Leveraging the Power of a Unified Workspace to Manage Mobile Environments in Federal Government

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The proliferation and virtualization of mobile computing environments—which is inextricably linked to the massive adoption of mobility—has reshaped the federal government IT landscape. Agency employees travel more than ever for official business, are on battlefields or work from home, and the federal telework initiative exemplifies this shift. As a result of their mobility, and the resulting need to manage these department-issued or BYOD mobile devices, there is a strong push to centrally manage virtual, physical and cloud-hosted desktops, devices, applications and online services. This movement has the potential to transform federal government, not only giving employees a more flexible, efficient and cost-effective way to work, but enabling IT to become a driver of productivity and a contributor at a strategic level. The key is to be able to leverage the profound productivity impact of mobility while ensuring security.

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VMware Horizon 6, with its rich, new features and Fed-ready focus, comes with many benefits for federal agencies, and helps them comply with the Executive Office's government-wide Digital Government Strategy[1] that puts a premium on mobile computing. However, as with anything new, the federal agencies must adapt to these mobility changes. As a known and trusted partner in the federal arena, VMware can help government organizations seamlessly extend their investments in mobility infrastructure.

Market Trends and Challenges

The migration to mobile computing and BYOD is continually growing at federal agencies, spurred on by both the blurring boundaries between work and personal use of endpoint devices, and federal government mandates to accelerate the adoption of mobile workforce solutions. As a result, many federal government agencies are striving to modernize how they manage mobile devices, including automating and centralizing their provisioning processes. But among the primary federal government goals is not only simplifying mobile device management, but leveraging that by providing employees with anytime, anywhere accessibility to always-on IT applications and resources—including sensitive government data—through a secure, unified workspace. At a time when agency budgets are slim and IT is expected to do more with less, it's easy to see why these mobility objectives are so alluring.

The migration to mobile computing and BYOD is continually growing at federal agencies, spurred on by both the blurring boundaries between work and personal use of endpoint devices, and federal government mandates to accelerate the adoption of mobile workforce solutions.

However, there are significant challenges to overcome:

- The majority of federal virtual desktop infrastructure (VDI) projects are currently built, managed and upgraded internally.
- Unlike many private sector companies, federal government requirements, applications and operating systems are very complex.
- Government networks suffer from excessive latency and insufficient performance.

This backdrop of increased federal government IT complexity forces federal agencies to deal with costly maintenance, support and upgrades. Furthermore, it points to the need for close scrutiny of the even broader challenges brought on by federal mobile computing. These include security, automated policies, BYOD device management, and centralized control over the delivery of content—data, apps and online services—across devices. If these are properly addressed, agencies can reduce costs, simplify operations and maintain compliance.

Introduction to VMware Horizon 6

At a time when many federal agencies are making sweeping mobility infrastructure changes, VMware offers Horizon 6 as an attractive solution. It includes a single, unified workspace where users can securely access a wide range of applications and web-based services for use across physical, virtual and cloud-hosted environments from any device, at any location, anytime.

Unlimited access to a variety of apps helps federal telework employees: The unified workspace offers unlimited access to a variety of applications, including legacy apps, and

[1] Source: Office of the Federal Chief Information Officer, Digital Government: Building a 21st Century Platform to Better Serve the American People, May 23, 2012

other services. For example, agencies are able to access SaaS, Web, Remote Desktop Services (RDS)-hosted apps and Citrix XenApp applications—from one, unified workspace. This ability is particularly useful for telework employees and the field workforce from federal agencies such as the U.S. Department of Agriculture (USDA), as well as the General Services Administration (GSA), which is implementing hoteling, a concept in which employees work out of whatever space is available. In each case, there are distinct productivity advantages for these users who can take any device from the field, home or a "hotel" office and quickly access any application or other content securely.

The unified workspace is compatible with the central management and automated delivery of virtual, physical and BYO images, as well as desktops and applications. In addition, the unified workspace provides IT with a central point of control on the back end to manage policy access, reporting and delivery. Users can log on from their devices anywhere, and be presented with all the apps and service levels defined by policies specifically set for them and their devices.

Rich 3D graphics benefit defense, intelligence and healthcare agencies: VMware has partnered with NVIDIA to deliver a superior, scalable, end-user experience offering rich, 3D graphics on high performance desktops for the most demanding end users. The bottom line here is IT teams can now offer military commanders, federal agents, federal healthcare workers and other professionals who require workstation-class graphics the agility of a virtual desktop so they can work from any location using any device. This rich 3D graphics package is especially useful for such things as the Department of Defense (DoD) views of battlefields, Intelligence Communities' exploration of target environments, and federal healthcare providers' 3D assessment of patients.

Simplified and optimized storage designed for large organizations like the federal government: By leveraging VMware Virtual SAN 6.0, VMware Horizon 6 users can easily scale out and support up to 4,000 desktops per cluster, which is important for large federal agencies. VMware Horizon 6 supports other third-party NAS and SAN arrays through VMware Virtual Volumes (VVol), which virtualizes SAN and NAS storage systems into logical pools of capacity, making it possible to manage storage operations with virtual machine flexibility. Support for all-flash VMware Virtual SAN further ensures that end users can enjoy fast performance with the optimum TCO.

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Fast, easy and extensible virtual networking enhances security for federal agencies: Federal agency employees who have been frustrated by under-performing VDI networks can now avail themselves of VMware NSX with VMware Horizon 6. Within seconds IT admins can create and change policies that dynamically follow employees across devices and locations—with no need for time-consuming network provisioning or security rules. This enables organizations to quickly scale up or down with the confidence that all end-user network security policies—and user-specific service levels and policies—will remain intact. By extending security policies from the data center to the device, this solution also provides a highly extensible platform that can be integrated with leading vendors of antivirus, malware, intrusion prevention services and next-generation security products. With its new features for graphics, storage and networking, VMware Horizon 6 is optimized for the software-defined data center.

Availability and scalability provides cost effectiveness and extensibility for the federal government: VMware Horizon 6 enables federal agencies to design virtual desktops around a wide range of validated VMware technology partners, or leverage hyper-converged infrastructures with VMware EVO:RAIL to scale out desktops and apps on demand. This is very efficient and cost-effective for large, dynamic federal agencies. Additionally, agency applications and services run with high availability across multi-data centers—still using a single management interface—by leveraging the VMware Cloud Pod architecture.

Fed-ready features enhance compliance and security: VMware Horizon 6 is designed to comply with the demanding compliance regulations of the federal government. With end-to-end support for IPv6 networks—the federally-mandated Internet protocol—VMware Horizon 6 enables users to work at the speed of government, eliminating the bottlenecks and latencies associated with legacy systems. On another topic, Common Access Card support offers DoD personnel simple, secure access to DoD virtual desktops, applications and networks. Lastly, efforts are underway to achieve Common Criteria and FIPS compliance for Horizon 6 desktops and hosted applications. These are two important government-driven standards for computer security.

Changes imposed by the mobility era are significant, and even more so for a large-scale, complex organization such as the federal government.

People and Process Implications of Implementing Mobility

Changes imposed by the mobility era are significant, and even more so for a large-scale, complex organization such as the federal government. Major obstacles to overcome include issues related to culture, security, funding and procurement. Culture, leadership commitment and communication are key to employee buy-in, because organizations only have one shot at inculcating the kind of sweeping change associated with mobility and BYOD.

As is always the case with organizational change, the way people and processes are managed is instrumental to success. Employee buy-in at all levels is essential, and that stems from proper training and involvement with the system from acquisition through implementation. The adoption of a core infrastructure for mobility is advised with security features and a government-sanctioned app store.

Better Federal Government Outcomes with VMware Horizon 6

VMware Horizon 6 brings many benefits to federal agencies. Key among them are:

Employee productivity: Enhanced user productivity and satisfaction are at the core of successful federal mobility rollouts. Users work more productively and efficiently when they specify their own devices, and content can be provided on demand across locations, media and connections. For example, the Congressional Budget Office estimates that the entire five-year cost of implementing telework initiatives throughout the government—approximately $30 million—amounts to anywhere from one-third to half the cost of lost productivity caused by a single snow day shutdown of Washington, D.C. federal offices .2

Streamlined management: VMware Horizon 6 simplifies federal IT management because the VMware approach to mobility links applications and desktops to user identities—not devices. IT, therefore, can focus more on application and activity management and less on hardware provisioning and maintenance, enabling it to be more responsive, and operate more cost effectively. Other management benefits of VMware Horizon 6 implementations include:

- Centralized control of content delivery
- Automated policy deployment and enforcement across devices and locations
- Centrally-controlled support for such things as patch processes
- Significant reduction of technology obsolescence due to centralized server refreshes

Security and business continuity: The federally-mandated continuity of operations (COOP) initiative ensures that agencies are able to continue performance of essential functions under a broad range of circumstances, including natural disasters and warfare. If military combatants, who rely on constant access to critical applications and information, should lose that access, the success of their missions could be jeopardized, and lives could hang in the balance.

By adding compute and network redundancy in data centers, federal IT can ensure that field teams have a single window of access to multiple redundant environments. This provides them with always-on access to applications and information, regardless of infrastructure outage issues—a focal point for mobility migrations. Additionally, the networking features of NSX remove many security barriers, as does compliance with government-designed FIPS security standards.

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Cost reduction: Reduced costs are attributable to no upfront capital expenditures and significant savings on hardware and support in BYOD environments. Decreased operating expenses are directly associated with centralized management, while telework initiatives reduce real estate, power and cooling expenses.

Conclusion

Successfully navigating the perilous waters of change in this disruptive time of mobile computing requires quick decisions and reactions. With tight federal agency budgets and IT manpower resources that are stretched to the breaking point, the federal government is feeling a sense of urgency across the spectrum of its agencies as it makes all-important choices about how to purchase and deploy mobile technologies.

VMware appreciates the implications of that urgency, and it has introduced VMware Horizon 6 to ameliorate the challenges faced by federal agencies. This VMware solution is transforming federal government IT departments into efficient, flexible enterprises that can respond with excellent performance and scale to mission-critical requirements through a unified workspace where all employee data and applications can be accessed on demand with the device of their choosing. And this can be done while maintaining compliance, improving security and reducing IT infrastructure and operating expenditures.

By choosing VMware's mobility, virtualization or cloud solutions, federal government agencies are able to drive higher performance and service levels through automation while improving application availability both in the cloud and on-premises. With VMware Horizon 6, the federal government will not only enjoy many benefits, but will also be well on its way to preparing for a better way to deliver services and connect with the American people. ■

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