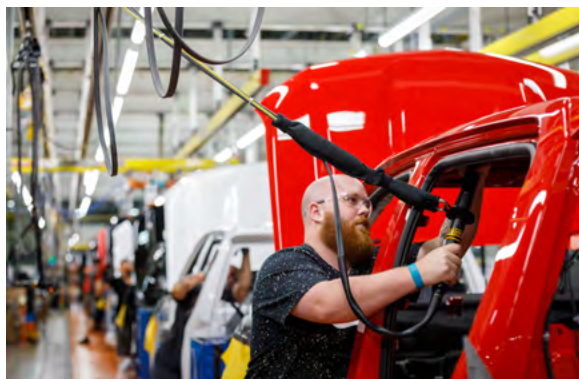




## SOLUTION BRIEF

# SECURE, COST-EFFECTIVE MANUFACTURING WITH IGEL

Improve operational efficiency and create a lean manufacturing environment with simple, smart, and secure end user computing



The manufacturing and logistics industries face intense competition and a growing demand from their workforce for mobile access accelerated by the COVID-19 pandemic. The IT infrastructure you select plays a critical role in securing the most vulnerable entry point for malware — the network edge. It should also improve overall operational efficiency while creating a secure and lean manufacturing environment. This is especially true for user endpoint devices attached to the network, either on a corporate LAN or via the Internet.

IGEL OS, IGEL's next-gen edge OS for cloud workspaces, helps ensure the highest levels of connectivity by supporting a broad range of applications and interfaces. With IGEL OS, these apps and interfaces can be easily customized for user-specific requirements, whether in production, quality assurance, or in the warehouse.

When endpoint user experience is poor, it directly affects employee productivity and customer satisfaction. Endpoint devices are also a key information security battleground. They generally outnumber other device types by a wide margin and are used in many different contexts, often by non-technical users. Keeping them secure, updated with the correct software, and functioning well is a complex, costly, and time-consuming endeavor without the right architecture in place.

### **Simplify and Secure VDI and DaaS with IGEL**

IGEL offers IGEL OS, the next-gen endpoint operating system for cloud workspaces, along with simple, smart, and secure management and control software for virtual apps and desktops. The IGEL approach helps manufacturing firms' IT teams maintain the smallest possible OS and application "footprint" on endpoint devices, while giving users a high-fidelity

desktop experience that is configured for both local and remote users to flexibly support a vast range of requirements or specialized peripheral needs.

IGEL OS standardizes endpoints onto a single management and control platform while enabling adaptive configuration and granular control, while 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 highly demanding manufacturing and logistics environments.

IGEL OS works in concert with the IGEL Universal Management Suite (UMS) software that runs on a server to manage and control up to 300,000 IGEL OS-powered endpoints from a single console with drag-and-drop simplicity. The UMS was purpose-built to simplify complex enterprise endpoint environments.

### **Reduce Cost and Complexity, and Strengthen Security in Shared VDI and DaaS Environments**

In manufacturing, one of the most powerful uses of VDI and DaaS is for configuration of shared systems. Endpoint devices 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 these shared environments access to the workspaces and applications required for their specific needs. IGEL takes this a step further with its Shared Workplace feature by ensuring that the endpoints themselves are configured dynamically for specific users to suit their respective requirements, whether with manufacturing tools, unified communications, logistics, operations, etc. With IGEL OS, 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 are automatically configured based on pre-defined user profiles and policies.

This allows the endpoints to adapt and auto-configure continuously based on changing requirements with little to no manual effort by the IT team.

### **Optimize workflows and enable a wide range of work roles**

Using IGEL to deliver a secure, high-fidelity VDI or DaaS experience to endpoints optimizes and complements many common workflows and use cases, including:

- Research and design, where a high quality/fidelity user experience is a must, as well as work from home and remote work
- Call centers, both on-site using the Shared Workplace feature, or work from home
- Digital signage/communications (e.g., shop floor, lobbies, sales offices)
- Shop floor and IoT data collection and analytics. Lightweight, lean (< 2GB) IGEL OS enables rapid access to apps and services, and is great for real-time data collection and reporting
- Latest drivers and CODECs e.g. H.265 make IGEL OS tuned to deliver high-end multimedia graphics for research and development and unified communications
- Platform independent Linux based IGEL OS enables seamless, continued access to resources during merger and acquisition transactions

## Improve IT Efficiency



IGEL's smaller endpoint software footprint, modular architecture, and powerful management capabilities dramatically simplify endpoint deployment and ongoing device management while minimizing potential endpoint attack vectors. 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 connected to trusted networks, as well as remotely deployed devices, which are provisioned and updated seamlessly through the IGEL Cloud Gateway (ICG) feature. A RESTful API enables communication with other autonomous systems used for management, reporting, trouble ticketing, and other functions to enable easy integration. By eliminating the traditional friction associated with endpoint provisioning and management, IGEL helps manufacturing IT teams to work more efficiently and focus more time on innovation and strategic projects.

## Reduce Hardware Costs

Manufacturing and logistics often require highly specialized device hardware. 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 manufacturers to sharply reduce capital expenses by repurposing and extending the life of existing endpoint hardware investments.

IGEL OS and the USB bootable UD Pocket or new UD Pocket2 ("IGEL OS on a USB stick") make it easy to convert any compatible device to IGEL OS on legacy hardware, deferring costly hardware upgrades. In addition, IGEL software licenses are migratable from one endpoint device to another. This gives IT teams the flexibility to leverage past license investments on new hardware by simply reassigning licenses to new devices through an easy-to-use web portal.

Since IGEL OS is an extremely efficient and "lightweight" operating system, and runs on any compatible x86-64 endpoint device, manufacturing organizations can extend the useful life of existing endpoints for years. This results in fewer hardware refresh cycles which can result in vast hardware savings as well as minimizing the user disruption incurred by swapping in new endpoint hardware. With over 100 technology partner integrations, support of a wide range of peripheral devices like printers, scanners, card readers, etc., further extends the benefit of easy and cost-effective integration into existing facility environments.

One more area of potential cost savings for manufacturers is that IGEL OS is extremely "green" - it's small footprint and minimal resources requirement allows organizations to use extremely efficient thin clients, including endpoint devices offered by IGEL. For environments with many thousands of user endpoints, the yearly energy savings can be significant.

## **User Experience**

Manufacturing organizations usually include a variety of departments and teams that have highly variable requirements for their end-users. Each department needs to have a high-fidelity, satisfying user experience to keep production levels high and end-users satisfied. Research and development teams in particular oftentimes require very immersive, high-fidelity digital experiences for development and collaboration. To that end, lightweight IGEL OS offers excellent performance and supports all the primary unified communications environments including Microsoft Teams, Zoom, WebEx, GoToMeeting, Skype for Business, and more.

For the many people who have had to work from home since the onset of the pandemic, the IGEL UD Pocket or the new UD Pocket2 with USB-C connector, and IGEL Cloud Gateway (ICG) enabled that migration to happen quickly, and with minimal interruption. Since it instantly turns any compatible x86-64 home or personal computer into a secure workspace for work, the UD Pocket is the perfect solution for those who need the flexibility to work from home either temporarily or on a prolonged basis while the company maintains full management and control of the user's workspace via the ICG. Since early 2020, the UD Pocket and ICG have enabled thousands of companies to give their people the freedom to quickly and securely work from home or anywhere else "off network".

## **Enhance Security and Simplify Compliance**

Since endpoint devices are the most common entry point for malware that can render any company vulnerable to compromised data or ransomware, IGEL OS plays a key role in helping to minimize the chances that endpoint devices themselves become infected. Manufacturing organizations oftentimes need to protect highly sensitive data including patented technology, design schematics, prototypes, etc. By moving Windows to the data center or cloud and loading IGEL OS on endpoints instead, organizations can vastly simplify the tasks of endpoint protection, software downloads, and patches.

IGEL OS is a read-only operating system and its modularity minimizes the potential attack surface on any given IGEL OS-powered endpoint. Additionally, IGEL supports a broad range of security focused technology partners in the areas of single sign-on, user authentication, smart card readers, scanners, and biometric identity technology to further bolster security at the edge. Add in the IGEL "chain of trust", which is a sequential cryptographic signature verification process from device boot-up or UEFI all the way to the destination host or cloud, and organizations can configure, control, and manage hundreds, thousands, or tens of thousands of endpoints with confidence. And the IGEL REST API supports integration with external autonomous systems for trouble ticketing, reporting, and system-wide management.

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.



## 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 Any UEFI supported devices\* with IGEL OS: 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

\*with UEFI Secure Boot deactivated the process starts at bootloader (3)

The IGEL architecture is uniquely capable of providing a “complete chain of trust” from the endpoint processor (specific IGEL endpoint devices) or UEFI process to the destination server/cloud. This innovative security framework validates each discrete step of the endpoint boot and workspace execution processes.



**We were inspired by how effortlessly Skype for Business was integrated with the help of IGEL. Other providers always failed, but IGEL won us over right away. We also appreciate the ease of management available through the UMS - and we have not looked back since choosing IGEL.”**

**Gerhard Kapeller**, HOPPE HOLDING AG

## DOWNLOAD IGEL WORKSPACE EDITION TO GET STARTED TODAY

Manufacturing and logistics organizations that optimize their endpoint management approach with IGEL will reduce operational costs and capital expenses, and improve both employee and customer satisfaction. Are you ready to see the impact that IGEL can make at your organization? **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 3 IGEL OS licenses and complete access to IGEL UMS for management, all of which are free to use for up to 90 days.