

Take *IT* to the Cloud

K12 Education White Paper





Mobile initiatives, virtual learning, the move to online assessments, the advent of big data and the demand for anywhere, anytime learning has increased the movement to the cloud at a rapid rate. The *2013 NMC Horizon Report: 2013 K-12 Edition*, states that more and more K12 schools are turning to **cloud-based services** and **digital content** to enhance the learning environment.

These two sets of technologies have become a pervasive part of everyday life in much of the world, and are growing everywhere. Students have ever-increasing expectations of being able to work, play, and learn via cloud-based services and apps across their mobile devices, whenever they want and wherever they may be.

Cloud Computing

Cloud computing and mobile learning could become mainstream in K-12 education within the next year, according to the *2013 Horizon Report*. Cloud computing has already transformed the way users of the Internet think about computing and communication, data storage and access, and collaborative work. Cloud-based applications and services are available to many school students today, and more schools are employing cloud-based tools.

Over the past few years, cloud computing has been firmly established as an efficient way for businesses —and increasingly schools — to protect data, develop applications, deliver software and online platforms, and to collaborate.

Cloud-based services provide a range of solutions that address a wide variety of needs related to infrastructure, software, and security. By means of virtualization, cloud computing providers can deliver fully-enabled virtual computing environments of almost any scale that can be accessed from any connected device, seamlessly and on-demand.

Cloud services specifically cut the cost and time required for server maintenance, and offer support for new tools that foster best computing practices for easy sharing and mobility.

What is Cloud Computing?

Cloud computing has become widely recognized as a means of improving productivity and expanding collaboration in education, while alleviating the financial burdens imposed by server-based infrastructures. Cloud computing refers to expandable, on-demand services and tools that are served to the user via the Internet from specialized data centers and do not live on a user's device or physical site.

The rapid integration into our everyday lives, from technology infrastructure, to communication exchanges, to the many apps and resources used for informal learning has accelerated education institutional interest in cloud computing.



Cloud computing resources support collaboration, file storage, virtualization, and access to computing cycles. The number of available applications that rely on cloud technologies has grown to the point that few institutions do not make some use of the cloud, whether as a matter of policy or not. Cloud services specifically cut the cost and time required for server maintenance, and offer support for new tools that foster best computing practices for easy sharing and mobility.

A growing need is for cloud services to be delivered in a secure manner, especially in jurisdictions where privacy is a critical concern. Clouds, especially those supported by dedicated data centers, can be public, private, secure, or a hybrid of any or all of these. Increasingly school CIOs see the cloud as a solution for storage, backup, software as a service (SaaS), and more, as well as a way to reduce IT overhead costs.

Cloud services are grouped into three categories:

1. Infrastructure-as-a-service, commonly referred to as virtualization — virtual machines, bandwidth, and storage, all scalable as needed;
2. Platform-as-a-service (PaaS), the environment for developing and delivering applications; and
3. Software-as-a-service (SaaS), software designed to meet specific needs of an organization.

Cloud providers such as Jupiter Ed, are in compliance with HIPAA, FERPA, the Freedom of Information Act and other confidentially held records and meet the concerns for the safety of sensitive data.

Future of the Cloud in K12 Education

According to CDW-G's 2013 State of the Cloud Report, 42% of K-12 schools and organizations surveyed are currently implementing some form of cloud computing solution; the top uses are for storage, conferencing and collaboration, and for office suite management. Cloud-based offerings such as email, video and other hosting services; subscription-based software tools; and a wide choice of collaborative applications take the pressure off of schools to continually update their machines and software.

One of the most common uses of cloud computing technology in the classroom over the past couple years has been the integration of cloud-based tools such as Jupiter Grades and Web Apps into the K-12 curriculum. Web-based applications work in any browser and offer a device-agnostic place for project materials, submissions, and assignments. Today's cloud infrastructure includes a wide array of tools and services that make it easy for anyone to share media and materials. Khan Academy, for example, was among the first educational initiatives to take advantage of the incredible infrastructure behind YouTube to host its video lessons for free. Additionally, many distance-learning programs are implementing cloud computing solutions to accommodate increasing enrollment and provide more media-rich

**42% of K-12 schools
and organizations
surveyed are currently
implementing some
form of cloud
computing solution.**



resources to students in remote or rural areas.

Cloud-based solutions for schools have grown more intricate as technology providers collaborate on systems that prepare students for the modern workforce. In addition to formal learning experiences, cloud computing enables rich informal learning opportunities. Sugata Mitra, 2013 TED Prize winner and scientist, outlined a compelling vision of this era in his recent TED Talk (go.nmc.org/sugata). Mitra's observation that children can essentially organize their own learning led to the notion of "Schools in the Cloud," which are essentially learning facilities in impoverished regions of the world that can be operated entirely in the cloud, including lights, locks, and infrastructure. These schools could be a low-cost supplement to formal education, and a place where children can pursue their own inquiries.

Why Take IT to the Cloud?

More and more schools are looking for cloud solutions to solve some of their biggest economic and technology challenges. Cloud services are available on-demand, and delivered economically, without compromising security or functionality. Cloud based solutions are increasing efficiency not only for staff, but also for IT departments. Just as these technologies bring freedom, flexibility, and productivity to schools, they bring similar benefits to your IT department.

In the CDW-G State of the Cloud Report, current cloud users reported the following benefits experienced since going to the cloud:

1. Increased efficiency (55%)
2. Improved employee mobility (49%)
3. Increased ability to innovate classrooms (32%)
4. Freed current IT staff for other projects (31%)
5. Reduced IT operating costs (25%)
6. Enabled us to offer new products/services to staff (24%)

Efficiency

The cloud service provider hosts and maintains all of the IT infrastructure for you, ensures the system is always running, that the data is secure, and that product enhancements are rolled out painlessly. Because the cloud service provider hosts and maintains the applications and their infrastructure for you, this ensures the system is always running, that the data is secure and that product enhancements are rolled out painlessly. Ultimately, this allows your IT resources to focus on innovating and helping support the schools more effectively, rather than spending a disproportionate amount of their time on maintaining and managing local server systems.

Flexibility

Solutions in the cloud provide flexibility in application and data delivery. Provisioning applications and services from a cloud can give you the operational benefits without the capital expenses of maintaining on-premises environments.



Cloud solutions are flexible, including the ability to:

- Deliver consistency of service
- Ensure access to the most current versions of applications
- Enable rapid deployment at scale

Ultimately, this allows the IT resources to focus on innovating and helping support the schools more effectively, rather than spending a disproportionate amount of their time on maintaining and managing local server systems.

Cost Benefits

Cloud solutions can achieve significant savings, including the ability to:

- Shift IT spending from capital to operating expenses
- Cost Effectiveness

Budgets cuts have made return on investment (ROI) and total cost of ownership (TCO) calculations more necessary than ever. With limited funds available, districts are now under greater pressure to articulate the costs and benefits of existing and planned technology expenditures. Using a TCO evaluation during the planning process for technology purchases is critical.

The TCO evaluation should address two important questions for sustainability of technology purchases.

- What impact will the new technology have on the existing infrastructure?
- How much support by IT staff will be required?

When comparing the total cost of ownership of local hosting versus cloud solutions, be sure to estimate how many IT hours you will spend supporting the solution. This is usually much more expensive than the solution itself.

Many districts hire a full-time IT employee that is devoted to running the Student Information System (SIS) in their data center. Assuming an average salary for the IT employee is \$70,000 and there are 2,000 students in your district, the cost for IT support would be \$35 per student per year, while the typical cost for a Student Information System is \$5 to \$12 per student.

With cloud solutions, most districts who were surveyed stated they typically spend only one-tenth as many IT hours for support. So that would be a savings of \$63,000 per year, or \$189,000 over a three-year contract.

To determine your **Total Cost of Ownership** visit, JupiterEd.com and utilize our free TCO calculator.



Decision Making Recommendations

Many schools are considering cloud-based solutions versus local server-based solutions. There are some key factors that you need to consider when weighing whether to use local server-based or cloud-based solutions. These decisions require IT departments to evaluate their existing IT infrastructure.

- Tap a cross-section of your stakeholders for a thoughtful analysis of benefits and costs
- Select a cloud strategy consistent with your IT service fulfillment model
- Start planning today; understand your internal “cost to manage” per web application, which will help determine your return on investment (ROI) for cloud solutions
- When working with cloud providers, look for contracts that establish and enforce service levels and security standards

Conclusion

Mobile initiatives, virtual learning, the move to online assessments, the advent of big data and the demand for anywhere, anytime learning is increasing at a rapid rate. More and more schools are turning to cloud-based digital content to enhance the learning environment. Innovative K12 campuses seek to understand why and how to deploy cloud platforms efficiently and securely. Ultimately, their choices — regarding opportunities, approaches, and partners — have the promise to transform the role of IT in schools everywhere.

In the next two years, institutions of education expect to cut 20 percent of their IT budget by moving applications to the cloud. That represents a major shift in approach across the industry — and a major opportunity to increase organizational efficiency, improve agility, and stimulate innovation. However, to support a smooth transition and optimal outcomes, district IT organizations must first develop a comprehensive cloud-computing strategy that addresses the challenges unique to each school.

To learn how your district can accelerate its cloud initiative with a comprehensive strategy informed by proven best practices, schedule a demo with the Jupiter Ed sales team today.

For More Information

- Jupiter Ed Cloud Solution: JupiterEd.com
- Contact Us to Schedule a Demo: 888-367-6175

Jupiter iO

Student Information System

Gradebook

Learning Management System

Learning Analytics



JupiterEd.com

211 South St. #351, Philadelphia, PA 19147 · 888-367-6175 · sales@jupitered.com