5 ways K-12 schools benefit from using Desktop-as-a-Service

How a cloud-enabled virtual desktop helps close the digital equity gap

By EdScoop Staff

The rise of Chromebooks, bring-your-own-devices (BYOD) and a new generation of learning applications in classrooms have made digital learning increasingly accessible for more and more students.

With 88 percent of U.S. school districts equipped with broadband connections and Chromebook's share of the U.S education market at 58 percent in 2017, students are better positioned than ever before to take advantage of digital learning tools.

But these digital gateways also bring a host of challenges for teachers, school administrators and IT directors:

- BYOD policies introduce a cornucopia of operating systems into the classroom. User preferences and security settings must be managed and monitored if teachers are to provide a common learning environment.

- While Chromebooks make access to the Internet simple and more affordable, many of the popular teaching apps designed for Macs or Windows operating environments don't work on Chromebooks. These lightweight computing devices can't easily support demanding software, such as CAD/CAM and other tools needed for STEM classes.

- Students who use older or different computing devices at home cannot access the instructional resources provided in school, creating an additional equity barrier for educators to overcome.

What if teachers could give their students a learning environment that looks the same and operates the same for every student, regardless of what devices they're using?

Better yet, what if that environment could be a simple, turnkey service? Set it up once and every student sees what you see regardless of where they're using it—in the classroom, the library, at home, or on the run.

That's the genius behind the next wave of desktop virtualization, known as Desktop-as-a-Service (DaaS). DaaS uses the power of cloud computing and the convenience of on-demand, pay-as-you-go services.

For K-12 schools, DaaS also offers a host of advantages, giving teachers the ability to set up lessons simply, securely, anytime, anywhere—while reducing the IT complexity that so frequently gets in the way of classroom instruction.

5 Ways Schools, Teachers and Students Benefit from DaaS

1. Promotes digital equity

DaaS platforms provide a more uniform digital playing field for students, and for school administrators, trying to ensure every student has a chance to experience the same learning environments.

"It gets rid of traditional classroom barriers," said Jeff Christen, an instructor at Cornell University, who uses Amazon WorkSpaces, a DaaS platform that allows his students to go online from anywhere and work through his instructional material. Because students are working in a uniform virtual desktop environment that can support a variety of software, every student has the same experience.

For K-12 schools, that means administrators can easily and affordably ensure that every student has an equal learning opportunity, whether they are working in the classroom or at home, and thereby close the digital equity and "homework" gaps that arise when students do not have access to the same resources as their classmates.

2. Provides students more powerful learning tools

With a uniform cloud-based desktop, students have access to more robust software applications. That means greater freedom to run pivot tables, create 3D graphic models or conduct virtual lab experiments that Chromebooks weren't designed to handle, or which aren't always compatible on Windows and Mac operating systems.

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3. Helps teachers become more efficient

DaaS allows teachers to focus more on instruction instead of technology, because teachers can easily create and distribute common work environments to support their classroom independent of the devices their students are using. This allows them to focus their time on supporting learning rather than supporting applications.

DaaS adopters see significant gains in usage. University of Maryland University College (UMUC) reports that students using solutions like Amazon WorkSpaces use their applications an average of 30 hours per month—four times more than when students had to use UMUC's legacy virtual desktop system.

4. Offers school districts significant cost savings

Because DaaS is an application that operates in the cloud, instead of

requiring more traditional virtual desktop software that resides on individual machines, it can be purchased in a way that allows schools to share the software licenses across multiple devices—and only pay for the hours the applications are in use.

That means schools can easily increase or decrease the number of virtual desktops they use without a financial penalty and without having a lot of upfront costs. Furthermore, it reduces the need to buy, maintain and provision more expensive computers for students, teachers and district staff now and in the future.

> UMUC IT support requests dropped by 75% while serving six times more students by using Amazon WorkSpaces.

5. Provides additional IT management benefits

DaaS platforms make it significantly easier for schools to set up, manage and monitor virtual desktops, and the software licenses that are used on them. It makes it easier to set up controlled environments not only for instructors and teachers, but staff and contractors as well.

"We did not have access to a computer lab, so we were facing having students install software on their own computer," said Marty Sullivan, a cloud engineer at Cornell University who assisted Christen. "Making sure the software was compatible on whatever the device the students use, whether it is a Mac, PC, or Linux machine, would have been a support nightmare." By giving each student their own cloud-based virtual desktop, Sullivan was able to set up more than 30 virtual Amazon WorkSpaces, with a variety of advanced software applications, in minutes.

Piotr Zielinski, IT director at the George Washington University School of Business, had a similar experience. "A majority of our students use Macs, but many business school applications require Windows. Amazon WorkSpaces eliminates the technical complexity for students and we can give them access to their applications in just seconds," he said. He noted the added benefit that, "Students have a unified learning experience."

Find out more about the benefits of DaaS, and how to get started at your school.

Amazon WorkSpaces—Increasing access with cloud-based virtual desktops

Amazon WorkSpaces offers schools an innovative way to manage uniform virtual desktop learning environments regardless of what devices students have at their disposal. It is a fully managed, secure virtual desktop infrastructure which runs on the Amazon Web Services (AWS) Cloud.

With just a few clicks, schools can deploy cloud desktops for teachers or students. It allows users to work with a wide range of applications and learning resources on any supported device, including Windows and Mac computers, Chromebooks, iPads, Fire tablets, Android tablets, and Chrome and Firefox web browsers.

Amazon WorkSpaces also helps districts save money by letting them pay monthly or hourly just for the Amazon WorkSpaces they use.

Intel's 360-degree Learning Experience: Leverage smart connected technology to enhance student success

Based on innovative Intel technologies, a wide variety of device options are available to schools, educators and students to create a more personalized learning experience. Intel-powered devices offer extraordinary battery life and performance, with processing power to run multiple applications, and built-in security features to keep students safely connected. Their interoperability allows students to work across existing and new peripherals and software applications, and ensure connectivity to multiple devices and the cloud.

The IT engine is the foundation of a technology-rich, 360-degree learning experience. Intel's flexible, scalable infrastructure powers an increasingly personalized learning journey by providing relevant content, protecting key student data, and offering educators analytic feedback and insight into student progress.