THINSCALE

THINKIOSK

Enabling the Optimal End User Experience

The Advantage of Choosing Windows-Based
Thin Clients Over Linux-Based Alternatives

WHITE • PAPER

INTRODUCTION

More often than not, when considering a virtual desktop solution or some other form of remote desktop/application solution, the end point device an end user will connect from gets overlooked, and is not within the overall scope of the project. Typically, the project concentrates on infrastructure and how much server capacity is required. Even when the device is in focus, it's usually a decision that is made without too much consideration, and often based on budget constraints. In these cases, a Linux-based device may be considered over and above a Windows-based device due to Linux being perceived as more secure and lower cost. But is it secure, and is it actually cheaper in the long term? Does it deliver all your requirements, and more importantly, those of your end users?

It's not an uncommon assumption to think that choosing which end point to deploy, and what OS is installed on it, is not really that relevant or important, so does it really matter? After all, the virtual desktop or application session is running in the datacentre and the end point device is only being used as a means of displaying the screen shots of the remote session to the end user, over the network. But is that all that a thin client delivers, or are there additional features and functions needed which require a specific OS in order to function?

In this white paper we will discuss the importance of choosing the right thin client device, and why choosing a Windows-based thin client is the best option when compared to Linux-based alternatives, to deliver the most secure and optimised end user experience possible.

Why ThinKiosk Windows-based Thin Clients?

SECURITY & VULNERABILITIES

One of the reasons that a Linux-based OS is chosen over a Windows-based OS is that Linux is seen as being more secure than Windows, having fewer vulnerabilities and therefore lessening the threat of potential cyber attacks.

Fewer vulnerabilities means there should be less time needed to patch and update the OS. Resulting in lower management overheads and associated costs. But is this really the case?

If you look at the top 50 products with distinct vulnerabilities[1], Linux tops that list with almost 2000 vulnerabilities! Windows in comparison averages just 725 across all versions.

Linux typically does not receive the same levels of attention as Windows does when it come to management, and there are not that many Linux management solutions on the market, however it still needs patching to prevent exploitation and exposure of sensitive information.

1. https://www.cvedetails.com/top-50-products.php?year=0

CONNECTING EXTERNAL DEVICES

It is safe to say that most peripheral devices will have Windows device drivers available to install on the end point device. More importantly, these device drivers have been both tested and certified to run on the Windows OS.

The same cannot always be said about an end point device running a non-Windows OS, such as Linux. Often these drivers don't even exist, so you will have to find specific hardware, which in turn may not be compatible with the applications you want to run. Or you will have an element of manual work in order to get your peripherals to work.

As the end point device is only being used to connect to a remote session that does not really matter, or does it? The peripheral device that you plug in to the end point will absolutely need a driver to make it work. That driver allows the end point to talk to the peripherals which in turn will pass communication though to the connection client software. Without it the device will simply not work, or at best become unstable.
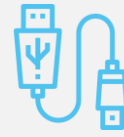
SOFTWARE COMPATIBILITY

As well as installing device drivers to ensure that peripheral devices function correctly, there may also be a need to install additional software components onto the thin client device. For example you will more than likely want to install a monitoring tool onto your thin clients so that you can manage the user experience from the datacenter to the end user.

Given that the market share of Windows-based platforms is over 90% versus just 3% for those based on Linux1, then it's more than likely that you will find a Windows version of the software than you will a Linux version.

It's also true that in some cases the Windows version of the VDI vendors client connection software will be more feature rich using Windows thin clients. Finally, what if you have no connection to your remote environments? With a Window-based thin client you could, with ThinKiosk, even have locally installed applications.

DELIVERING THE END USER EXPERIENCE

Following on from the universal communications conversation, and how to deliver the best user experience when making voice and video calls, is the overall end user experience. Delivering the end user experience is make or break time for VDI and remote desktop environments.

This means that end users will expect an intuitive solution with a familiar look and feel to how they work today, along with all the features and functions they have got used to over the years.

We have already talked about delivering UC solutions, familiar Windows applications, Windows devices and accompanying drivers, but there are other Windows features that may also be used such as Windows Aero, or maybe you are using a Microsoft VDI platform and using RemoteFX as the connection protocol. All of these will require a thin client with a Windows-based operating system running on it in order to work.

Why ThinKiosk Windows-based Thin Clients?

DEPLOYING UNIFIED COMMUNICATIONS

In recent years there has been exponential growth in the deployment of Unified Communications (UC) solutions, and a big driver behind this growth is with organizations deploying VDI and remote working initiatives to end users.

A critical success factor in any UC implementation lies in the functionality of the end point device that is being used to initiate calls from, with the quality of the core voice and video streams used during a UC-based call, being directly impacted by the quality of the end point being used, and the features and functions it can deliver.

Skype for Business has particularly grown in popularity and currently accounts for more than one third of all international voice traffic minutes![1] There have been some significant documented issues with UC solutions being accessed through Linux endpoints, particularly with the quality of video, and the local devices ability to decode the voice and video streams. Both crucial for delivering a usable UC solution.

Essentially these features and functionality are all components of the Windows OS, and by deploying a Windows-based thin client allows you to install the virtual desktop plug-in on the thin client, which is a prerequisite for running Skype in VDI environments[2].

1. https://www.strategyand.pwc.com/media/file/2017-Telecommunications-Trends.pdf
2. https://technet.microsoft.com/en-us/library/mt740144.aspx#VDI_prereq
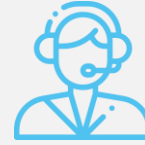
SUPPORTING LINUX THIN CLIENTS

In a previous section we discussed the additional licensing costs you would incur when deploying a Linux-based thin client environment. However, there are also additional costs when it comes to supporting a Linux-based environment too.

The first of these costs is in supporting the Linux operating system itself. Although free to use, Linux support typically comes at an additional cost if you want official vendor-based support, unless you want to rely on the various online communities and blog sites.

Secondly, you are going to have to invest in training for your support staff on both Windows and Linux operating systems to enable them to support an environment that now consists of two different operating systems.

The final consideration is what if you change thin client vendors? Yes, they may have a Linux-based kernel at the core of the operating system, and yes, Linux is Opensource. However, each vendor will have added their own specific components and management tools designed to work with just their infrastructure.

This could be perceived as a vendor lock in, and having an agnostic solution would always be a much better option.

VIRTUAL DESKTOP LICENSING

Another reason that Linux is often chosen over a Windows-based thin client is down to the cost of licensing, and that by choosing a Linux-based thin client it will be much more cost effective. But the question is, is it?

When it comes to licensing a Linux-based thin client that will be used to connect to a Windows virtual desktop, and let's face it, nine times out of ten that's exactly what you will be doing, then often an important licensing requirement is overlooked.

That requirement is for a VDA license, or Microsoft Virtual Desktop Access license[1].

The Microsoft VDA license is included as part of Microsoft Software Assurance, and allows for connections from a Windows-based thin client, PC, or laptop. However, if you want to use a Linux-based thin client then there is no Software Assurance being a non-Microsoft environment and therefore you would need to purchase the additional VDA license cost to allow an end user to access a Windows virtual desktop, from a non-Windows based device.

The cost of VDA is currently $100 per year, per device, and is only available via a subscription model. For example, if you had 1,000 users, then a Linux thin client over a five year period would cost $500,000, and that does not include the first year cost of buying the device in the first place, an additional $600,000 for a mid-spec thin client!

1. http://bit.ly/2jsxpoJ

STAYING CONNECTED TO WI-FI

Network connectivity is paramount in a remote desktop or remote application environment and wireless networks function better when using a Windows operating system.

The reason for this is not only the ability of Windows to hand off connections from one access point to another, but more importantly Windows supports all of the standard Cisco Protocols such as LEAP, PEAP, and WPA2.

ThinKiosk Benefits Summary

ThinKiosk delivers a unified thin client user experience on all Windows end points, including converting your existing Windows PC's into secure, centrally managed Windows-based thin clients. With ThinKiosk, you can reduce costs while at the same time take advantage of all the features of the Windows operating system, coupled with all the added features and benefits that ThinKiosk delivers.

SECURITY & VULNERABILITIES

ThinKiosk, being Windows-based, does not have the same level of security vulnerabilities as Linux does, and offers more solutions for patching and updating.
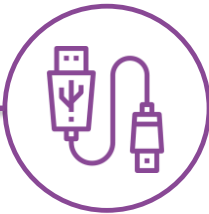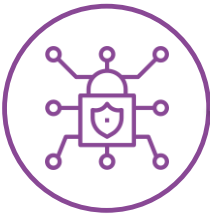
CONNECTING EXTERNAL DEVICES

ThinKiosk has more compatible external devices that are tested, supported, and certified to run on the Windows operating system.

SOFTWARE COMPATABILITY

There are far more Windows tools and apps than Linux versions, allowing you to install monitoring tools, as well as local applications for offline working.
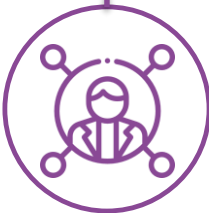
SUPPORTING THIN CLIENTS

Reduce the costs in having to not only train admin staff to be able to support two operating systems but also the associated costs of official support for Linux as well.

DEPLOYING UNIFIED COMMUNICATIONS

ThinKiosk delivers the best performance and end user experience when using unified communications solutions.

DELIVERING THE END USER EXPERIENCE

ThinKiosk delivers a familiar and intuitive user interface, with a Windows look & feel, along with enhanced productivity features.

VIRTUAL DESKTOP LICENSING

The VDA license to connect to Windows virtual desktops is already included with Windows and Software Assurance.

STAYING CONNECTED TO WI-FI

The Windows OS that ThinKiosk uses supports better connectivity options when using wireless networks.

For more details on the features and benefits of converting your PC's into Windows-based ThinKiosk thin clients, how they work, how they fit into your environment, and how ThinKiosk solves many of the use case issues faced by organisations today, please visit the ThinScale website, or contact the ThinScale team to discuss your specific use case.

THINSCALE

We develop software solutions that enable IT to deliver the modern digital workplace without compromising on end user experience, security or performance

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