SOLUTION BRIEF

IGEL in Education

Reduce Costs, Improve Security, and Optimize the Computing Experience for Students, Faculty, and Staff

Technology plays a central role in the modern educational experience. However, extensive use of shared computing resources and a diverse population of highly mobile users make endpoint management and security in educational environments extremely challenging.

Lab and classroom endpoints are used in diverse ways all day every day, and specialized technology requirements for specific educational disciplines are increasingly common. Meanwhile, IT teams face ongoing pressure to control costs and do more with less.

As the use and importance of technology in the educational setting grows, so too do the number of security threats that IT and security teams must contend with. Broad use of removable storage media, cloud-based file sharing, and untrusted personal computing devices in school and campus environments make protection of managed endpoints a significant challenge.

IGEL: A Simple, Smart, and Secure End User Computing Approach

Large educational institutions were among the earliest adopters of virtual desktop infrastructure (VDI), which is uniquely suited to environments with many shared systems supporting a wide range of computing requirements. Now, desktop-as-a-service (DaaS) offerings like Amazon WorkSpaces and Microsoft Windows Virtual Desktop (WVD) put these capabilities within reach of schools and higher education institutions of all sizes. However, VDI and DaaS deployments are only effective when combined with an efficient, full-featured, and secure endpoint management approach.

IGEL offers IGEL OS, the next-gen edge operating system for cloud workspaces, along with simple, smart, and secure management and control software for cloud workspaces and virtual desktops. The IGEL approach helps IT teams at educational institutions maintain the smallest possible footprint on managed endpoint devices, while delivering a high-fidelity desktop experience to students, faculty, and staff.

By repurposing legacy hardware, IGEL OS standardizes and unifies a broad range of diverse endpoints onto a single management and control platform while enabling adaptive configuration and granular control, giving users a familiar, trouble free workspace. With support for more remote display protocols and attached peripheral devices than any alternative solution, IGEL OS delivers an optimized user experience at scale in both general purpose and highly specialized classroom and lab settings.

IGEL OS works in concert with the IGEL Universal Management Suite (UMS) software, which was purpose-built to simplify complex enterprise endpoint environments. It gives IT teams the ability to remotely manage up to tens of thousands of endpoints from a single console with drag-and-drop simplicity, making it suitable for large schools and university campuses, including those with many mobile and remote users.

Reduce Cost and Complexity in Shared Environments

One of the most powerful uses of VDI and DaaS is for configuration of shared systems in classroom and lab environments. Lab, library, and classroom endpoints are often used by many different users in a variety of ways as needs change throughout the day or week. VDI and DaaS technologies give users in shared environments access to the workspaces and applications required for specific educational needs. IGEL takes this a step further by ensuring that endpoints themselves are configured dynamically for specific user and class requirements. Only the minimum software required for a specific use case is enabled on the endpoint for simplicity and security, and hardware settings and peripheral support is automatically configured based on pre-defined profiles and policies. This allows classrooms and labs to adapt and auto-configure continuously based on changing requirements with little-to-no manual effort by the IT team.

Users of IGEL-managed VDI and DaaS endpoints enjoy faster boot times and a more personalized experience than with traditional PCs. Meanwhile, IT teams also enjoy significant time savings by replacing complex and error-prone Windows endpoint patching and update activities with a highly efficient one-to-many update process with IGEL. These operational efficiency gains, combined with IGEL's ability to extend the useful life of existing PC hardware, help schools and universities reduce costs. This allows a higher percentage of existing budgets to be directed to educational activities.

> **"The conversion of the library laptops to IGEL devices has been incredibly successful. The devices now boot in seconds and can be managed centrally and updated at the click of a button. You just make a change in the IGEL management software and it updates all devices at the same time – it just happens. The library staff were so impressed with the IGEL converted laptops that they volunteered money from their own budget to pay for more licenses."**
>
> ~ **Glen Harrison,** IT INFRASTRUCTURE MANAGER, LINCOLN COLLEGE GROUP

Visit the **Education and Research Center on igel.com** for a complete collection of videos and case studies that showcase how IGEL helps educational institutions get the most out of their end user computing infrastructure.

> **"Now everything is a lot quicker and the students get the same experience irrespective of the device."**
>
> Ayrshire College

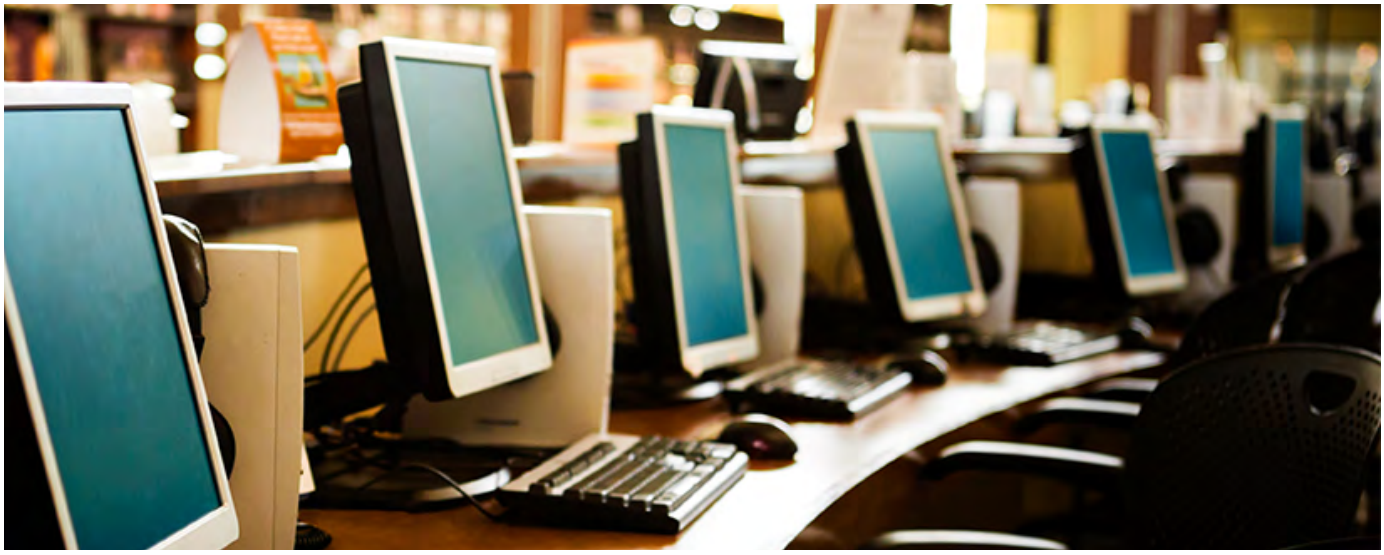
Simplify Support for Specialized Educational Needs

One major challenge that many schools face is providing secure access to specialized applications that students require for specific areas of study. In many cases, this software is too costly to distribute broadly or make available to all users of shared VDI and DaaS environments. It also often requires specific hardware support, such as for multimedia or 3D graphics. IGEL's precise endpoint control and flexible deployment options like secure, compact, and energy-efficient IGEL-branded endpoint devices and UD Pocket USB boot make supporting these specialized requirements easier. Students gain the application access and flexibility they need to complete their coursework effectively, while the school IT team keeps tight control over licensing costs and compliance for high-end applications.

> **"It didn't take us long to realize that the IGEL UD Pocket was exactly what we had been looking for to provide our CAD students with secure access to their graphics-intensive design applications."**
>
> ~ **Don Shirley,** NETWORK SPECIALIST MILLARD PUBLIC SCHOOLS

Similarly, IGEL's control and deployment flexibility makes it much easier to support use cases like computer-based exams without leaving loopholes for cheating or requiring time-consuming lockdown and configuration processes.

> **It could easily take an hour to render the desktops ready for the exams, followed by another five hours to return the desktop PCs to their original settings. As a result, this often meant that classrooms were unavailable for an entire day. With the time savings we have already effected in the area of set-up and restoration, from six hours to less than one hour, we will be able to expand our digital exam program.**
>
> ~ **Wiebe De Jong,** DIGITAL EXAMS DEPARTMENT HEAD HANZE UNIVERSITY OF APPLIED SCIENCES



Reduce IT Complexity for Both On- and Off-Campus Users

IGEL's minimal endpoint footprint, modular architecture, and powerful management capabilities dramatically simplify endpoint deployment and ongoing management. IGEL enables zero-touch device deployment and intelligent device configuration based on pre-defined policies. Ongoing firmware updates are delivered in a fast and ultra-reliable manner using an efficient "buddy update" approach that reduces the impact of bandwidth bottlenecks. This includes devices at satellite campus and home user locations, which are provisioned and updated seamlessly through the IGEL Cloud Gateway (ICG) feature. By eliminating the traditional friction associated with endpoint provisioning and management, IGEL helps IT teams at schools and higher education institutions save valuable time.

Reduce Hardware Costs

Organizations that run Windows on their various endpoint devices are accustomed to frequent demands for new endpoint hardware with ever-growing resource requirements. Combining VDI or DaaS with IGEL breaks this pattern, allowing schools, colleges, and universities to sharply reduce capital expenses by repurposing and extending the life of existing hardware investments.

IGEL's Workspace Edition software and UD Pocket USB boot option make it easy to convert devices to IGEL OS and run IGEL OS on legacy hardware, deferring costly hardware upgrades. In addition, IGEL Workspace Edition licenses are perpetual and portable. This gives IT teams the flexibility to leverage past license investments on new hardware by simply reassigning them though an easy-to-use web portal.

> **With IGEL, we expect to get more than seven years out of the endpoints we are using to deliver Citrix XenDesktop to our end users. This will effectively help us double the industry standard for periodic replacement of these devices. The value and ROI are definitely there, and we are saving about 50% over that span of seven years."**
>
> ~ **Scott Behrens,** IT OPERATIONS MANAGER STRAYER UNIVERSITY

View more information about Strayer University's innovative use of IGEL:

- **Strayer University Case Study**
- **Scott Behrens at IGEL DISRUPT 2018**
- **Scott Behrens at Citrix Synergy**

Enhance Endpoint Security

As a lightweight, read-only operating system that can be configured to include only the modules that are necessary for specific use cases, IGEL OS minimizes the malware attack surface at the endpoint.

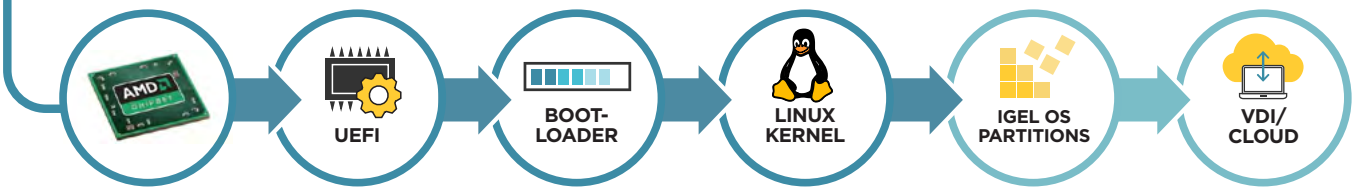
Moreover, when IGEL OS is used in combination with specific IGEL-branded endpoint devices, it is uniquely capable of establishing a complete "chain of trust" from the endpoint processor or UEFI process to the destination server or cloud platform. This innovative security framework validates each discrete step of the endpoint boot and workspace execution processes in the following manner:

THE IGEL CHAIN OF TRUST

- Ensures all components of your VDI/cloud workspace scenario are secure and trustworthy
- As each component starts it checks the cryptographic signature of the next, only starting it if it is signed by a trusted party (e.g. IGEL, UEFI Forum)

The Process

0. On the new AMD-driven endpoint models UD3 and UD7 a dedicated security processor checks the cryptographic signature of the UEFI
1. Other IGEL devices: Chain starts at UEFI
2. UEFI checks the bootloader for a UEFI Secure Boot signature
3. Bootloader then checks the IGEL OS Linux kernel
4. If the OS partitions' signatures are correct (starting with IGEL OS 11.03), IGEL OS is started and the partitions are mounted
5. For users connecting to a VDI or cloud environment, access software such as Citrix Workspace App or VMware Horizon checks the certificate of the connected server



Download IGEL Workspace Edition to Get Started Today

Educational institutions that optimize their endpoint management approach with IGEL will reduce operational costs, reduce capital expenses, and improve faculty, staff, and student satisfaction. Are you ready to see the impact that IGEL can make at your school or higher education institution? **Download IGEL Workspace Edition for free** to experience the simplest, most cost effective, and most secure way to deliver VDI and DaaS desktops to your users.

Your IGEL Workspace Edition download will include IGEL OS licenses and complete access to IGEL UMS for management, all of which are free to use for up to 90 days.

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