



How Desktop-as-a-Service Can Solve Higher Education's End-User Computing Challenges

Colleges and universities face considerable end-user computing challenges today. Here's how moving to cloud-hosted desktops and apps as-a-service can help.

November 2014

Sponsored By:

vmware[®]

**CAMPUS
TECHNOLOGY**

Table of Contents

From Desktop Virtualization to DaaS in Higher Education	2
Benefits of Cloud-Hosted Desktops for Higher Education	2
What are VMware Horizon Air Desktops & Apps	3
Conclusion	5

From Desktop Virtualization to DaaS in Higher Education

Today's college students have seized the computing initiative, turning traditional computing models upside down. Rather than waiting to be served at desktop computers in computer labs supplied and supported by the IT department, students expect around-the-clock support for a wide array of devices they bring to campus with them. They're also accustomed to fast, anywhere-anytime computing access both on and off campus. Faced with these facts, regardless of its size or budget, nearly every college and university is struggling to keep up. College IT departments simply aren't designed, staffed, or funded to meet the extreme complexity and ever-changing demands of today's computing environment. And yet to remain competitive and attract students, they must step up and find a solution.

Virtual desktop computing, which shifts computing from local desktop PCs to a backend datacenter, offered some promise. It helped take pressure off aging PC inventories, since the thin clients used to access the datacenter require much less processing power, simplified support, and moved much of the heavy lifting of IT to the datacenter. However, virtual desktop infrastructure, or VDI, also has proven to have drawbacks — it can be complex, often requiring specialized skills that are beyond many college IT departments, and it calls for a large up-front capital investment before deployment.

Enter a solution that combines the benefits of VDI with the growing power and popularity of the cloud — desktop-as-a-service, or DaaS. The concept of DaaS builds on virtual desktop computing, but takes it a step further, moving the backend virtual desktop infrastructure off campus and into the cloud, where an experienced service provider can handle the servers, software and support required.

The result combines the benefits of VDI with further advantages for higher education — no big upfront capital expense investment, a simplification of computing in general, and little IT expertise required. In short, DaaS uses the power of the cloud to help institutions reduce IT complexity and cost, while remaining competitive and meeting the computing expectations of their students.

Benefits of Cloud-Hosted Desktops and Apps for Higher Education

Coupling the benefits of virtual computing with the advantages of the cloud, DaaS moves the backend server and support infrastructure off campus and to a service provider using the cloud. After all, universities are in the business of educating students, not running an IT department and supporting applications and a datacenter. DaaS lets higher education institutions focus on their strengths, while professionals like VMware handle computing needs.

There are many benefits to DaaS, including a reduction in IT complexity, huge CAPEX and energy savings, anytime-anywhere access for students from any device, and the ability to scale computing power up or down as demands change. Also, DaaS means that a third party ensures fast, reliable performance, and handles additional challenges such as security, backup and business continuity.

What are VMware Horizon Air Desktops and Apps?

VMware, a well-known pioneer in virtual computing, offers a comprehensive desktop-as-a-service (DaaS) solution, VMware Horizon® Air™ Desktops and Apps. It is an easy-to-deploy, affordable virtual desktop solution that moves all traditional datacenter services into the cloud. Adding to the many benefits of desktop virtualization provided by on-premise deployments of VMware Horizon, Horizon Air uses the cloud to deliver virtual desktops, relieving institutions of the need to procure expensive server hardware, and to find equally expensive IT experts to support complex backend datacenters. With VMware Horizon Air Desktops and Apps, all services are provided by VMware, including the back-end software installation and maintenance, updates, backups and security.

There are clear and immediate capital expense savings from not having to purchase and continually update hardware, servers and desktop PCs. In addition, institutions can take advantage of the agility offered by VMware Horizon Air, scaling resources up and down as needed at the beginning and end of a school term.

VMware Horizon Air allows students, faculty and staff to access their desktops and apps from any location, using thin or zero clients, tablets, laptops (PC or Mac), Google Chromebooks, and even smart phones (Android or iOS) — all with the same consistent user experience. It supports both full virtual desktops (Windows Client and Windows Server-skinned), as well as shared desktops and hosted apps using Remote Desktop Services (RDS) hosts, all at an affordable price.

VMware Horizon Air is simple — with just a few clicks, on-campus IT staff can quickly bring up desktops from the cloud for any number of end-users.

For more information, go to <http://www.vmware.com/products/horizon-air-desktops/>

As these benefits become more obvious, education institutions are moving to take advantage of the trend to move desktop infrastructure support off-premises and into the hands of professionals.

Here are some of the strongest reasons why virtual desktops in general, and DaaS in particular, make sense for higher education:

Centralized management: With virtual desktops, IT departments can manage all of their computers from any location, eliminating the need to travel to different locations for desktop maintenance and end-user support. The result can be huge cost savings and much lower labor and support costs.

Security handled by professionals: Because use of virtual desktops means that images only — not actual data — are stored on user devices, security is greatly enhanced. Since no data resides on the device, virtual desktops do away with security concerns if a device is lost or stolen.

Far greater agility: Rather than having to wait for the semester break or summer vacation, virtual desktops enable institutions to roll out applications and updates overnight, to any device, and at any time during the school term. Previously, institutions were forced to update applications only at the beginning of the semester. Any new applications had to be installed during breaks, when user computers in classrooms or labs could be brought down for the time needed to install new software. Virtual desktops do away with that constraint.

Instead of updating computers in labs and classrooms one by one, or running a remote program to touch each device from the datacenter or IT center and upgrade it, virtual desktops can all be deployed at once, within minutes, to any device.

The 24-hour computer lab: Virtual desktop computing extends computer lab hours to anytime, anyplace, supporting varied student work styles and allowing them to access the computer lab whenever and wherever they need it.

Added to those clear advantages of virtual desktops, moving the datacenter and all associated support chores to the cloud with desktop-as-a-service offers these additional benefits:

Flexible printing: The flexibility of virtual desktops extends to location-based printing, allowing users to print from any device to a nearby printer, depending on how permissions are set. That makes printing easy for students, regardless of where they are located on campus at the moment and what printing device is nearby.

Reduce IT cost and complexity: Virtual computing in general, and DaaS specifically, extends the life of existing desktop computers, allowing schools to reuse aging PC inventories. Legacy computers that are no longer powerful enough to run the latest applications can still be used as virtual clients. Also, schools can still run Windows XP applications securely within the virtual desktop infrastructure.

Since the DaaS service provider handles management, institutions can deploy IT staff elsewhere for other projects. And once the system is up and running, there's no need to hire or retain external consultants.

Easy support for BYOD and mobility: One huge challenge in higher education is supporting the myriad of devices, many of them mobile, that students bring to campus. Bring-your-own-device, or BYOD, is a growing phenomenon among students, faculty and staff. With DaaS, the BYOD challenge is solved — students and faculty can run any application, anywhere, at any time, on or off campus. VMware's DaaS solution, Horizon Air Desktops and Apps, supports a range of devices including Macs, PCs, iPads, tablets, and more. It also supports legacy applications, allowing Windows applications to be run safely and securely within the virtual desktop environment. Faculty, students, and staff can each use completely different operating systems and applications while still having access to the same desktops and user experience.



Also, Horizon Air is purpose-built to work with Google Chromebooks. With their lower price point and easy manageability, Chromebooks are proving to be a popular choice for many institutions. Horizon Air solves the issue of access through Google Chromebooks to Windows applications and data, streaming the Windows applications to Chromebooks seamlessly.

A green approach to computing: Many higher education institutions have made a commitment to reduce energy usage. Virtual desktop computing, and in particular desktop-as-a-service, does that, eliminating power-hungry individual desktop PCs in favor of more energy-efficient server farms run by a service provider. With no power, heating or cooling costs for the datacenter, Horizon Air can thus help institutions meet their commitment to greener computing.

Flexible deployment models: Virtual desktop computing combined with Horizon Air Desktops and Apps allow for a hybrid combination of computing deployments — a popular choice with many colleges and universities. Hybrid computing means combining VDI and DaaS — and even some older-style desktop computing — so that each user, department or college has the right computing setup. Hybrid computing allows some departments or user groups to adopt a virtual desktop infrastructure, in which the backend servers remain on campus. Others are set up to use desktop-as-a-service, with backend servers and support provided off-campus by a service provider. Finally, still others — faculty members, perhaps — may continue to use desktop PCs.

Flexible service plans and seasonality: Another significant benefit of the cloud in general is the ability to try before buying — and to gradually expand usage as needed or wanted. With Horizon Air, institutions can take advantage of a free trial, then gradually expand usage as needed.

Also, Horizon Air offers colleges and universities the considerable benefit of accommodatingly seasonality — institutions can ramp up usage during peak periods, such as the beginning and end of the semester, and ramp down during the summer months. Horizon Air lets customers adjust the number of active desktops as often as monthly.

Predictable monthly costs: One of the most financially appealing aspects of virtual computing in general is capital expense savings in money spent on workstations. DaaS takes that advantage further. CAPEX is greatly reduced with DaaS because schools no longer have to purchase — and continually update — a high-powered desktop PC per user, and no longer have to buy and maintain the powerful high-end servers needed for the data center. Instead, a much less expensive thin client can be used — in fact, older PCs can be repurposed as thin clients, since virtual computing moves the burden of processing off the desktop and into the datacenter.

Horizon Air takes virtual computing savings a step further, eliminating the need for purchasing, maintaining and updating on-site servers.

Conclusion

Clearly, the concept of desktop virtualization in general makes sense for higher education. It removes institutions from the desktop computer supply-and-support business, making it much easier to maintain and upgrade thin clients and student devices in classrooms, labs and libraries. Desktop-as-a-service takes those benefits a step further, using the power of the cloud to offload backend services and support from the campus IT shop to a professional offsite service provider. VMware Horizon Air Desktops and Apps, part of a family of well-known virtual computing solutions, offer an easy-to-deploy, affordable virtual desktop solution that moves all traditional datacenter services into the cloud.

Today's colleges and universities need to drive enrollment while still keeping costs low, and Horizon Air can help do that. By leveraging thin clients on BYOD, and by outsourcing support to a trusted service provider, DaaS can support more students with fewer IT resources. It also allows more remote classrooms and labs, and better student access to resources around the clock.

In short, leveraging the power of VMware Horizon Air Desktops and Apps simply makes sense for higher education.

About VMware

VMware is the leader in virtualization and cloud infrastructure solutions that enable businesses to thrive in the Cloud Era. A pioneer in the use of virtualization and policy-driven automation technologies, VMware simplifies IT complexity across the entire data center to the virtual workplace, empowering customers with solutions in the software-defined data center to hybrid cloud computing and the mobile workspace. With 2013 revenues of \$5.21 billion, VMware has more than 500,000 customers, 55,000 partners, and 14,000+ employees in 50+ locations around the world. At the core of what we do are our employees who deeply value execution, passion, integrity, customers, and community.

For information or to purchase VMware products, call 877-4-VMWARE (outside North America, +1-650-427-5000), visit <http://www.vmware.com/products/horizon-air-desktops/> or search online for an authorized reseller.

Campus Technology

Campus Technology is one of higher education's top information sources—delivering valuable information via a monthly magazine, website, newsletters, webinars, online tools and in-person events. It's the go-to resource for campus professionals—providing in-depth coverage on the technologies and implementations influencing colleges and universities across the nation. You'll discover valuable how-to content, best practices, industry trends, expert advice and insightful articles to help administrators, campus executives, technologists and educators plan, develop and successfully launch effective IT initiatives. Our annual conferences showcase expert speakers, thought leaders and technology solution experts exchanging ideas on the latest technological innovations in use on campuses worldwide—offering campus technology professionals opportunities to collaborate, network and gain valuable information that helps them succeed.

vmware[®]

3401 Hillview Ave.
Palo Alto, CA 94304
(877) 486-9273

**CAMPUS
TECHNOLOGY**

9201 Oakdale Ave.
Suite 101
Chatsworth, CA 91311
(818) 814-5277