

White Paper

The VMware Mobile Secure Workplace

Untether the User and Maximize Productivity While
Delivering Economic Benefits to the Business

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Introduction

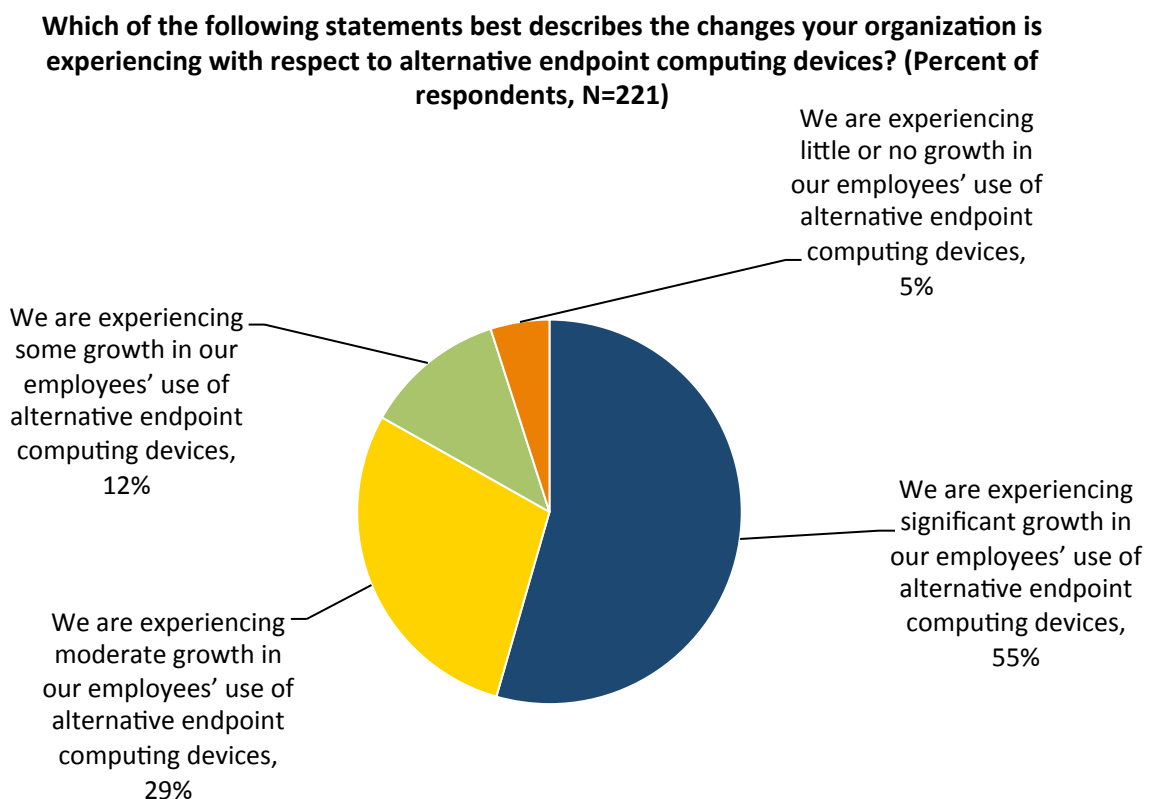
Driven by both end-user desire and business value, IT organizations must increasingly be able to support multiple endpoint devices across their environments. From doctors to salespeople to service techs, many knowledge workers move from place to place to do their jobs, and they are more productive if they can take their workspaces with them. VMware Horizon View desktop virtualization can enable a stateless workspace that delivers the same look and feel for these workers across various devices and locations. The workspace becomes user-centric instead of device-centric, and it can be configured according to a worker’s persona.

VMware offers a solution called Mobile Secure Workplace that moves desktops and applications into the data center and delivers them as a service that IT can manage efficiently and securely. ESG spoke with several customers about their implementations.

Background

Workforce mobilization, end-user demand, shifting application delivery strategies, and cost-reduction initiatives are driving organizations to find ways to manage alternative endpoint devices effectively while keeping data secure. More and more, employees want to be able to access their work environment on a smartphone, tablet, or thin client. In recent ESG research,¹ 95% of organizations reported growth in employee alternative endpoint use, with the majority (55%) reporting “significant” growth (see Figure 1).

Figure 1. Shift in the Corporate Endpoint Computing Device Landscape



Source: Enterprise Strategy Group, 2012.

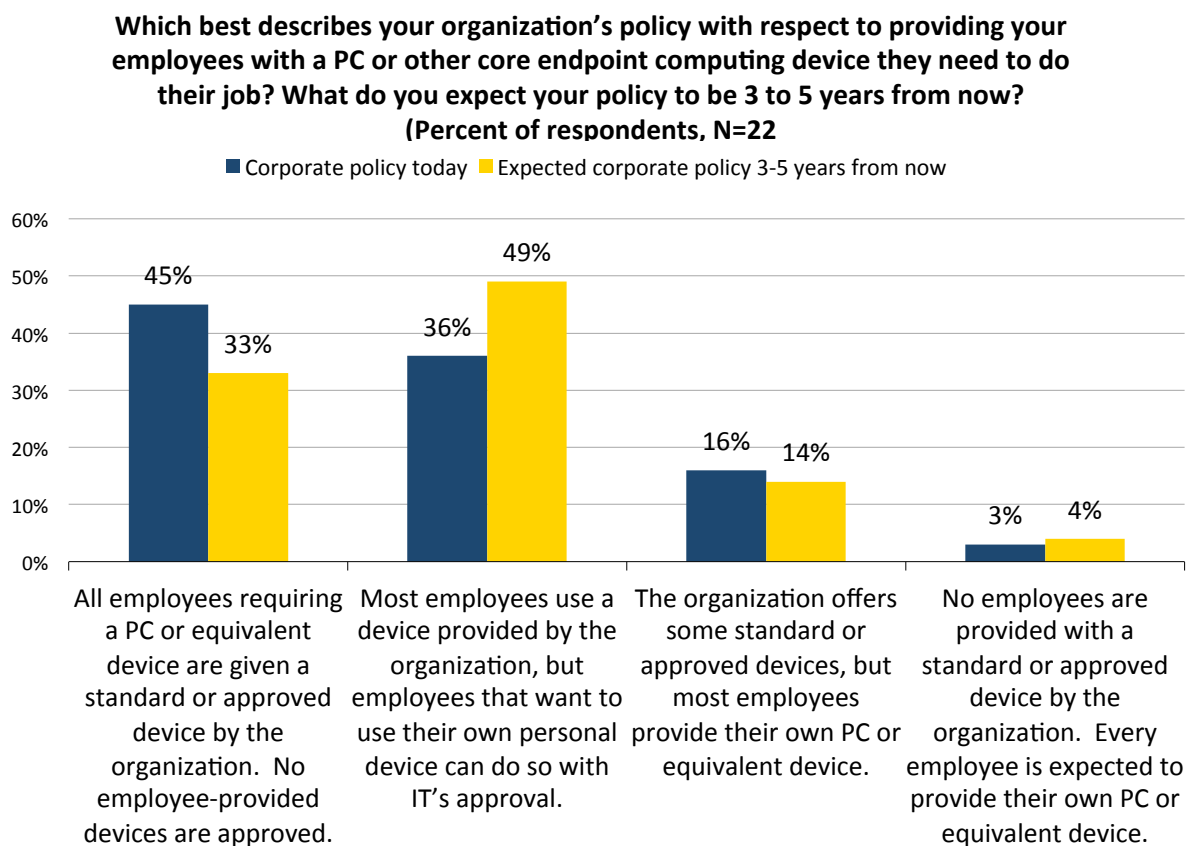
Bring-your-own-device (BYOD) programs exemplify how this “consumerization” of IT is placing additional demands on IT organizations. IT must find a way to keep data secure and protected across multiple endpoints, implement methods to control access, and maintain (or even improve) productivity and the end-user experience.

¹ Source: ESG Research Brief, [Corporate Endpoint Device Type Trends](#), May 2011.

That requires finding ways to ensure that application and data services are ubiquitous regardless of the device used, for example, desktop virtualization, in which desktops reside in the data center (with IT managing them) and are delivered to end-users over a network. Desktop virtualization enables IT to centrally manage, maintain, and protect applications and data, including partitioning devices that are used for both personal and business purposes.

While nearly half (45%) of organizations currently have strict policies in which no personal devices are permitted, 52% of organizations surveyed already employ a hybrid model in which IT provides endpoint devices to employees who want them and supports outside devices for workers who prefer to use a device of their choosing (see Figure 2). Fast forward a few years, and the number of organizations taking this dual-pronged approach is expected to jump to 63%. Conversely, only one-third will maintain their ban on all non-IT-approved devices. It is worth noting that very few IT organizations *require* workers to provide their own PC or equivalent device today, a trend which will not change soon (3% now vs. 4% in the future).

Figure 2. Corporate Endpoint Device Policies—Now vs. Three to Five Years from Now



Source: Enterprise Strategy Group, 2011.

VMware Mobile Secure Workplace

The VMware Mobile Secure Workplace solution enables service-based desktops with efficient and automated management and data security that can reduce TCO compared with conventional desktops. This solution includes modules for desktop delivery and management, authentication and customization, monitoring and troubleshooting, and security. Virtual desktop sessions follow end-users across devices and locations while IT maintains authentication control, ensures data security, and applies policies across groups of users. Desktop management—such as implementing patches and updates—is dramatically simplified by moving the process into the data center and away from each individual machine. End-users enjoy a high-fidelity experience, including workspaces complete with printing, unified communications, and 3D graphics.

Customer Successes with VMware Horizon View

School District of Somerset Virtualizes Desktops for Students and Staff

ESG spoke with Ryan Sicard, IT Director for the School District of Somerset, Wisconsin, located near St. Paul, Minnesota. The school system has 1,625 students in grades K through 12 in four school buildings located on a 180-acre campus. The staff of 225 includes roughly 150 full-time instructors. IT operations are located in a central data center.

After several years of using VMware for server virtualization, the district felt very comfortable with VMware. During the desktop refresh cycle, Sicard and his team realized that a VMware Horizon View solution could offer administrative improvements and additional capabilities while enabling high availability and disaster recovery that would be beyond their budget otherwise. Instead of spending that budget on 900 new machines, Sicard could invest in the server, licensing, and SAN infrastructure to deploy Horizon View—and still spend less. Horizon View would also let the district offer a BYOD program for students instead of requiring a standardized Windows environment on district-provided equipment.

The VMware View Mobile Secure Workplace solution has been rolled out after a successful pilot. Horizon View desktops were first made available to administrative staff, then to teachers and students. Each classroom now includes at least one desktop connected to an interactive Smart Board, and all teachers and staff access their desktops on a Windows laptop as well. Applications are either web-based or are included in the desktop image. Sicard supports whatever method makes the end-user more productive, as long as IT retains control of the environment for management and security. Staff are encouraged to use district devices for regulatory compliance, although they may also access desktops from tablets and smartphones.

“Given the success we had had with VMware server virtualization, it just didn’t make sense to me to keep buying PCs, imaging them, and managing all those operating systems.”

—Ryan Sicard

The BYOD program is focused on students. Sicard said, “How do we provide a strategy that we can control, manage, and oversee, but not own and manage the device? The Horizon View infrastructure makes that comfortable for us, and we hope to take advantage of VMware Horizon also.” He feels comfortable supporting Macs now, because with Horizon View he is not managing the Mac OS, just a client connection. One teacher also downloaded the Horizon View iPad client, connected (with no instruction at all), and was thrilled to be able to print out assignments remotely and pick them up later.

Results and Future Plans

Sicard reported that end-users are enjoying having access to the desktop on any device. “For both staff and students, the remote access with the same look and feel is kind of a ‘light bulb’ moment,” he said. From the management side, it has solved a number of IT challenges. For example, some textbooks include a CD-ROM as part of the curriculum, which was a nightmare for IT to deploy. But with VMware Horizon View, IT could simply virtualize the CD and distribute it using the virtual desktop. In addition, he has spent less money deploying the Horizon View infrastructure, including upgrading the SAN, than he would have spent purchasing 900 new physical desktops. Said Sicard, “In the academic space, there is a lot of chatter and excitement about Horizon View. I think there is a strong future there.”

With the success of the VMware Mobile Secure Workplace so far, Sicard plans to start the next school year with Horizon View as the primary environment for all users. He is looking at VMware vShield for future deployment, and he has begun testing offline desktop usage for students who are homebound or who live in areas with poor Internet access.

Foley & Lardner LLP Enhances Security While Expanding Endpoint Support

This large law firm has 18 locations in the U.S., three offices overseas, and 2,300 employees including just over 900 attorneys. ESG spoke with Director of Engineering and Operations Rick Varju, who is responsible for most of the

firm's IT infrastructure including servers, storage, security, database administration, messaging, and virtualization for both servers and desktops. Core systems and IT services are delivered from a colocated data center in Springfield, Ohio, with a secondary data center in Milwaukee, Wisconsin.

Foley began to rethink its approach to desktop deployment and support several years ago, when budget cuts required a reduction in IT staff. With 75 percent of its servers virtualized using VMware, the firm believed Horizon View was a logical place to look for desktop virtualization to help mitigate risk, increase end-user productivity and drive down cost.

After extensive side-by-side testing, the IT group selected VMware Horizon View because of performance, improved IT management, VMware's success with server virtualization, and user feedback. Varju said, "The user experience is most critical. If you don't get that right, you will be fighting an uphill battle." Today, 1,200 virtual Windows XP desktops are delivered to thin/zero client devices out of the main data center using the PCoIP protocol. Some initial USB device issues were resolved with View version 4.6, and the organization is preparing to migrate to version 5. Three separate WANs in each office can failover as needed—a 45MB WAN for Horizon View, another for video conferencing, and a third for other traffic. "We've over-provisioned our WAN circuits to some degree, but did so intentionally to accommodate both current and future growth plans." Foley is currently using about 40 percent of a 300MB in its primary data center for VDI, and the firm found that applying appropriate QoS policies was important to getting the right performance.

Results and Future Plans

The benefits to IT have been dramatic, according to Varju. The time to deploy a new desktop has been reduced from hours or days to minutes, and desktops are easily provisioned by any IT staff across the firm. The ability to provision hundreds of desktops in a very short time allowed Foley to do away with a separate offsite production facility used primarily for receiving, storing, configuring, and shipping desktops and laptops for the firm and transfer its two full time production facility staff into IT positions it was seeking to fill in its nearby Milwaukee office. It was a win-win situation for all involved. The thin client hardware Foley is now deploying has a longer useful life than a traditional PC or laptop and requires far less break/fix support, freeing up support staff for other initiatives.

"We began our VMware Horizon View journey in October 2009, and VMware was right there with us every step of the way. Their support has been great. I can't say enough about that."

—Rick Varju

Horizon View enables Foley to provide each user with the same personalized desktop across all devices, in or out of the office. Before Horizon View, remote users could only access a limited generic desktop. As a result, the firm now offers a BYOD program, which reduces the need to purchase, repair, maintain, and ultimately dispose of equipment. He sees a major improvement in security as well. "Delivering the desktop as a service makes it easier to deliver secure anytime, anywhere, from any device computing to our attorneys. The virtual desktop resides in the data

"I take comfort in knowing that the desktop they are accessing actually sits in our centralized data center behind our security infrastructure. So we don't care what endpoint device the attorney is using."

—Rick Varju

center behind our secure infrastructure so when attorneys connect there's very little information that has to go back to the endpoint device," Varju said.

The firm is on track to have 2,000 hosted desktops in production by the end of 2012. Full implementation will result in about 95 percent desktop virtualization. Varju plans to leverage VMware Horizon View to ease the

migration to Windows 7 and Office 2010. In addition, he plans to virtualize more applications and leverage VMware Horizon as the firm continues to embrace software as a service. "VMware Horizon will pull all of our applications together, whether they are hosted internally or externally, and give us the ability to incorporate single sign-on and two-factor authentication," Varju said.

ExecuJet Aviation Group Creates Paperless Work Environment

ExecuJet is a private aviation company headquartered in Zurich, Switzerland, with multiple locations in Europe, Asia, Africa, Eurasia, Latin America, and the Middle East. The company sells, maintains, and charters aircraft and provides various aviation services. ESG spoke with Pieter Steyn, who is responsible for IT operations and infrastructure services for Africa as the company expands its presence there.

ExecuJet end-users present a wide range of roles and desktop needs, but they shared a common characteristic—their desktops were aging and in need of replacement. There are desktop accounts for everyone from aircraft

“With VMware Horizon View, we can provide our clients with a secure, safe, quick, hassle-free desktop environment, a virtual environment that is an upgrade to what they have now.”

—Pieter Steyn

engineers to back-office staff to sales personnel. In addition, they support some accounts for customers who have access to ExecuJet information. IT wanted to make the information more secure by moving it off the endpoint devices and into the data center and consolidating desktop management.

Steyn described how he was able to communicate the benefits of desktop virtualization to financial decision makers. In a lucky break during the testing phase, the finance manager in the Johannesburg office had left his laptop at home some 80 km away and asked Steyn if

he could get him operational for the day. Steyn booted up a thin client device with the financial desktop using Horizon View, and in 15 minutes, he had the finance manager up and running with all the tools he needed, including a finance application virtualized using VMware ThinApp, and with faster system performance than the manager’s laptop delivered.

When ESG spoke with Steyn, he was a week into the initial VMware Horizon View rollout in Johannesburg after extensive application and security testing. Full Horizon View deployment is starting with maintenance desktops, followed by accounting and aviation, then on to the rest of the office. Because of the company’s diversity of roles, IT is creating multiple golden images to accommodate different sets of requirements. Thin and zero clients are also being deployed.

Results and Future Plans

VMware Horizon View has enabled ExecuJet to move from standard PCs and laptops to thin or zero client machines, and to support tablets and smartphones. Pilots are especially appreciative of the chance to use their iPads—a full laptop bag takes up a lot of real estate in a very small cockpit, and more than once, laptops have been stepped on and broken. Other benefits of VMware Horizon View deployment that were effective in justifying the investment include:

“The ability for engineers to have their desktop on a tablet is saving us so much money because they are not spending time in the office doing paperwork. VMware Horizon View made that possible.”

—Pieter Steyn

- **Security.** Moving data off end-users’ devices and locking it down in the data center prevents critical information from being lost or stolen and ensures that data is backed up and retrievable.
- **Productivity.** If a PC breaks, data is often lost. If a thin client breaks, simply plug in another and get back to work. In addition, thin and zero clients have a longer useful life than standard desktop machines.
- **Business process improvement.** Various regularly scheduled tasks such as aeronautics repairs must be logged in the ERP system. Horizon View enables ExecuJet to use an integrated Bluetooth scanner that tracks users, displays tasks in order, and tracks start and stop times. This also makes employees more productive. When engineers are working on an aircraft, they no longer have to stop working and go into the office to print out schematics and pages from a manual. They simply take a tablet with the desktop out to the aircraft, and everything they need is right there.

- **Energy costs.** Steyn calculated that ExecuJet could reduce the cost of power in the Johannesburg office from 200,000 rand to 3,000 rand per year by moving to thin/zero clients.
- **Disaster recovery.** Should a site failure occur, operations can resume using thin clients in another location within a couple of hours, at a low cost.
- **Going paperless.** Horizon View has enabled the office to essentially stop printing—they print one page a week, resulting in significant savings.
- **ExecuJet's image.** Customers purchasing aviation products and services expect a certain forward-thinking, high-end image. The ability to access information from any device in any location projects that image to customers.

Over the next 18 months or so, Steyn plans to have all desktops and legacy applications virtualized and run only zero client machines. In addition, he hopes to use his experience to steer the European offices to VMware Horizon View.

Children's Hospital Improves Efficiency and Security with VMware Horizon View

ESG spoke with Kirk Larson, VP and CIO of Children's Hospital of Central California, located in Madera, California. He is responsible for overseeing information functions across the hospital, more than 20 clinics, and the administrative offices. VMware was already virtualizing 85% of the hospital's servers on the back end, so rolling out a VMware solution on the front end dovetailed easily.

"That's part of the beauty of VDI. We can run our advanced clinical systems environment on any device that can download the VMware Horizon View client, which is basically any device out there. So a physician can run applications on Windows XP on an Apple iPad."

—Kirk Larson

The IT environment includes two data centers and a disaster recovery site in a campus environment. IT serves more than 3,000 individuals, and it stores half a petabyte of data. In July 2011, the hospital launched its advanced clinical systems (ACS) program, designed to alter care delivery. The hospital started by converting to electronic nursing documentation in a 'big bang' one day, then moved to a six-week deployment of computerized physician order entry (CPOE). These implementations forced IT to think in new ways about service delivery,

resulting in the decision to deploy virtual desktops using VMware Horizon View.

Children's Hospital now supports about 450 VMware Horizon View virtual desktops for physicians, nurses, pharmacists, dietitians, therapists, and others. An end user device "road show" provided options from which clinicians could choose devices, and while many selected wall-mounted systems, some groups selected iPads and laptops. Children's has deployed a BYOD infrastructure based on VMware Horizon View that allows physicians and staff access to the clinical network and the MEDITECH HCIS application.

Results and Future Plans

In the long run, Children's Hospital of Central California expects to reduce costs for both device purchases and licensing fees for office

"With Horizon View, there will never be any patient data on any device. From a security perspective, VMware Horizon View is an excellent solution for us."

—Kirk Larson

"This is not something we're forcing on people. But they are asking, 'Kirk, when do I get it too?' And to be honest, I think it speaks quite well of the VMware Horizon View technology."

—Kirk Larson

applications, antivirus, and more. In addition, feedback from end-users has been very positive, especially from the nurses who are constantly on the go. The Horizon View deployment greatly increases their efficiency and productivity; for example, a nurse can disconnect the desktop session from a device in one patient room, move to the next room, and reconnect.

A key aspect in a regulated industry such as healthcare is information security, governed by HIPAA and other regulations. At Children's, the Horizon View solution has greatly enhanced patient information security. A laptop or mobile device can be lost or stolen, taking data with it, but with Horizon View, no hospital or patient data resides on any specific device. As a result, if a device is misplaced, left at home, stolen, or broken, there is no impact on applications or information.

The next area in which Larson plans to expand the Horizon View implementation is the ambulatory electronic medical records (EMR) system, which will transition from a paper-based method to an EMR using Horizon View virtual desktops.

The Bigger Truth

With desktop virtualization, users gain flexibility without losing productivity, as workspaces are delivered to any device with the same look and feel. At the same time, it enables IT to more easily ensure data security, manage and protect data and applications, and comply with policies—all while greatly reducing desktop management costs. BYOD policies can even shift some of the infrastructure costs (related to both acquisition and service plans) to end-users, while providing them with the opportunity to use a single device of their choosing.

The mobile, secure Workplace use case is one that organizations across every industry are taking on—sometimes driven by the business, other times by the end-users. Tablet and smartphone capabilities are making it imperative that organizations find a way to keep data secure, which is extremely difficult when desktops are not centrally managed by IT. The “office” is being redefined, and organizations that delay bringing desktops into the data center may risk a serious breach of corporate information security. The VMware Mobile Secure Workplace can ease that burden—while delivering a better user experience and significant cost savings.

The customers ESG spoke with demonstrate success among a wide range of users—but with a shared understanding that buying and managing physical desktops with individual operating systems and applications was driving up costs unnecessarily.

The Somerset School District uses Horizon View in classrooms and enables a BYOD program for students. In addition, VMware Horizon View drives down labor costs—the single greatest expense for school districts. Foley provides a rich virtual desktop environment for employees while ensuring data security. ExecuJet has generated tremendous capital and operational savings, improved business processes, and even enhanced its image using VMware Horizon View. Children’s Hospital expects to reduce costs for both device purchases and licensing fees for office applications, antivirus, and more, providing a favorable economic impact to its environment. At Children’s, the VMware Horizon View solution has also greatly enhanced patient information security.

And in all cases, these organizations are providing a better desktop environment for their users than before.



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