

Software2

# The Ultimate Guide To VDI (Virtual Desktop Infrastructure)



## What is VDI?

Virtual Desktop Infrastructure is a server-based software delivery technology that separates the operating system and desktop environment from the physical end-hardware it is to be accessed on. Applications compatible with the virtualized operating system may be accessed and executed on the virtual machine with a user-experience consistent with that of a traditional machine and operating system.

The ultimate guide to VDI provides an easy-to-understand and comprehensive overview of desktop virtualization as a solution, from both commercial and technical perspectives.

- In this guide, we cover the following details of VDI:
- What is VDI, how did it come about and how does it work?
- Why deliver software through virtualized desktops?
- An unbiased review of the benefits and limitations of VDI
- How does VDI compare to other delivery technologies?
- What are the costs of VDI?
- Implementing and maintaining a desktop virtualization estate



# Table of Contents

An introduction to VDI	3
The benefits and limitations of VDI	15
VDI solutions	19
Further resources & links	26
Software Delivery Glossary (Coming Soon)	33



# 1. An Introduction To VDI

## What is VDI?

VDI, or 'Virtual Desktop Infrastructure' is a software delivery technology that presents end-users with a virtual desktop, running on a centralized server, from which to launch software titles. Also referred to as 'Desktop Virtualization', it has a number of facets which have resulted in its being heralded as the technology of the future when it comes to software delivery. The delivery method to end all delivery methods. Whilst, it is an impressively powerful piece of technology that is technically capable of delivering any application to any device in the correct circumstances, its associated costs prevent it from being a total solution and tend to render it inviable for use for any contexts other than where it is necessary.

[Read more about how & why VDI may not have lived up to its initial hype >>](#)



# A Short History Of VDI

The term 'VDI' or Virtual Desktop Infrastructure was coined by VMware and the technology holds several years of development history prior to being officially named and adopted by major players in the software delivery market. With highly organic roots and genuine demand from the market, VDI began as something of a workaround-improvement upon server virtualization.

## 2002

Customers of VMware server virtualization began using a VMware server and ESX servers to host virtualized desktop processes. In the absence of a connection broker, Remote Desktop Protocol (RDP) was used to connect to a Windows XP virtual machine.

## 2005

VMware explores the concept of a connection broker and demonstrates a prototype at the second annual VMworld. VMware was not the only company to demonstrate a connection broker at this event, joined by the likes of Propero.

## 2006

VMware launches VDI alliances program with companies such as Citrix, HP, and IBM. 50+ partners were a part of this program, the term VDI was introduced and a formal team was assembled to build a VDI product.

## 2007

VMware's VDI product is introduced to customers to gather feedback to help with the development of the product. Later this year, the product was taken to market under the name of Virtual Desktop Manager 1.0 (VDM) and VMware acquired Propero for £25 million to help the development of their broker connection solution gain momentum. Propero eventually became the Horizon View Connection Server.

## 2008

In early 2008, VMware releases VDM 2.0, with its successor following later in the year with a new name; VMware View 3.0. Citrix join the market releasing XenDesktop 2.0 following their [£500m acquisition of XenSource](#). You can read more about XenSource, their history and their acquisition by Citrix in '[A brief history of Xen and XenSource](#)' by [brianmadden.com >>](#)

## 2009

VMware release View 4.0 as the first version to make use of IPoPC technology, rather than RDP to connect to servers and use virtual machines. PCoIP (PC over IP) offers an improved user-experience over RDP, not least from the perspective of 'latency, throughput and reactivity'. [2]

## 2010

View 4.5 released with Windows 7 support, PCoIP optimizations and tiered storage ability. VMware also published their case study of the Bank of Tokyo Mitsubishi deploying 50,000 virtual desktop machines. This case study demonstrated huge adoption and that the technology was viable and scalable in commercial organizations with enough budget. Many say this paved the way for VDI's adoption.

## 2011 & Onwards...

VMware's early developments, as well as the formation of the VDI alliances program and the assembly of an official product development team, formed the foundation of VDI as a solution. As previously noted, the conception and emergence of VDI were as organic as can be; the use case preceded the solution, demonstrating a genuine and challenging problem that required a sophisticated solution. But did that solution measure up to its expectations and solve the issues it promised to solve...?



## How Does VDI Work?

VDI works in very much the same way as [server virtualization](#) which, in TechTarget's words 'is a process that creates and abstracts multiple virtual instances on a single server'. Used for partitioning and creating multiple environments on a single server, each of which carries the ability to run discreetly and independently. With these capabilities, it is easy to see how server virtualization spawned VDI in its embryonic stage, and why VDI was subsequently developed and built upon the foundation of server virtualization. A simplified overview of how VDI works is as follows:

The end-user requests a desktop through their hardware, be it a fat client or a thin client (VDI can be delivered to both without further components or software, given that all processes are executed on a server in the data center, rather than on the end user's hardware. Their request is managed through a connection broker to validate the requesting user's credentials and consult a license repository for available VDI licenses and OS licenses. Following successful validation, and providing licenses are available, virtual machines, complete with the relevant operating system, are 'spun up' on partitioned servers in a data center. The operating system, in this case, is synonymous with the 'desktop', which is then delivered via a network connection to the end-user and their hardware.

Desktop-based, server-based and session-based VDI

[According to Parallels, there are three methodologies of delivering virtualized desktops](#), those being desktop-based VDI, server-based VDI and session-based VDI. Each of these methodologies lends themselves to either persistent or non-persistent VDI, which you can read more about in the next section of this guide. As for the differences between Desktop, server and session-based VDI, they are defined by Parallels as:

### Desktop-Based VDI

A desktop running in a virtual machine that is hosted on a server in the data center

### Server-Based VDI

A desktop running in a server operating system that is available only for a single user at a time (Remote PC).

### Session-Based VDI

An individual session running inside a server OS on either a virtual machine or a physical server.

Based upon these descriptions it can be surmised that desktop-based VDI forms the basis for most contemporary VDI solutions, server-based VDI is slightly closer in function to its origin, server virtualization, and that session-based VDI is something of a hybrid, calling upon principles from both desktop and server-based VDI.

## Persistent VDI Vs Non-Persistent VDI

As described in [SearchVirtualDesktop's article, 'Understanding nonpersistent vs. persistent VDI'](#), the difference between the two types of VDI boils down to whether a desktop can be accessed by one user at a time, or many users simultaneously.

*“With persistent VDI, each user gets his or her own desktop, also known as a one-to-one ratio. Nonpersistent desktops are many-to-one, meaning that they are shared among end-users.”*

'Understanding non persistent vs. persistent VDI', [Alyssa Provazza](#), Search VirtualDesktop, April 18th 2018

## Persistent VDI

It is difficult to argue with the claim that accessing a persistent VDI desktop provides a better user experience, given that this option imbues the user with the ability to customize their data, settings, shortcuts, etc. As implied by the title, this desktop and its settings will persist and remain the same each time it is accessed on a user-by-user basis until that user makes further changes to their desktop. User data is stored on the virtualized desktop and file storage is written to and managed on a separate drive. Given that constant settings and preferences rely upon a one-to-one ratio of virtual machines, more storage, and more VDI licenses are required, incurring higher costs across the board. It is also worth noting that VDI desktops must still be imaged, and that [imaging for persistent VDI retains all the challenges of traditional imaging](#).

## Non-Persistent VDI

Built from a [master image, or golden image](#), non-persistent VDI is naturally much simpler and less time-consuming from an imaging perspective; due to the nature of imaging, regardless of the size, one large image is an awful lot more manageable than multiple smaller ones. This facet, along with the fact that non-persistent VDI desktops can be shared by multiple users, means that non-persistent VDI is less time-and-cost-consuming to manage and requires less storage to operate than its persistent counterpart. An added benefit is that, should security be compromised via hacks, desktops can be rebooted using the single, master image.

To summarize very generally, persistent VDI provides a more comprehensive solution for end-users, with a better and richer experience. Universities with the goal of [improving the student experience through technology for better retention and improved grades](#) should consider persistent VDI. In contrast, non-persistent VDI is a still-powerful solution that provides very versatile access to software, with a more stripped-back experience for end-users, but is much less complex, time-consuming and resource-demanding to implement and

maintain. Universities seeking a more refined process for IT in delivering software, including reduced support tickets, a safer environment, and a generally lower cost should consider non-persistent VDI.

## How Does VDI Compare To Other Technologies?



## How Does VDI Compare To Application Virtualization?

### VDI Doesn't Have End Hardware Requirements

With application virtualization, it is not possible to access and run software titles from a thin client without first adding more servers and virtualized operating systems between the server on which apps are virtualized and the end-device. VDI features these 'extra' components out-of-box and allows users to access and run applications regardless of the hardware capabilities of the device they're using. This is due to the fact that all operating system and application processes are executed on the virtualizing server and are then pixel-streamed to the end device.

## **VDI Can Deliver Cross-platform**

Virtual machines are spun up and deployed from servers in the data center and then pixel streamed to the end user's device, rather than actually executed on that device. As mentioned above, this facet truly is one of VDI's greatest strengths and assets. This feature also results in cross-platform delivery being enabled, given the information streamed to the end device is purely output data, such as audio and visual information. Imagine being able to deliver SolidWorks to a Chromebook, or AutoCad to an Android tablet with a keyboard and mouse connected...

## **VDI can deliver off-site**

If licenses dictate a software title may only be used onsite, then access for students becomes limited and stifles the ability for remote working. Once again, for the reason stated above, VDI solves this as the application is technically being run onsite, with only the user input and data output occurring on the end device.

## **VDI has enterprise-grade security**

VDI is a hugely powerful solution, as evidenced by the previous points. As expected, a solution with the potential of VDi comes at a cost, in terms of monetary investment, time to implement/manage and staff resources required to do so. Whilst desktop virtualization is expensive in itself, the costs really start to mount up when additional Microsoft licenses, the salaries of specialist staff, and the amount fo their time required are factored in. Application virtualization just does not require as many hands on deck to implement. It is also a simpler process with fewer steps that is much easier to learn and become proficient in than VDI.

## How Does VDI Compare To Imaging?

Aside from the context of security, in which imaging is as secure as VDI, all of the comparisons between VDI and application virtualization ring true for imaging. VDI can deliver offsite, cross-platform and does not rely upon end hardware capabilities, whereas imaging can only deliver to Windows, onsite and requires end hardware that matches the requirements of each respective software title. The cost comparison also holds true for VDI vs imaging.

### VDI can deliver to managed and non-managed machines

Imaging is a tried and trusted method of delivering software to managed machines. Whilst it is time-consuming, it is a vast improvement upon traditional installation; imagine manually installing every software title on each machine individually! That being said, imaging falls short in that there is no way to leverage it to deliver software to non-managed machines (technically, there is, but that would entail IT going hands-on with non-managed machines and deploying images to them one-by-one. Alongside the support requests this would generate, it is just not a viable method of delivering software.). As previously established, VDI is capable of delivering to non-managed machines regardless of their location, end-hardware, etc. It is worth noting, however, that VDI desktops themselves are often imaged with a 'golden image'.

### VDI images are more flexible than traditional images

Virtualized desktops must still be imaged for software titles to be available to end-users on their VDI desktop, whether persistent or non-persistent. The common practice in provisioning for VDI is to deploy a number of different golden images to groups of virtual machines and assigning them to relevant labs. Whilst still using imaging, imaging for virtualized desktops is a much simpler and more flexible task, given the machines aren't physical, alongside a number of other facets.

Some useful & related reading...

[RFP template for application delivery, virtualization and VDI solutions >>](#)

[Alternatives to discontinued Dell vWorkspace and flexiLabs solution \(formerly Quest\) >>](#)

[The Slow Demise of VDI \(and The Rise of The University App Store\) >>](#)



## **2. The benefits and limitations of VDI**

# What Are The Benefits Of Using VDI?

## Deliver cross-platform with VDI

With its ability to spin up a virtual machine complete with an operating system, and deploy it to a dedicated client or HTML5 browser, VDI is capable of delivering applications cross-platform, be it Windows apps to MacOS, or delivery to lesser-used and supported operating systems such as Linux. An interesting example use-case from a Software2 customer was a dentistry faculty needing to deliver to tablets for efficient, ergonomic and hygienic use of machines in a dental practice environment.

## VDI doesn't rely upon end hardware

As above, due to VDI spinning up and virtualizing machines server-side, execution is all taken care of away from the end-device, with visual/audio output streamed down to the end-user's device and input being streamed up to the server. This means that server hardware is used instead of end-device hardware and allows software titles whose hardware requirements would far exceed the hardware of the end machine to be run. The payoff for this is that VDI requires a strong and constant network connection.

## VDI is more secure

VDI benefits from greater security due to all of the important stuff being handled onsite. With the bulk of computing being executed on secure university servers in a data center, VDI provides a more robust and safe way of delivering applications to devices and users in nonsecure locations or on unsecured networks. File storage also occurs server-side which means that more traditional security risks, such as theft of a machine, do not result in data loss.

## **VDI is more license compliant**

Many software titles' licenses stipulate that they may only be run onsite. This would kill any true BYOD strategies before they had a chance. The same goes for plans to deliver to satellite campus'. Once again, due to VDI's facet of processing and executing away from the end machine, it is a perfect solution for getting around tricky license requirements to deliver a great experience to students and users wherever they are. Essentially, the app is still being run onsite, but the user is able to input and see the output remotely.

## **What Are The Limitations Of VDI?**

### **VDI is the most expensive method of delivering software**

Not only does VDI carry the highest price tag in general, but the resources it demands drive costs up even further. Capable server hardware, extensive storage requirements, a team of specialists, VDI licenses themselves, etc etc etc. VDI may even necessitate a stronger and more capable network signal than is currently present!

### **It's very complex to implement and time-consuming to manage**

A solution built upon an already-complex technology, developed by a multi-company team of the brightest minds in software delivery tech and driven by a real market need to solve a very sophisticated problem... It is easy to see why desktop virtualization is so resource-hungry and complex! There are multiple components to set up and manage, such as connection brokers, VDI servers and storage drives, all of which must interact with software license servers whilst communicating properly with VPNs and firewalls. And that is a massively oversimplified description of what's actually happening under the hood. However, even without fully delving into the intricacies of VDI, it makes perfect sense that it is so demanding. A lot of complicated components are required, and the more components there are, the more 'intersections' for failure or error there is.

## VDI Demands A Highly Specialized Team

It takes specialist knowledge to manage and deploy any software delivery methods, however, VDI's complexity is a level above that of traditional install, imaging or application virtualization. This is reflected in the team it requires for implementation, deployment, and management.

## VDI Requires A Strong And Constant Network Connection

VDI's greatest strength is also one of its greatest weaknesses. The fact that almost everything is carried out on servers in a data center means that a constant connection must be maintained between the end device and relevant servers. Not only must this connection be reliable and uninterrupted; it must also be strong. The bandwidth and speed of the network connection must comfortably exceed the requirements of both the operating system and software titles being accessed.

Some useful & related reading...

[Deliver apps to any device at a fraction of the cost of traditional VDI solutions >>](#)

[Exploring the hidden license costs in application delivery and VDI solutions >>](#)

[How to fix VDI \(Virtual Desktop Infrastructure\) to improve how you deliver applications >>](#)



# 3. VDI Solutions

## What VDI Technologies Exist On The Market?



### VMware Horizon

vmware®

#### Horizon's Key Features

Windows & Linux

Smart policies with streamlined access

A single digital workspace

Blast extreme performance

VMware Horizon was formerly known as VMware View and is overtly targeted at commercial organizations. Its product page is feature-focused, emphasizing a host of powerful features to solve a number of contemporary software delivery challenges. Horizon 7 as a pure VDI solution is available in three 'levels'; **Standard, Advanced & Enterprise**. It is available packaged with VMware's application virtualization solution, Horizon Apps in two 'levels'; [Horizon Apps Standard](#) & [Horizon Apps Advanced](#). Finally, it is available as a hosted/managed solution as [Horizon Cloud](#).

## What can VMware Horizon do?

Delivers Desktops and Applications through a Single Platform

Dramatically Improves ROI

Secures Data and Simplifies Compliance

Simplifies Management across On-premises and the Cloud

VMware Horizon is rated very highly on TrustRadius.com with an average score of 8.9/10.

You can compare VMware Horizon with other VDI solutions' features, use cases, ratings, and reviews by clicking the button below.

[Compare Solutions](#)

## Citrix Virtual Desktops



Additional Use Cases

Upgrade to Windows 10

Deliver secure Linux VDI from any device

Centrally deliver graphics-intensive 3D apps

Protect your network from browser-based attacks

Formerly XenDesktop, Virtual Desktops is heavily integrated with Citrix's application virtualization solution, Citrix Virtual Apps, can deliver from any public cloud (such as Microsoft Azure, AWS, Google Cloud Platform, and Oracle Cloud) and is Common Criteria certified.

Citrix Virtual Desktops use cases

[Go beyond virtual desktop infrastructure \(VDI\)](#)

[Deliver a high-definition user experience on any device](#)

[Reduce IT costs and increase efficiency with cloud VDI solutions on Microsoft Azure](#)

[Accelerate workspace mobility with application layering](#)

[Upgrade to Windows 10](#)

[Deliver secure Linux VDI from any device](#)

[Centrally deliver graphics-intensive 3D apps](#)

[Protect your network from browser-based attacks](#)

Citrix Virtual Apps & Desktops has very positive reviews on TrustRadius.com with an average rating of 7.6/10. You can read more and compare Citrix Virtual Apps & Desktops with other VDI solutions by clicking the button below.

[Compare Solutions](#)

## Microsoft Remote Desktop Services



RDS' Key Features

Cost-effective, multi-session environment

Leverage Windows client for performance, compatibility & familiarity

Full desktop experience

RemoteApps integration

Also known as RDS, Microsoft's offering is much like the company's other software delivery solutions, with a very low price point and compatibility and ease-of-use being a key benefit. Microsoft's application virtualization solution, App-V/RemoteApp, their imaging solution, SCCM alongside the latest product, Windows Virtual Desktop, all integrate seamlessly with RDS and boast low price tags and easy setup. By all accounts, they are a strong set of tools, but due to their low price-point, they can be lacking in features, power, and versatility.

Benefits of Microsoft RDS

[App Compatibility - Windows Server 2016 and Windows 10](#)

[Azure SQL Database - the new database for your highly available environment](#)

[Graphics - solving graphics needs across various scenarios](#)

[RD Connection Broker - improved connection handling during logon storms](#)

[RDP 10 - new capabilities built into the protocol](#)

[Personal session desktops - providing individual desktops to any end-user](#)

With an impressive 8.1/10 on TrustRadius.com, Microsoft RDS has fared exceptionally well, presumably on a cost-vs-features basis. You can read more and compare it with other solutions by clicking the button below.

[Compare Solutions](#)

## Parallels RAS



### KEY BENEFITS

Productive UX

Secure, flexible deployment

Applications and desktop delivery

Easy migration & management

Parallels RAS is a feature-rich and robust VDI solution with a key focus on security, efficiency, user experience, and performance. Parallels, as a relative newcomer to VDI, have had the opportunity to take note of the development bumps in the road experienced by the likes of VMware and Citrix and to account for them in the development cycle and product roadmap. This has allowed Parallels to avoid mistakes and create a really refined product that caters to the latest needs of desktop virtualization and reflect the capabilities of contemporary VDI. Parallels RAS manages to fit perfectly into the sweet-spot between the perceived 'overkill solutions', VMware Horizon/Citrix Virtual Apps and the affordable but underdeveloped solution, Microsoft RDS.

What are the key features of Parallels RAS?

Web access from any device with HTML5

Session pre-launch for ultra-fast login

Automation with PowerShell/REST API

Parallels RAS is also rated highly on TrustPilot.com, with 8.4/10. You can read more and compare it with other solutions by clicking the below button.

[Compare Solutions](#)

## Product Spotlight: Parallels RAS



PARALLELS VIDEO] –  
<https://player.vimeo.com/video/259668755>

AppsAnywhere VDI Integrations

### [Parallels RAS](#)

With Parallels RAS (Remote Application Server) university IT can securely deploy Windows apps to any device, including macOS, iOS, Android and Chromebooks.

### [Vmware](#)

Learn about AppsAnywhere's VMware integration and how it can improve software delivery!

### [Citrix](#)

Read more about AppsAnywhere's Citrix integration.

Some useful & related reading...

[Delivering software with Parallels RAS and AppsAnywhere \[Webinar Recording\] >>](#)

[Leveraging BYOD for more versatile lab space with Calvin University, MI >>](#)

[Consolidating VDI & reducing imaging with Highline College, WA >>](#)



# 4. Further Resources & Links

## Who To Ask About VDI?

VDI is a specialist industry and so it can be difficult to locate reliable learning resources and comparison tools. Alongside the rest of this guide, this section will detail some valuable resources and key figures to refer to in your pursuit of knowledge in the field of VDI!

### Ruben Spruijt

Ruben Spruijt is Sr. Technologist at Nutanix, former CTO at Frame and a well-regarded author, speaker, market analyst, technologist; Truly an all-around End User Computing geek. He is an authority on virtualization and has published books/e-books on varying aspects of the field, including ['The Ultimate Desktop Virtualization Best Practises Guide' \(download\)](#) and ['VDI Smackdown'](#). Ruben also is a Microsoft Most Valuable Professional (MVP), NVIDIA GRID Community Advisor and was in the Citrix CTP program from 2008-2017 and VMware vExpert from 2008-2018.

Ruben (co)founded several independent industry bodies such as Project Virtual Reality Check (VRC), [VDI Like A Pro](#), [Team Remote Graphics Experts \(TeamRGE\)](#), [WhatMatrix](#), [AppVirtGURU](#) wrote and co-authoring multiple disruptive research papers. Ruben has presented more than 450 sessions at national and international events such as BriForum, Citrix iForum Japan, Citrix Synergy, Gartner Catalyst, Microsoft Ignite, Microsoft TechEd, NVIDIA GTC, and VMworld.

He is based in the Netherlands where he lives with his wife and three kids.



## Rory Monaghan

Rory is the founder of [rorymon.com](http://rorymon.com), the host of [5 bytes Podcast](#) and has worked with numerous organizations to help them implement virtualization services as well as with various technology providers to develop their products and add further integrations, such as [Citrix XenApp's App-V integration](#). He is widely considered to be a key influencer in the field of application virtualization specifically and his Twitter account is a fantastic source of the latest industry news, releases, and developments.

From December 2014 he began contributing to Ruben Spruijt's Application Virtualization Smackdown ver. 4.1. He has since worked on its newest iteration, a digital matrix, and has been recognized as a Citrix CTA, VMware vExpert, Unidesk Certified Engineer, and a Microsoft Certification Technology Specialist. Rory is also a site owner of AppVirtGuru.com alongside Ruben.



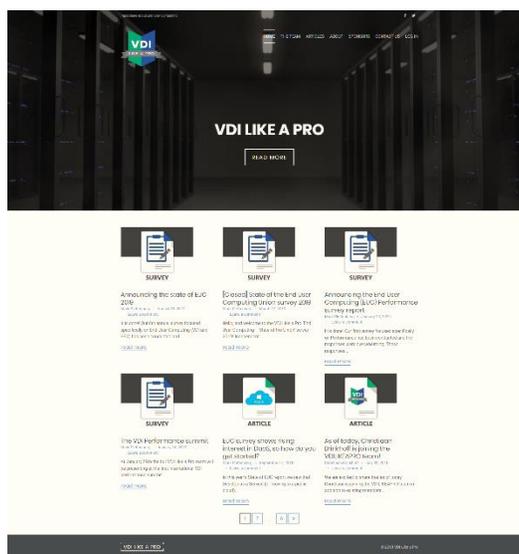
# Where To Learn About VDI?

Once again, with application virtualization being such a niche topic, there is not an awful lot of material to learn from in comparison with other areas of IT/technology. As before, however, this works to our benefit and results in there being little-to-no misinformation spread on a mainstream scale and in the materials that do exist being authoritative and of very high quality. Read more about those resources below.

## VDILikeAPro

'VDI Like a Pro' was, and still is, focused on executing tests, finding insights, deep technical best practices and performance analysis in the server hosted desktop industry. The results are reported in multiple whitepapers that (after registration) were made free to download for everyone.

The goal of VDI Like a Pro is to analyze the developments in EUC, specifically

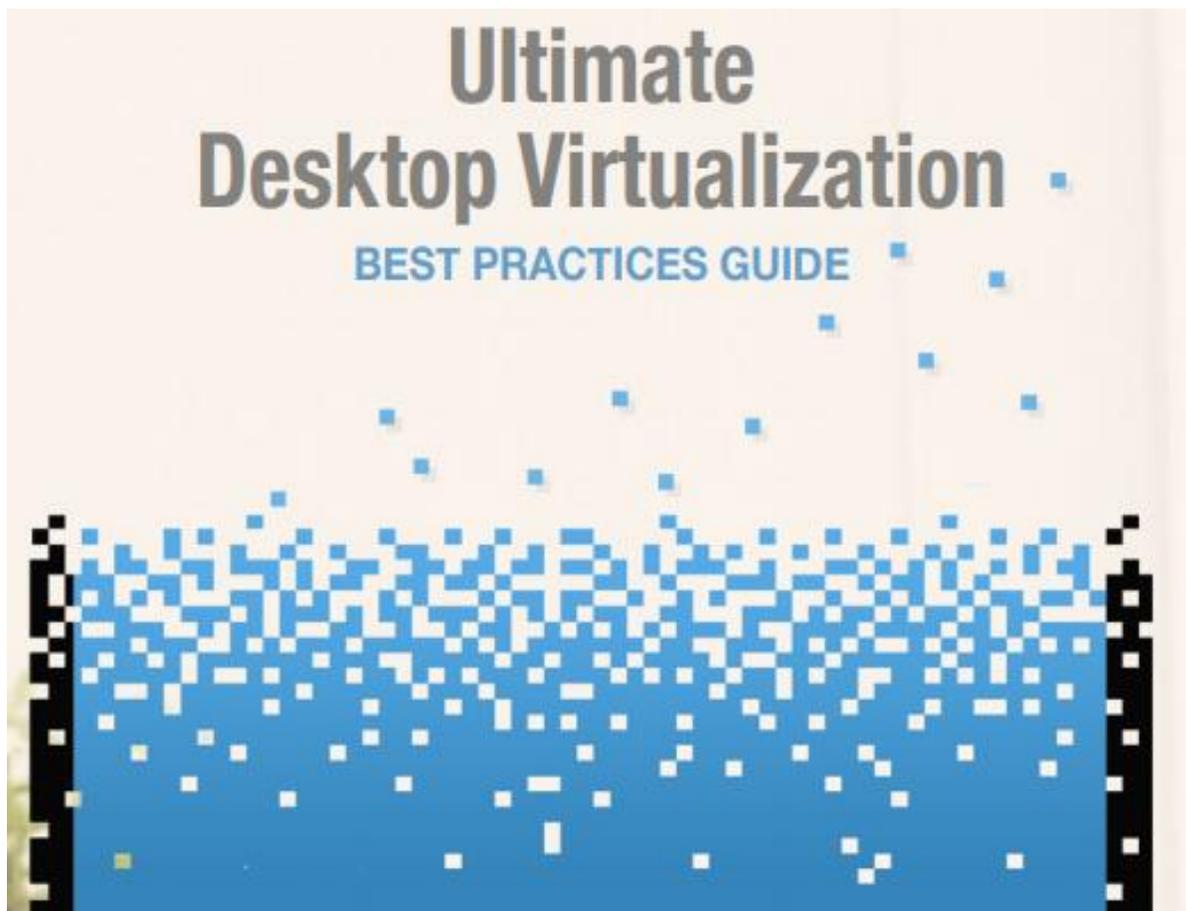


the application and desktop virtualization market, and to objectively present the results. In the haze of the extreme rate of innovation within the virtualization market and corresponding marketing promises, this information is highly appreciated. Therefore, we will publish our methods and conclusions in various whitepapers which can be downloaded from our website.



# Ultimate Desktop Virtualization Best Practices Guide

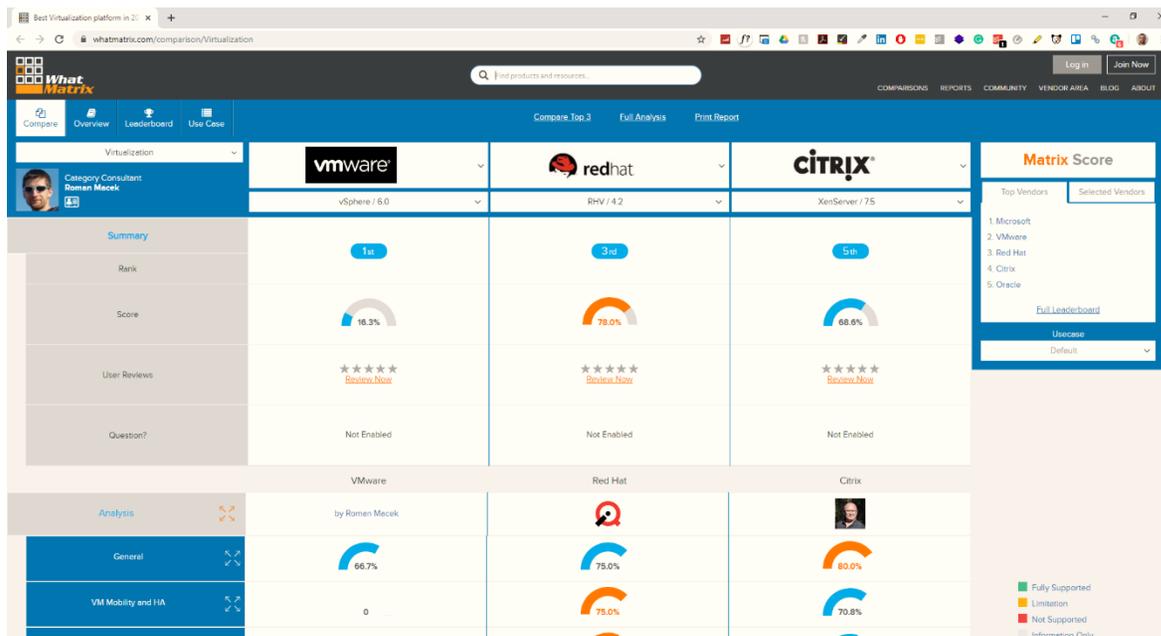
Sponsored by Atlantic Computing and Intel Corporation and featuring contributions by Erik Bohnhorst, Magnar Johnsen, Helge Klein, Rory Monaghan, Nick Rintalan, Ruben Spruijt, and many more. The Ultimate Desktop Virtualization Best Practices Guide is formatted as a 'Tweet-storm' and is THE definitive and most prolific source of insider tips and tricks for implementing and managing a desktop virtualization estate.



**BEST PRACTICES**

# WhatMatrix: Virtualization Comparison

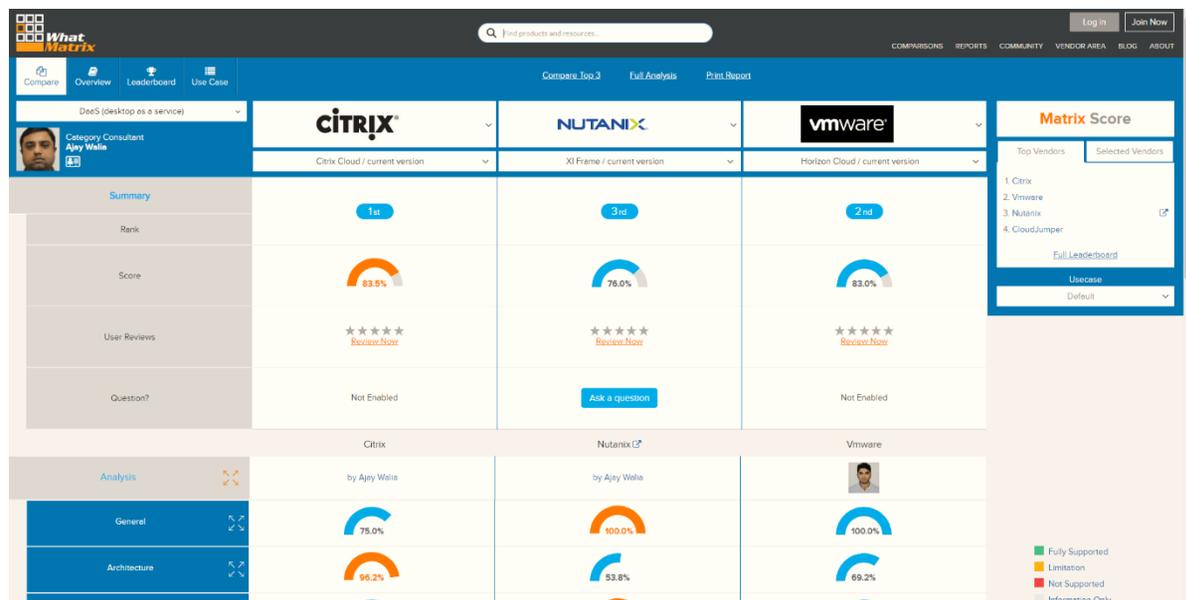
WhatMatrix's comparison tool for general virtualization solutions includes, but is not limited to, VDI products. This tool is a great place to compare solutions broadly, and to identify to facets and features of different types of virtualization, such as desktop virtualization versus server virtualization. Using this tool you can compare products from major virtualization providers such as Citrix, VMware, Parallels, and Nutanix.



**VIRTUALIZATION MATRIX**

# WhatMatrix: DaaS comparison

Similar to WhatMatrix's Virtualization Matrix, this comparison matrix focuses on hosted desktop virtualization, also known as Desktop as a Service (DaaS). With a more specific view of virtualization solutions, this tool is ideal for comparing DaaS vendors and their products, such as Citrix, VMware, CloudJumper and Nutanix.



## DAAS MATRIX

Some useful & related reading...

[Exploring the hidden license costs in application delivery and VDI solutions >>](#)

[Examining the costs of delivering software apps in Higher Education >>](#)

[Deliver apps to any device at a fraction of the cost of traditional VDI solutions >>](#)

# Next steps to improving the way you deliver applications...

Get a personal walkthrough of how AppsAnywhere works from one of our product experts

Arrange a demo

Experience AppsAnywhere for yourself in our free, hands-on trial environment

Try it now

# Software2

software2.com