IGEL Thin Client Planning

Table of Contents

Introduction

Modern enterprises are increasingly moving towards virtualization to accommodate mobile workforces, increase data security, and reduce PC ownership costs. All of these benefits can be realized without sacrificing performance through client virtualization, in which computing is moved from a local PC to a datacenter. Effectively, the classic desktop experience is simulated through virtualization software while abstracting the hardware, OS, and applications from the desktop.

For users, this means more flexible computing and ability to access their data and applications from any Internet-connected device. For IT, this means having better control over critical data, ability to solve application issues centrally, and less physical PC's that need to be managed. And for the enterprise, this means cost savings through less energy consumption, less overhead, fewer computing inefficiencies, and increased productivity from a streamlined computing environment.

With so many benefits to client virtualization it's easy to understand why more businesses are moving in that direction. This has also lead to a large market for thin client devices, with different types of thin clients offering different advantages, depending on the needs of the user.

IGEL provides solutions for any environment, from zero clients that optimize VDI access to multi-protocol thin clients that allow access to different central IT infrastructures and cloud services. They also offer the ability to repurpose existing hardware as a thin client by installing IGEL thin client software or simply plugging in a micro USB drive.

With a range of product offerings to choose from, IT administrators have difficult choices to make. Being able to base that choice off of hard data and business intelligence allows for the most appropriate solution to be chosen.

SysTrack monitors the environment and captures a wide range of information relevant to IT administrators tasked with choosing a thin client device. This report highlights some of the most useful datasets taken from the target environment so it can become clear which IGEL solution is the most appropriate based on user needs.

IGEL Technology

IGEL offers a variety of different thin client models and thin client software. All of the models offer an efficient and secure way to access a virtual desktop. The devices are based on Linux and Windows, and include.

- Thin Clients
- All-in-One Clients
- UD Pocket – the IGEL OS on a micro USB key for converting any 64-bit x86 PC
- UD Converter – software to convert an x86 PC to an IGEL OS thin client device

All the thin client models come standard with a variety of integrated software tools, clients and protocols. This allows easy access to both traditional server-based environments in addition to virtual desktop environments. Some of the benefits of thin client devices are:

- Low investment costs: no unnecessary hardware or software
- Low operating costs energy-efficient hardware, an intuitive management solution, no licensing or update costs
- Greater security: USB ports can be selectively enabled to accept only certain peripheral devices. All IGEL thin clients support smartcard readers for secure two-factor authentication, personalization solutions or single sign-on as well as selected USB token solutions
- Flexible deployment: a centralized IT system can configure IGEL OS remotely with full and granular controls (e.g. connectivity for peripheral devices, Web/VoIP/multimedia applications)
- Future-ready investment: high processor and graphics performance, large RAM and flash memory, continuously developed firmware including technology and security updates
- Outstanding user convenience: top-notch design and careful assembly, stable firmware, high performance due to direct access to server-based applications, virtual desktops and cloud based applications, no cooling fans mean no noise, minimal generation of heat

IGEL thin client software (UD Converter and UD Pocket) provides an effective alternative to more traditional thin client hardware solutions. This solution is simply installed onto existing hardware as the OS, and effectively turns the system into a thin client, allowing all the traditional access to virtual environments. Some of the benefits are:

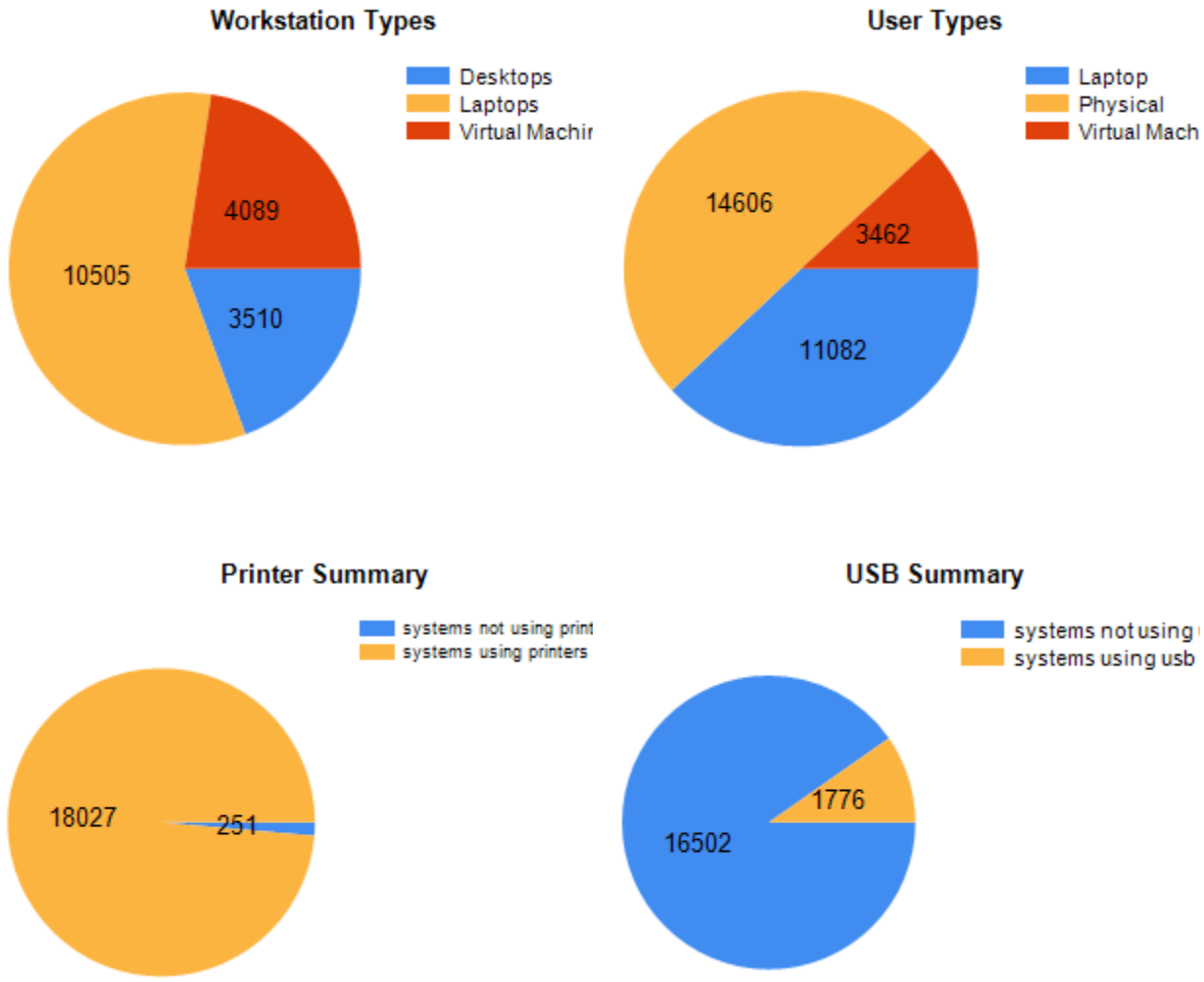
- No additional hardware costs by repurposing current PCs
- Reduction in desktop administration costs
- Reduces cost of ownership of the hardware by extending the life

For more information on the various IGEL offerings see Appendix II.

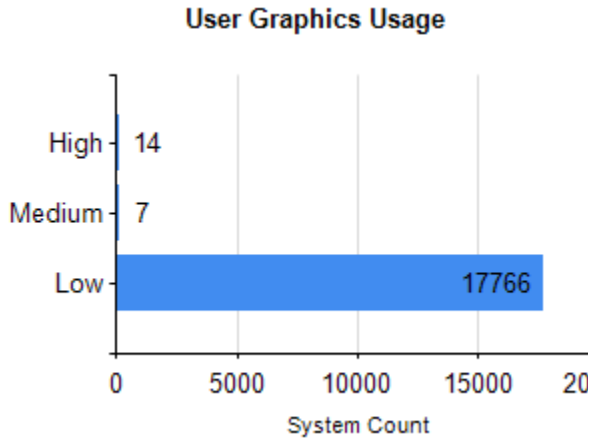
Current Environment Details

Understanding user needs is an important step in deciding which IGEL solution is the best choice for a given environment. What works for one user may not work for another. It's important to understand, for example, the graphics needs of a user, or how mobile the user may be. Leveraging actual usage data from the target environment can provide invaluable insight into the current structure of the environment and how it may benefit from an IGEL solution.

Fundamental data on the current types of users and what systems they're using will provide an idea of the portion of the workforce that may require a thin client device. Below is a chart of the breakdown of current systems in the environment as well as a breakdown of the number of users on different system types.



Other important information to understand is what portion of the workforce has high graphics requirements and what amount of time is being spent with multimedia.

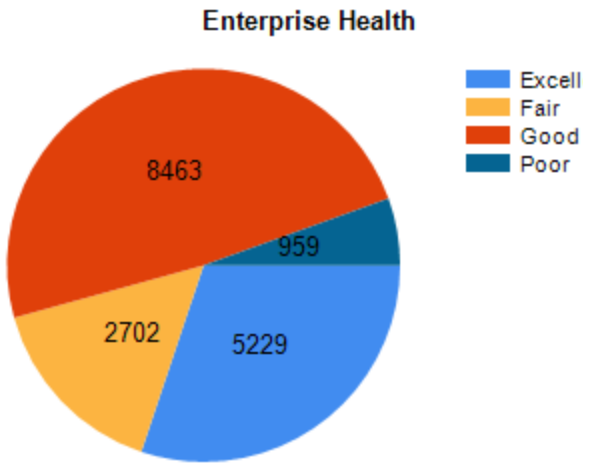


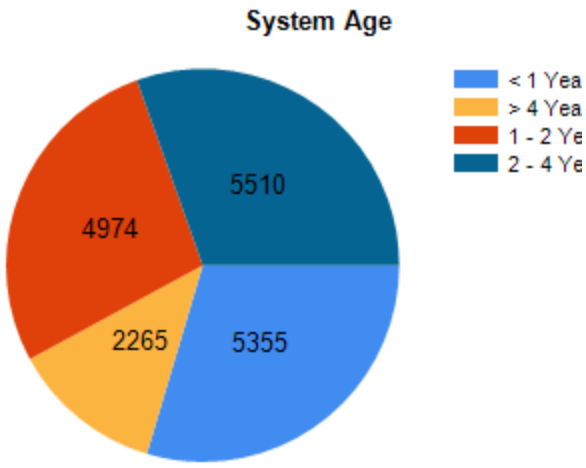
Average media time (hrs/wk)	0.69

Below are details regarding workstation display configurations. This type of information is important when deciding on a thin client device. You need to ensure the device will support the desired resolution, for instance.

Most common Resolution	1920x1080
Number of systems with higher than average resolution	25
Number of systems with two monitors	6919
Number of system with more than two monitors	778

Another interesting summary is in regards to the health and age of the current systems in the enterprise. Understanding what portion of the systems in use may be in line for a hardware refresh could be a good opportunity to explore moving to a virtual environment and deploying thin clients.

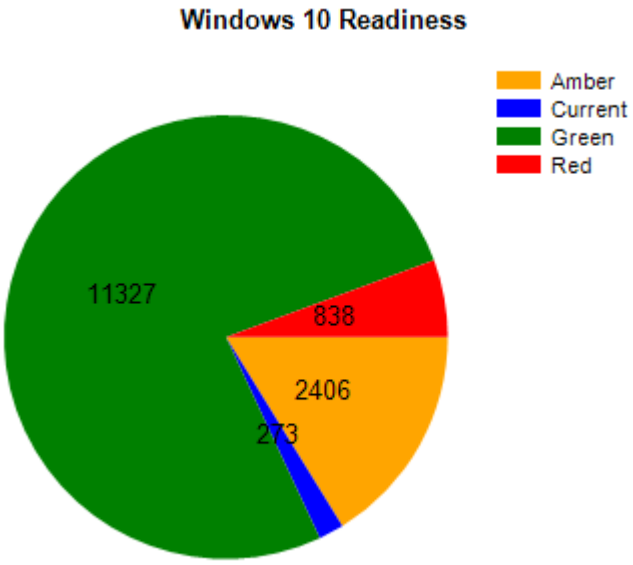




In addition to a general health and age overview, below is health data by manufacturer. This provides further supporting data for which subset of systems may be in line for a hardware refresh. The health score, ranging from 0 - 100, is a quantitative measure of the user experience. It takes 13 different key performance indicators, such as disk limitations, network problems, or hardware issues, into account to essentially quantify how much productivity time was negatively impacted.

Manufacturer	System Count	Average Age (years)	Health
Hewlett-Packard	12184	2.28	91.99
VMware, Inc.	3094	2.04	88.06
HP	1285	0.53	92.23
Microsoft Corporation	79	1.62	84.03
Dell Inc.	22	0.55	90

It may also be helpful to understand if the systems in the environment are ready to be migrated to Windows 10. Assessing health and hardware while planning for IGEL device implementation is a great opportunity to upgrade operating systems as well. Below are Windows 10 readiness statistics.



76.34 % Ready Now	16.22 % Potential
5.65 % Refresh	1.84 % Current
14837 Total Candidates	

With that high-level overview in place, a general recommendation for how many systems should be moved to virtual and supported with an IGEL Thin Client is shown below. The recommendation is based on the hardware characteristics and health of the system.

Migration Target Platform	Recommended	Not Recommended
IGEL Thin Client	15401	1176

Summary and Recommendations

By using Lakeside Software's SysTrack Assessment, an IT department can map out exactly which endpoint devices are appropriate to upgrade to IGEL solutions. For Windows 7 to Windows 10 migrations this can be very lucrative, saving companies millions of dollars of incremental hardware upgrades of the endpoint devices by using IGEL thin client solutions to replace and extend the life of Windows 7, other manufacturers PCs and thin clients.

Further Information

IGEL provides a variety of thin client options, depending on requirements and work habits of the user. Detailed information of each of the products can be found at the below link.
https://www.igel.com/products/igel-thin-clients/hardware-overview/overview-hardware.html
Additional information on how SysTrack can help deliver the business intelligence you need to make informed IT decisions and continuously monitor the end user experience can be found at Lakeside Software's website.
http://www.lakesidesoftware.com/

Appendices

Appendix I: Detailed System Overview

System	OS	CPU Architecture	RAM (GB)	Disk Space (GB)
SYSTEM1.DOMAIN.COM	Microsoft Windows Server 2012 Datacenter	x64	16	350
SYSTEM2.DOMAIN.COM	Microsoft Windows 10 Pro	x64	16	1051
SYSTEM3.DOMAIN.COM	Microsoft Windows 10 Enterprise N	x64	32	1409
SYSTEM4.DOMAIN.COM	Microsoft Windows 10 Pro	x64	32	2656
SYSTEM5.DOMAIN.COM	Microsoft Windows Server 2012 R2 Standard	x64	32	300
SYSTEM6.DOMAIN.COM	Microsoft Windows 8.1 Enterprise	x64	24	2102
SYSTEM7.DOMAIN.COM	Microsoft Windows Server 2012 R2 Standard	x64	8	60
SYSTEM8.DOMAIN.COM	Microsoft Windows Server 2008 R2 Enterprise	x64	4	932
SYSTEM9.DOMAIN.COM	Microsoft Windows Server 2008 R2 Standard	x64	4	40
SYSTEM10.DOMAIN.COM	Microsoft Windows 10 Pro	x64	8	246

Appendix II: Systems that have used USB devices

System Name
SYSTEM1.DOMAIN.COM
SYSTEM2.DOMAIN.COM
SYSTEM3.DOMAIN.COM
SYSTEM4.DOMAIN.COM
SYSTEM5.DOMAIN.COM
SYSTEM6.DOMAIN.COM
SYSTEM7.DOMAIN.COM
SYSTEM8.DOMAIN.COM
SYSTEM9.DOMAIN.COM

Appendix III: Systems that have used printers

System Name
SYSTEM1.DOMAIN.COM
SYSTEM2.DOMAIN.COM
SYSTEM3.DOMAIN.COM
SYSTEM4.DOMAIN.COM
SYSTEM5.DOMAIN.COM
SYSTEM6.DOMAIN.COM
SYSTEM7.DOMAIN.COM
SYSTEM8.DOMAIN.COM
SYSTEM9.DOMAIN.COM
SYSTEM10.DOMAIN.COM

Appendix IV: IGEL Product Offerings, and associated use cases:

	UD3	IZ3 HDX	UD5	UD6	UD9	UD Pocket	Ur
	IGEL Universal Desktop	IGEL Zero Client	IGEL Universal Desktop	IGEL Universal Desktop	All-in One Universal Desktop	Portable Micro Universal Desktop	
Use Case	Multimedia Knowledge Worker		Knowledge Worker	Power User	Power User	Depends on the endpoint	
Citrix XenDesktop	Y		Y	Y	Y	Y	
Citrix XenApp	Y		Y	Y	Y	Y	
Citrix Receiver	Y		Y	Y	Y	Y	
Citrix Storefront	Y		Y	Y	Y	Y	
Operating System	IGEL OS		IGEL OS	IGEL OS	IGEL OS	IGEL OS	
Endpoint Management Software	Universal Management Suite		Universal Management Suite	Universal Management Suite	Universal Management Suite	Universal Management Suite	
Endpoint management in the cloud or DMZ	IGEL Cloud Gateway		IGEL Cloud Gateway	IGEL Cloud Gateway	IGEL Cloud Gateway	IGEL Cloud Gateway	
Processor	AMD Quad Core 1.6 GHz		Intel Dual Core 2.5 GHz	Intel Quad Core 2.4 GHz	Intel Celeron Quad Core 2.4 GHz	Depends on the endpoint	
Screens supported	2		2	2	2	Depends on the endpoint	