



The Right Fit: 21st Century School Technology



Intel Education Brief

Intel puts together a constellation of the latest technology, pedagogy, and rich, interactive content, offering schools a computing model that will help them make good decisions now and plan wisely for a cost-effective future. This model combines the best of both worlds—giving more control to IT and delivering enhanced, effective 21st century education. Because the Intel “dynamic virtual client” model supports excellence in educational practice, it offers a sustainable win-win for policymakers, principals, IT managers, educators, and students.

Finding the right solution for today’s schools and tomorrow’s technology landscape

Technology is now an integral part of most school systems. In K-12 schools from urban centers to rural communities, teaching and learning computing platforms are being used by teachers and students. Servers and networks support not only administrative services, but an enhanced education experience. Administrators, IT managers, teachers, and students find themselves in a constant process of adaptation and discovery—balancing new learning paradigms, operational and management costs, and myriad devices. Security compliance adds another layer of complexity for IT managers meeting stringent demands.

With the number of school computing systems increasing and 1-to-1 eLearning (where each and every student and teacher has a dedicated mobile platform) proliferating, schools are starting to feel more like businesses in the complexity of their

technology requirements. Students, teachers, administrators, and parents expect to use school-owned equipment at home or on the go, and access school applications on their own devices and computers. School IT managers are trying to support non-stop learning—from classroom activities to digital homework—through technology inside and outside school.

To add to the complexity, technology is constantly evolving. A dizzying array of choices are presented to education decision makers—upgrades, cloud computing, SOA, SOE, Web 2.0 and 3.0, SaaS, 3D Internet, WiMAX*, virtualization, mobility, 1-to-1 computing—to name just a few! What will be available or necessary tomorrow is uncertain at best. Not surprisingly, many IT professionals in school systems are finding that creating and maintaining a sustainable infrastructure is complex and difficult.

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Preparing for scalable, planned growth

What's needed is a stable, solid plan centered on technology basics, with the built-in flexibility to accommodate whatever lies ahead. Intel recommends a computing model that not only supports a rich educational experience and improves outcomes, but is also cost-effective. Based on common configurations in today's schools, it's designed to help schools adapt, serve, and scale without having to reinvest in new infrastructure each time the device or learning landscape changes. It is an evolutionary model, allowing schools to start where they are and move—as budget and resources allow—toward systematic, planned growth.

The core of the solution—whether for cloud computing or any of the other available technologies—is simple: a rich, full-featured learning platform (or “client”), most often a notebook or tablet. Rich mobile platforms offer the safest and best choice for educational institution deployments. They provide the flexibility to support a wide range of learning activities both within and outside school. Rich platforms deliver the necessary applications, digital content and content creation, administrative services, and support that schools and school systems need to deliver quality 21st century education.

The dynamic virtual clients solution

The Intel model, or Dynamic Virtual Clients (DVC), brings together computing platforms, servers, software, and services in a way that is both cost-effective and flexible. It gives schools a solid yet agile foundation for future growth.

Dynamic Virtual Clients is a flexible family of delivery methods for software applications. Rather than the traditional model—where applications and operating systems are installed and maintained on individual platforms—with this balanced computing model, IT can choose the right mix to install and/or stream from their servers. The process is invisible to users, so educators and students get a rich experience and mobility, while IT gets centralized management and data security. Costs for technology investment and maintenance are lowered, as schools centralize and consolidate IT management, licensing, and delivery.

> **Rich Platforms That Act Thin:** A rich laptop or tablet platform provides the best performance and solution for schools moving into an alternative client architecture. By using the processing power and resources in the platform, teachers and students have the flexibility to adapt to the ever-changing software and classroom landscape. At the same time, IT maintains the control of applications and operating systems so important to cost-effective manageability and regulatory compliance.

> **Virtual Desktop Infrastructure (VDI) Servers:** VDI servers deliver the software applications and/or operating systems to computing platforms. All data is automatically housed within the data center, increasing data security. Centralized serving also centralizes and simplifies management.

> **Server Capacity:** As hybrid client solutions evolve within a school system, schools can reduce the facility space devoted to servers. Servers can be moved to a central site to provide a centralized “cloud-like” or “virtualized” solution—where applications and even operating systems can be served on-demand to platforms throughout a school or school district.

> **Cloud Services:** Cloud services, whether internal or external, can be used to augment classroom or data center servers. They provide Internet-based applications, operating systems, and CPU resources. One strong advantage is that schools can use a cloud vendor who offers guaranteed server compliance with regulatory requirements—such as the Family Educational Rights and Privacy Act (FERPA)—as part of their package, significantly reducing the time spent by internal IT staff.

Conclusion

As schools strive to ensure every student has the skills to participate in the 21st century, technology is playing a central role. Supporting the evolving technology landscape cost-effectively with an ever-changing mix of applications, while providing a high level of customization and service is a challenge faced by district-wide schools systems and single schools alike. A DVC model centered on cloud computing and rich teaching and learning platforms can be implemented in stages to meet the requirements, facility constraints, and budget limitations of schools. Rich platforms based on Intel® technology, combined with Intel® vPro™ technology, deliver optimal security and manageability. With the Intel Dynamic Virtual Client model, schools can meet the demands of the present, while effectively planning, sustaining, and scaling for the future.

Leading education technology providers are prepared to work closely with schools to plan and build solutions based on the Intel DVC model.

For more information visit www.intel.com or contact the technology solution provider of your choice.

