Virtual Desktop Infrastructure on VMware vSAN

"We placed our trust with regard to desktop virtualization in VMware vSAN, because it runs trouble-free, is cost-effective and has high performance at the same time."

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WHY VMWARE VSAN FOR VDI

- Consistent user experience from physical to virtual
- Lower up-front costs through incremental scaling
- Get the most out of your storage through capacity savings
- Accelerate implementation by automation
- Anticipate the cloud

The Challenge – Managing IT for a Distributed Workforce

Through 2023, 70% of new desktop virtualization business cases will be based on business continuity demands highlighted during the COVID-19 crisis[1].

As businesses become increasingly digital, workers often require access to technology to do their jobs. Companies have responded by issuing electronic devices to employees for personal use, from desktop PCs to tablets and smartphones. However, as the number of devices sprawled, IT has faced new challenges in managing them:

- Personal devices present new attack vectors for criminals; inconsistent patching and updating by employees increases the threat, as employees often avoid updating devices due to the downtime incurred.

- High cost to procure and maintain devices, especially with a distributed workforce. IT teams maintain dedicated technicians to troubleshoot and maintain devices. Remote employee device management incurs additional shipping expenses.

- A highly mobile and distributed workforce needs IT access from any location on any device. This trend has accelerated due to the recent pandemic.

The Solution – Virtual Desktop Infrastructure

Virtual desktop infrastructure (VDI) replaces physical devices with virtual machines to provide and manage virtual desktops. VDI hosts desktop environments on a centralized server and deploys them to end users on request. Users can access these virtual desktops from any device or location, and all processing is done on the host server. VDI addresses the challenges of physical devices by:

- Centralizing management of desktops. IT can now patch and update software centrally, reducing the threat of cyber-attack. Employees no longer experience downtime with every update pushed by IT and always use the most up-to-date software.

- As VDI can be accessed by any device, and data is saved centrally, IT can procure less expensive hardware for employees to access their virtual desktops. IT can also offer employees a BYOD (bring your own device) option, reducing hardware costs even further.

- With fewer devices to manage, many IT teams can redeploy employees away from managing physical devices to other tasks.

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VDI Requires a New Storage Approach

VDI often requires investment in new infrastructure, and the implementation of a new application such as virtual desktops is a common time to consider a new approach. Traditionally, IT departments purchase standalone storage systems to provide the performance and scale required for virtual desktops and apps. There are a few draw backs to this approach, including:

- Large upfront capital investments, including proprietary storage hardware, such as fibre channel networking

- Large operational costs, including many hours of IT time designing storage infrastructure and managing proprietary storage interfaces after installation

- Traditional storage arrays are inflexible: they are difficult and expensive to scale as VDI demand grows. Companies typically procure large arrays with much capacity sitting idle for months or years – a hidden opportunity cost.

- Due to the demanding nature of VDI, external storage arrays may fall short of expectations when faced with the demands of virtual desktops and apps

How Hyperconverged Infrastructure Powered by vSAN Can Help

vSAN, vSphere-native storage, extends the tools admins are already familiar with to deploy, provision and manage server-based storage. Hyperconverged infrastructure gets VDI up and running faster while lowering storage costs. Here's how:

- **vSAN provides a consistent user experience**. End users will be loath to adopt new desktops if it feels like a step down from their current solution. vSAN supports the latest storage technologies, including all-NVMe and all-flash nodes for the highest level of performance, reducing latency concerns.
- **vSAN lowers up front costs through incremental scaling**. Unlike traditional storage arrays, which are typically purchased with multiple years of storage capacity up front, IT need only buy the capacity they need today. Admins can scale the environment as demand grows by a single node at a time ("scale out") or add more storage to existing nodes ("scale up").
- **vSAN gets the most out of your storage through capacity saving technologies**. vSAN includes many capacity saving technologies, such as dedupe and compression, which reduces the total amount of capacity used, and TRIM/UNMAP support, which reclaims capacity that is no longer needed by the application. With both of these technologies, IT may see total capacity savings of 30% or more.
- **vSAN accelerates implementation by automation**. vSAN lets vSphere Admins use familiar vCenter tools rather than proprietary storage-management interfaces. vSAN can be enabled quickly: there are no additional VMs or virtual appliances to install; you can enable vSAN with just a few clicks. Simple workflows automate much of the deployment process. vSAN eliminates storage provisioning – which can take weeks – and ensures each virtual desktop automatically has the type of storage it needs through automation. vSAN lets you set automated storage policies at the VM level, allowing storage to self-tune and balance according to desktop and app demand.
- **Anticipate the cloud**. As a part of VMware Cloud Foundation, VMware vSAN provides consistent infrastructure and operations from the core data center to the public cloud.

Next Steps

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Try online for free: *vSAN Hands-on Labs*.

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[1]Source: Downs, Stuart; Hill, Nathan, and Michael Silver. *How to Build a Successful Business Case for Desktop Virtualization*. Gartner. 15 June 2020. ID: G00722424