even more responsive to today's rapidly changing business needs.



Here are five considerations best-in-class organizations take into account to integrate virtualization into their digital workspace strategy and tackle the challenge of today's mobile, dynamic workforce:

### 1. User-focused design

While typical desktop asset management revolves around devices, savvy organizations begin their digital workspace projects by considering their users. They begin with a single group, considering how they work, what applications they require, and the variety of devices they need to do their job throughout the workday.

Unlike the asset-centric approach of traditional PC and mobile computing, today's leading IT organizations are user-centric. Some users might require a corporate-managed laptop or desktop, and others might prefer to leverage a personally owned or maintained device (BYO). Virtual desktop infrastructure (VDI), RDSH (app virtualization), and Desktop-as-a-Service (DaaS) allow organizations to offer their users flexibility in device choices. Repurposed PCs, thin clients, Google Chromebooks, Macs, tablets, and even smartphones are all viable alternative devices that can be used. Many of these are low- or no-cost options that will save organizations significant capital expenditure compared with traditional PCs—but of course the real cost savings come from simplifying operations as applications are abstracted from end-user hardware.

This user-centric approach empowers users to choose the ways in which they believe they work best, and facilitates delivery of a highly specific set of end-user services. User outcomes—measured by the value for the employee and the enterprise—are at the center of these choices.

“Providing a delivery solution for legacy applications is essential for migrating to a digital workspace.”

GARTNER, “DESKTOP VIRTUALIZATION IS FOUNDATIONAL TO BUILDING A DIGITAL WORKSPACE,” MAY 2017

### 2. True application portability

It's all too common for organizations to have Windows and browser-specific legacy applications built into their workflow, with their employees' job functions dependent on these apps. Many of these organizations build and maintain applications for specific builds of Windows only.

Today's users expect to access Windows applications alongside non-Windows-based applications, and demand the freedom to work anywhere, on the devices and apps they choose. Recognizing this trend, Gartner recommends that, “I&O leaders focused on mobile and endpoint strategies... support flexible, endpoint-neutral and highly available business user services by complementing on-premises desktop virtualization with new sourcing strategies and architectures.”<sup>1</sup>

Forward-thinking organizations know that to get the maximum benefit of a digital workspace for most use cases, applications should be abstracted from the endpoint to make them truly portable. They equip end users with quick and easy access to business-critical published apps, SaaS apps, and mobile apps, and create a flexible and efficient workflow by allowing authentication from any device or operating system with simple single sign-on. The result? A flexible and agile user experience that enhances employee freedom and productivity.

### 3. Use cases to guide the virtualization plan

Building applications independent from devices creates a true digital workspace in which apps can be leveraged anywhere. Most enterprises will recognize that it's difficult, or even impossible, to abstract all their applications at once. To address this challenge, best-in-class IT organizations begin by considering their users and use cases, selecting specific groups to target, and looking to use cases to guide how they prioritize applications to abstract.

There are two primary methods for abstracting apps from their endpoints: virtualizing the app itself with RDSH, or virtualizing an entire desktop environment with VDI. While it's tempting to make this decision based purely on OpEx, smart IT groups know the best way to decide whether to virtualize the app or virtualize the entire desktop is to put themselves in the shoes of a group of users, and let their requirements guide the outcome. Will users need full access to a desktop where applications are isolated vs. shared? Will employees and contractors need access to a limited number of applications, such as SAP, EPIC, and Adobe? Do they work on BYO devices, or from corporate devices?

Perhaps your users will work primarily from productivity apps with only occasional access to Windows system-of-record applications. These users will benefit from virtualized applications delivered to their existing desktop environment. Some users might need to be separated from other workers' sessions. And you might have some users with a diverse workflow, requiring an operating system from which they can access local, virtual, streamed, and web-based applications.

### 4. Seizing the opportunity to reimagine processes for end-user computing

Migrating from device-based asset management to the digital workspace presents the perfect opportunity to rethink end-user-computing processes. In the old-school, device-based onboarding model, IT would provision a laptop from a master image, and physically deliver that laptop to the new employee. Those manual processes can be transferred and automated with a mix of unified endpoint management and virtualized desktops and apps, yielding tremendous improvements in efficiency and compliance. IT organizations can deploy and manage desktops, laptops, and devices—including OS deployment, configuration, user persona, and software—from a central location. For example, enterprises that publish apps on servers in data centers can enable a new employee to pick up the device of their choosing, self-serve their apps, and start working.

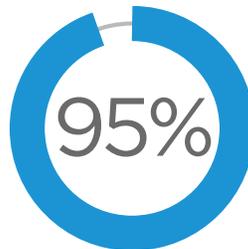
Best-of-breed IT teams are leveraging advanced management tools to take advantage of the as-a-Service model for the distribution of OS updates, service packs and patches, automating repeatable processes not just for onboarding, but for the entire employee life cycle. Apps can be kept up to date in the data center, with updates made centrally with 100 percent assurance. While supporting a mix of heterogeneous operating systems (for example, Windows, Mac, and Linux) and device types (like laptops, thin clients, and mobile devices), top-tier IT organizations are using profile management and tracking tools to have greater visibility into their environment, ensure compliance, prepare for audits, and plan for disaster recovery.

At the end of the employee life cycle, access to corporate apps can be terminated simply and easily, with no fear of sensitive data remaining in the hands of the ex-employee. This is especially useful for enterprises with seasonal bursts of temporary employees. Multiple short-term contractors can be onboarded efficiently and, when their contracts are completed, their access to apps expires with data never having resided on the endpoint.

### 5. Virtualization as a key tool in an integrated security approach

The digital workspace represents a holistic change in the way end-user services are delivered by IT. Leading IT organizations look to provide a fast, flexible, user-friendly digital workspace environment while managing risk with a robust, integrated approach to security. Central to that approach are various types of virtualization.

When desktops or applications are virtualized, they run in secure data centers on premises, or in the cloud; only the user interface is transmitted beyond the firewall. All applications and data remain secure in the data center, completely separate from the devices that access them—whether corporate- or user-owned. Enterprise IT groups gain freedom, compatibility, and cost efficiencies because any device can access a virtual application or desktop, regardless of OS.



of enterprises believe that network services will be virtualized



are already using virtualized network solutions

ACCENTURE ENTERPRISE SURVEY, 2016

While the ability to rapidly deploy new applications is a boon for end users, enterprises run the risk of application workloads overmatching the capability of traditional storage, networking, and security controls. To maintain a robust and agile security posture, forward-thinking IT organizations include micro-segmentation in their security arsenal. Virtualizing network functions—such as switching, routing, firewalling, load balancing, and VPN—enables IT to provide security for east-west traffic inside the data center, minimizing the risk and impact of data breaches.

## Conclusion

Today's workers are increasingly mobile and tech savvy, and IT organizations are under tremendous pressure to meet the needs of these new users. Employees demand the flexibility, simplicity, and agility to work anywhere, in whatever way they have determined makes them most productive. To rise to the challenge of today's sophisticated workforce, the digital workspace is replacing traditional asset-based management paradigms as organizations rethink how apps and data are delivered and managed.

As part of a digital workspace strategy, best-in-class enterprises are integrating app and desktop virtualization, reimagining their processes, and relying on their users and use cases to guide the delivery of truly portable applications. They're looking at virtualization—desktop, application, and network—as part of an integrated security approach. As the digital workspace evolves in response to rapidly changing business needs, desktop and application virtualization will play a key role in reimagining how we work—bringing with it simplified management, reduced costs, and increased end-user freedom and productivity.

Take the Next Step Toward  
Evolving the Digital Workspace

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1. Nathan Hill, Michael A. Silver, Federica Trout. Gartner Report: Desktop Virtualization Is Foundational to Building a Digital Workspace, May 5, 2017.

