Enhancing Learning with Client-Aware Cloud Solutions

1:1 eLearning has powerful benefits, enhancing learning and skill development from critical thinking to collaboration. But in the age of “bring your own device,” 1:1 often means that students are likely to access learning resources using their own individual devices inside and outside the classroom. This multi-device environment poses challenges—as educators need to ensure that all students are receiving a consistent learning experience, no matter what device they’re using, and IT must meet stringent security requirements, such as protecting student data, assessment, and controlled Web access. Intel and Stoneware deliver solutions that address these top-of-mind challenges for schools, in a scalable and secure infrastructure.

In this brief, you’ll learn about Intel and Stoneware cloud solutions that are allowing school IT to serve the right content for a consistent and compelling learning environment, while meeting IT requirements.

The Cloud Challenge
Many schools and districts are taking a close look at the advantages and risks of cloud. Cloud solutions can bring significant benefits to classroom environments, while simplifying management and software licensing for IT. Teachers and students can access a wide range of digital content and services via cloud—from digital textbooks, labs, and online classes to assessment and creation tools—to support collaborative learning across devices. But cloud can also raise security and manageability concerns. And getting the most out of a cloud solution can require reexamining capital and operational budgets—for example, focusing budget on upgrading the network and infrastructure, while extending the lifecycle for clients.

Why Client Aware Matters
“Client aware” means that cloud-based applications or services are able to recognize and take advantage of the capabilities of the particular end-point device. This helps create the optimal teaching and learning experience possible, based on the devices being used. For example, a full notebook will provide a better experience than a standard tablet, a tablet will offer a better experience than a smartphone. Client aware allows schools to support “bring your own device,” while giving teachers and students the maximum experience their devices allow, rather than delivering to the lowest common denominator.

Making Cloud Work
An intriguing client-side solution offered by Stoneware, Inc. is providing an answer for many schools. This browser-based, client-aware cloud solution delivers an optimized learning experience to each type of device. It is being used by schools to:

• Deliver a broad range of Web applications, services, and resources
• Provide safe, secure access to school network applications anytime, everywhere
• Improve cost-efficiency and management of IT infrastructure and assets
• Support improved classroom management and assessment through reporting tools
Stoneware’s solution is a unified cloud platform. This means it enables access to a combination of public resources on the Internet and private resources housed in the data center, as well as to resources on the local device. Students, teachers, and school administrators can access files, applications, and reports across multiple devices. IT can easily and quickly respond to changing demands for applications or services, without compromising security. Most importantly, because of the breadth and depth of available resources and the responsiveness to real-time classroom needs, students and teachers have access to a richer 1:1 eLearning experience, without additional support or help desk costs.

Schools and districts are using Stoneware’s unique private cloud technology to create solutions tailored to the education environment. These private clouds allow applications, content, data, and services to be securely accessed by anyone, from anywhere.

The Security Question
Stoneware’s Vice President of Strategic Relationships Ken Quinton knows that when considering cloud, one of the first questions school IT professionals ask is, “How do we secure this?” Because users and devices are separated from secure resources, and no proprietary data is housed on devices, the cloud solution can actually increase IT control. Devices and learning platforms featuring Intel® technology bring another level of prevention, through built-in benefits such as hardware-based security, authentication, and remote manageability.

In short, Stoneware is enhancing 1:1 computing with 1:1 access. Leveraging Stoneware’s webNetwork®, schools can create their own unified cloud that provides students with a desktop built inside their browser. Applications and services can follow them anywhere—whether at home, school, lab, or library.

Cloud Advantages for 1:1 eLearning

**FOR TEACHERS AND STUDENTS**

- Increase access to rich learning resources and services, including a wide range of applications
- Access digital content aligned to state standards
- Access assessment data for individual goal-setting and tracking with students
- Increase parents’ visibility into student progress
- Simple single sign-on access and consistent browser-based experience across devices

**FOR IT**

- Deliver the best experience possible, based upon the device
- Deliver rich 1:1 experiences through cloud, while controlling costs
- Increased agility, security, productivity; decreased IT expenditures
- Data security and compliance with browser-based solution
- Scale for growth, without expanding infrastructure or facilities
- Leverage legacy investments, while still taking advantage of Web-based services and resources

“When we introduced Stoneware to the users and they saw how they could access all of their files from anywhere, on any device, it blew their minds. Users have actually called the IT department from home to thank us for this ‘cool technology’ they had no idea existed.”

– Dan Verwolf, Network Administrator, Godfrey-Lee Public Schools (GLPS), Michigan
Cloud that Adapts to Schools

Here you will find a sampling of ways schools are adapting cloud and Stoneware capabilities to meet their own educational objectives.

Setting and Achieving Learning Goals

For the Poway Unified School District in California, combining 1:1 eLearning with cloud represents the future of education technology. Poway uses Stoneware to provide a breadth of permissions-based access to teachers, students, staff, and parents through a single sign-on portal. Reports populated with the latest data and test scores help create a collaborative environment, where teachers can work with students individually to set goals, as well as compare student achievement to state and local standards. Real-time data gives students a clear, ongoing record of where they are and what they need to learn.

The cloud solution gives teachers the flexibility to choose applications and curricula materials that best suit their teaching methodology and the needs of individual students. As it is to every school and district meeting state and federal privacy regulations, data security is critical to Poway. While users have easy access through their Web browsers, all activity is secured and controlled within the private cloud. This enables Poway’s IT staff to deliver data to the school community without jeopardizing the security of its network.

Realizing a Vision of Anywhere, Everywhere Access

Michigan’s Godfrey-Lee Public Schools (GLPS) had a vision of a Web-based environment that enabled students and faculty to access all of their network services, applications, and files from any device, anywhere, at any time. Security and configuration concerns were a roadblock, until the school used Stoneware to set up a virtual Web desktop that delivered access and a consistent interface across devices and users. Now, a single sign-on allows students and teachers to navigate the network through a virtual web desktop that always functions the same, regardless of the user device, its operating system, or browser.

The solution helped Godfrey deliver on its 1:1 vision. Says Godfrey’s network administrator Dan Verwolf, “When we introduced Stoneware to the users and they saw how they could access all of their files from anywhere, on any device, it blew their minds. Users have actually called the IT department from home to thank us for this ‘cool technology’ they had no idea existed.”

By giving everyone a virtual web desktop, the school’s IT can act as a true service provider—rather than as a tech team troubleshooting PCs throughout the user base. Further, Godfrey is reducing capital expenditures by eliminating client-based software, providing netbooks instead of full machines, and avoiding the costs of maintaining a server farm.

Private Cloud, Shared Access

The Florence Unified School District

INDUSTRY-LEADING CLOUD TECHNOLOGY

As school IT managers look for an optimized experience in the cloud, Intel’s client-aware technology brings performance and reliability to devices and learning platforms, while powerful Intel®-based servers continue to provide a secure infrastructure backbone. Intel® technology provides a better user experience for cloud, enabling usage models that synergize compute power, networking, storage, and security solutions.

• Intel® Xeon® processor-based servers come with hardware-based security features, helping to create more secure cloud-computing environments
• Intel® Core™ vPro™ processor-based intelligent clients provide improved performance and manageability, along with stronger security, including faster data encryption, better protection of lost PCs, quick deployment of security patches, and continuous verification of client security
(FUSD) in Arizona had established a 1:1 program, but wanted to extend the benefits beyond the classroom. It had realized the benefits of replacing textbooks with laptops and providing teachers and students with the ability to store and retrieve personal files on the district SAN; the next step to optimizing these capabilities was to establish remote access. Student netbooks, loaded with the Windows XP* home operating system, could not authenticate to the directory, public cloud options were too vulnerable to security issues, and other portal network options were cost-prohibitive.

Florence adopted Stoneware and its proprietary webNetwork technology that takes the concept of cloud computing and "privatizes" it by keeping all the school’s applications and data on the school district’s own servers. Now, teachers and students can freely engage with all their working files and all of the district’s applications over the Web—from any device, anywhere, any time—through one virtual desktop accessed via one single password.

System Administrator Thomas Howe appreciates the ease-of-use for the school population, as well as for IT. Says Howe, “We already knew what we needed. We just didn’t know if the technology existed… The [Stoneware] product is so remarkably flexible and so easily customizable. And, to top it off, Stoneware’s service, technical support, and training have all been phenomenal. Any questions or issues, and they are right on it.”

To get started on a 1:1 eLearning program, visit the K-12 Computing Blueprint at:
www.k12blueprint.com

Explore the spectrum of Intel programs for education at:
www.intel.com/education

To learn more about Intel® cloud solutions visit: www.intel.com/cloud

STONEMWARE IN BRIEF
Stoneware’s cloud platform enables IT to create a Unified Cloud for its organization and deliver secure, browser-based access to files, applications, and reports, whether those resources reside in the public cloud, the private cloud, or on any device.

• Unified Cloud* allows IT to retain security and control, while providing users quick access to resources and the freedom to choose their device
• LANSchool* classroom management software allows teachers to control the learning platforms in their classroom, even without a software agent installed on the particular devices
• webNetwork* integrates into an organization's existing network directory service to simplify management and access control of all services

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