WHITE PAPER

What IT Leaders in K-12 Need to Know About Cloud Computing
IT leaders in K-12 education environments have a tremendous opportunity to demonstrate how cloud computing models can provide greater cost efficiency and flexibility in their schools and districts, and improve learning outcomes at the same time.

Cloud computing comes in many forms. It can mean Software-as-a-Service (SaaS), Platform-as-a-Service (PaaS) or even Infrastructure-as-a-Service (IaaS). Organizations can use public, private or even hybrid cloud services. Because of the different definitions, the majority of K-12 schools are using some form of cloud computing already, though they may not know it, according to research from O’Keefe & Co. on behalf of CDW-G.

The survey shows nearly 90 percent of K-12 institutions report using one or more cloud applications, such as Google Docs (57 percent), Gmail (39 percent) or Microsoft web conferencing (9 percent). More than 30 percent of schools have written plans for cloud computing, and another 37 percent report being in a “discovery phase.” According to a separate 2009 survey in eSchool News, roughly half of schools had already adopted one or more cloud-based solutions.

Over the past decade, cloud-based software and data hosting applications have gained considerable momentum as vendors have largely addressed concerns about performance, security and other factors. Now, solutions like Amazon Web Services (EC2), Microsoft Windows Azure and Google Apps are considered viable options—and, in many cases, the best options—for schools seeking a clear and cost-effective way to implement advanced applications for both the learning environment and the school back office.

As districts expand broadband access and become more “wired,” they are able to make use of the rich, robust and multimedia applications that have become available in the cloud. Indeed an array of educational solution providers has emerged to address everything from curriculum support to learning management to financial and administrative management.

Analysts urge IT leaders to prepare now, if they aren’t already. “The impact [of the cloud] on our educational system will be astounding, and many in our educational system don’t see it coming,” says Tom Bittman, a Gartner analyst. “These trends are moving much faster than our current educational system can handle.”

**WHY IT DECISION MAKERS ARE INVESTING IN THE CLOUD**

IT decision makers in K-12 education are embracing the cloud for two big-picture reasons: cost and learning potential. Leaders recognize that cloud-based applications can be rolled out more quickly and require less support from an IT staff that’s already stretched too thin. Instead of worrying about servers and hard drives, IT support can focus on dealing with larger issues. This can mean significant savings to a district or school over time.

One of the most compelling advantages of cloud computing is the fact that schools don’t need to invest in the implementation, integration and ongoing maintenance fees associated with traditional software applications. Organizations pay one monthly subscription fee (sometimes paid annually or on a multi-year basis to derive deeper...
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In contrast to costly and complex learning-management systems implemented onsite, schools can now turn to providers who deliver these learning support, tracking and management capabilities instantly in the cloud. What’s more, these platforms and their capabilities are perpetually updated, refined and improved—reflecting a faster pace of product innovation than traditional software vendors could deliver.

In addition to software applications, another popular approach to cloud computing is server-based desktop virtualization. Instead of stand-alone full desktops, IT can supply students with less expensive “virtual” PCs that store data and software on a server instead of centrally. This means schools can provide more students with computer access at a lower overall cost.

While cloud computing brings higher levels of operational efficiency and productivity to schools, it also provides the advanced infrastructure for personalized learning. From the perspective of improving K-12 student education, cloud-based solutions enable schools to adapt more quickly to frequent changes in school curricula and standards, which translates to superior outcomes.

Where once schools and school districts were fully dependent on print-based textbooks as the means of delivering content, they now have online options that enable them to present new courseware and other learning resources that reflect the most up-to-date requirements. Furthermore, cloud-based solutions enable students and teachers to access information from anywhere at any time, which facilitates learning outside of the classroom.

Gartner’s Bittman is particularly impressed with the power of cloud computing to 1) deliver low-cost and free technology for social interaction, publishing, collaborating, editing, content creation, computing, etc.; 2) increase the amount of content both available to students and created by them; and 3) enhance communication and collaboration among teachers, students and other parties.

MAKING THE CASE FOR CLOUD TECHNOLOGY IN K-12

So what are the key factors that will continue to make cloud computing essential to the advancement of K-12 education? Here are several ways for IT to make its business case:

**Increased efficiency.** Schools that have adopted cloud-based applications are experiencing considerable gains in terms of time to implementation and overall impact relative to what they could expect through conventional on-premise solutions. Given their limited IT staff resources, they are able to accomplish more with less. IT can devote more time, resources and attention to integrating technology into the educational experience and far less merely ensuring it’s up and running. In the O’Keefe study, respondents said they expect to see a 15 percent savings from cloud adoption in two years and as much as 25 percent in five years.

**Greater flexibility.** Schools now have the ability to add licenses incrementally as needed and as budgets will allow. They can modify their subscriptions as appropriate and as they go. They are no longer forced into making huge upfront investments in money and resources without a clear sense of how technology adoption will play out. Such options are particularly valuable for schools with constrained budgets. They gain access to advanced capabilities without huge capital outlays.

**Enhanced customer service.** Because cloud-based solution providers depend on customer
loyalty to grow their businesses, their interests are fully aligned with what their clients need. That’s why cloud-based providers have proven more responsive in terms of customer care than traditional software providers who didn’t rely on ongoing subscriptions.

Ongoing innovation. Given the centralized and shared infrastructure associated with cloud technology, application providers are in a far greater position to deliver ongoing updates, refinements and innovations than traditional software companies. Every time they add a new function or capability to their platform, it becomes immediately available to all customers—on-demand and in real-time.

CONCLUSION

The opportunities for introducing advanced technology capabilities into the K-12 education have been increased by the emergence of the cloud movement. IT decision makers now have options that can enable them to improve productivity and flexibility, reduce total costs, and most importantly to school leaders, result in better quality of learning for the students they serve.

SOURCES


