

Time To Reassess VDI?

The new Dell Wyse 3040 blurs the line between entry PC and thin client

Executive Summary

The world of VDI (Virtualized Desktop Infrastructure) has been quietly innovating without many IT staff being aware of how much has changed and the implications of the improved VDI experience. Compared to five years ago, today's best VDI experience is very different, driven by improvements on the server, networking and thin client. On the server side, virtualized graphics from both NVIDIA and AMD reduce latency, and we have seen big server CPU improvements in performance per watt and core count. Networking has moved from 100Mb to gigabit making packet prioritization easier.

Lastly, the performance of the endpoints is improving, which is redefining the virtual desktop experience. Thanks to these innovations, the overall VDI experience has gotten much more competitive with traditional desktop environments. Thin clients have been around for the last three decades in various forms, but some CIOs have shied away from them due to lack of sufficient experience on certain use cases like video and the rich web. Thin clients themselves have become more powerful and capable while reducing size and cost with nearly every generation. It's time for IT to reassess VDI, and in this brief, we take a look at the new Dell Wyse 3040 thin client.

VDI Performance and Security

VDI Performance

When it comes to VDI compute, the options have improved significantly. Now you have the performance of GPUs from AMD¹ and NVIDIA which allow for graphically accelerated VDI, something that didn't exist in the past where the graphics were virtualized on the CPU. With the latest generation of AMD and NVIDIA's² graphically accelerated VDI, a broader spectrum of users can be transitioned to a VDI platform. As always, there is still a need for CPUs in the data center and most VDI solutions are powered by Intel's server CPUs which provide much of the compute in most VDI solutions today.

Intel's presence in VDI is not only limited to the datacenter as their very low power Atom chips are also present inside of many of the thin clients we see today. Their low power Atom chips have become more capable of delivering more diverse and richer user experiences thanks to their quad-core chips. Such user experiences can now range from single VGA displays to up to four HD displays for a single user. One good example of this is the new Wyse 3040 from Dell, which is only 4 watts and offers a user the ability

¹ [AMD Expands MxGPU VDI Designs With HPE At VMWorld 2016](#)

² [NVIDIA's New Tesla M10 Could Drive Enterprise VDI Reassessment](#)

to drive up to two 2560 x 1600 monitors off a single thin client. This new thin client is small enough to be monitor-mountable, but powerful enough to blur the lines between a desktop and thin client experience with a plethora of connectivity.

The new Wyse 3040 is part of the 3000 “value” series and is Dell’s smallest and lightest thin client which allows them to offer a multitude of mounting options, even on the back of a display. The 3000-Series is made for “value”, the 5000-Series “mainstream” and the 7000-Series “performance”. Because it only uses 4 watts of power, the 3040 is fan-less, smaller than the Gen 4 Apple TV and therefore a more efficient and silent computing solution than running a full-up desktop. Even though the Wyse 3040 is small and low power, it still packs inside quad-core Intel Atom x5-Z8350³ processor which can deliver more entry-level desktop-like performance.

We tested an early sample of the 3040 and when playing a remote 4K video, it was possible to load all four cores at 75%, showing that more cores can matter in VDI use cases. In practice, in an enterprise environment, the more likely scenario is users doing dual display with virtualized office productivity while interacting over a virtualized Skype video call.

VDI Security

Security has always been one of the hallmarks of VDI and one of the big reasons for utilizing it. However, now VDI isn’t just about keeping sensitive data from leaving the network, it’s also about mitigating external threats. The threat to the enterprise from external actors has only become an increasingly greater risk⁴. The IT infrastructure is the lifeblood of most companies today and as a result has become the prime target for foreign criminals and even domestic actors. Industrial espionage from foreign governments and competitors are a bigger risk than they have ever been before and VDI is one way to mitigate those risks.

There is minimal storage in most thin clients and nearly everything is centrally loaded from the datacenter. The datacenter is essentially “streaming” a video of what’s happening inside the datacenter and the user is interacting with it. This means that if you have identity security taken care of, VDI can protect the enterprise from most everything else like data loss from unit theft and even phishing and ransomware attacks. These threats still need to be mitigated at the datacenter and managed by the IT administrator with the correct user policies and security measures.

Given that increased security concerns from state-sponsored hacks and given that VDI is one of the most secure ways to do client computing, we could very well see growth in demand for thin clients moving forward. This is just one reason the healthcare, government, education, retail and financial markets rely on VDI today. VDI can also

³ [Intel® Atom™ x5-Z8350 Processor](#)

⁴ [IBM X-Force Threat Intelligence Report](#)

save on management costs as every setting, operating system, update and application is centrally managed. It defines ‘command and control’.

With the latest generation of Dell 3040 VDI you can utilize methods of authentication like biometric authentication to ensure the user gaining access to the device is not only the correct user but one that is physically present. Additionally, administrators can enable or disable hardware features on the thin client that may be considered points of vulnerability like Bluetooth, Wi-Fi or USB. Many of these security features are thanks to companies like Dell who have their own hardened operating systems like ThinOS and ThinLinux which run on the Wyse 3040.

Not your Father’s value thin client

Lots of I/O

The Wyse 3040 features three USB 2.0 ports, one USB 3.1 Gen 1 port, a combination audio-mic combo jack, two DisplayPort connectors and one Gigabit RJ-45 wired port. For wireless, it also comes with a built-in dual-band 802.11 AC Wi-Fi chipset with Bluetooth. Most VDI sold today is deployed with many of the ports disabled and fixed RJ45 and any and all of the 3040’s I/O can be blocked based on the administrator’s desire. Don’t forget much of the data loss comes from someone walking away with data on a USB-stick or CD ROM.

More accessible than ever before

With devices like the Wyse 3040, enterprises now have VDI options that include Citrix XenDesktop and XenApp, VMware Horizon and Amazon WorkSpaces. This is thanks to the Wyse 3040 supporting both Dell’s own ThinOS and ThinLinux which make compatibility and security easier. The Wyse 3040 is the company’s smallest and most efficient thin client solution which means that it takes up less space than ever before and does so with even less power, making end-user power consumption a thing of the past. Even though the Wyse 3040 is so small and efficient, it still delivers a quality user experience with dual monitors and plenty of I/O that would make most users unaware that they are even using a VDI system.

Dell also offers secure and easy management of thin clients through simple automatic setup, configuration and management through their Wyse Device Manager and Cloud Client Manager tools. Additionally, management can be done completely remotely since its VDI and downtime can be limited to minutes if an issue exists client-side. The Wyse ThinOS⁵ and ThinLinux offer secure hands-off device management that can be scaled from a couple to a couple thousand devices. All of this is possible at a lower cost per user than VDI has ever been able to offer in the past.

⁵ [Wyse ThinOS thin clients interactive overview](#)

Call to Action

With these innovations in the VDI compute capabilities as well as the shrinking of thin clients while increasing their capabilities, VDI should be more attractive to many users and IT. The inherent security of VDI and thin clients has only gotten stronger as threats have increased in quantity and complexity, but their performance, user experience, manageability and cost have also improved as well. With devices like the Wyse 3040, companies like Dell are helping to make VDI much more attractive for CIOs. Being able to deploy a scalable, cost-efficient and desktop-like experience across an entire enterprise without sacrificing performance or security should make VDI much more attractive to many CIOs today. It's time for IT to reassess VDI.

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