Considering Microsoft?

Here are the **Top 10** reasons why **VMware** is a better choice for your Software Defined Data Center and Hybrid Cloud!

The **VMware SDDC** is a complete data center virtualization and automation solution. With VMware, when you add a VM, you **automatically** have access to the following capabilities, all portable with the VM and embedded into the software hypervisor:

1. **Compute**
2. **Networking**
3. **Storage**
4. **High Availability**
5. **Load Balancing**
6. **Backup**
7. **Fault Tolerance**
8. **Replication**
9. **Security**
10. **Firewall**

**Microsoft’s** approach to virtualization requires most of the network and storage configuration to be done separately, outside of the hypervisor, with no top-level resource management. This provides nowhere near the efficiency, automation, guidance and seamless portability of the VMware SDDC for customers seeking a future-proof hybrid cloud platform.

**vSphere** (compute virtualization)

**VSAN** (storage virtualization)

**NSX** (network virtualization)

**Horizon** (virtual desktops/apps)

**vCloud Air** (public cloud compute, desktops & DR)

**EVO:Rail** (hyper-converged SDDC)

**vRealize Suite** (automation & management)

**vCloud Suite** (SDDC orchestration & operations)

**VMware** offers the **a complete and flexible portfolio** of high impact solutions to solve your next business challenge, reduce risk and provide superior investment protection for the future.

Learn more about how VMware connects to your business at [http://www.vmware.com/it-outcomes](http://www.vmware.com/it-outcomes)

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**Microsoft’s** **EIGHT** required interfaces are:

1. Virtual Machine Manager
2. Failover Cluster Manager
3. Disk Manager
4. Hyper-V Manager
5. Network Control Panel Admin
6. NIC Teaming
7. Data Protection Manager
8. Orchestrator

**vCenter**, VMware’s **ONE** single management interface with end-to-end visibility, centralized automation and guidance is more efficient than the **EIGHT** separate interfaces and PowerShell scripting required to manage Microsoft Hyper-V with System Center.
“Free Hyper-V” is misleading. The real-world deployment expenses and TCO skyrocket when you add System Center, support and 3rd party software costs. VMware’s reduced complexity, ease of management, useful automation and infrastructure flexibility drive real-world budget and time savings for our customers, with no hidden costs or long-term budget surprises.

Up to 90% Lower OpEx with VMware vs. Microsoft*

*Source: Principled Technologies—Total Cost Comparison: VMware vSphere vs Hyper-V
http://www.vmware.com/files/include/microsite/sddc/principled_technologies_vmware_vs_microsoft_tco.pdf

Any app with One Cloud platform for on-prem or public cloud, accessed from any device. VMware’s ease of moving VMs from your data center to the Cloud (vCloud Air) and back is far easier because it’s the same platform – no conversion necessary!

Don’t forget – vSphere continues to be the foundation for the VMware SDDC. Key solutions that customers really want, like Operations Management, Virtual SAN, VDP, Site Recovery Manager, DRS, HA, Fault Tolerance, Storage DRS, and other key capabilities are only available with vSphere. VMware offers a complete and integrated set of capabilities and features that customers really want!

Key capabilities that are most important to customers:

### Compute
- Automated HA and VM replication provide flexible resiliency.
- Fault Tolerance provides in-memory lockstep protection of VMs.
- Hot add CPU, RAM, NICS, Storage.
- Clustering Services is complex, not purpose-built for VMs and prone to majority node failure issue.
- No In-memory Fault Tolerance.
- Cannot hot add CPU and NICS. Limited memory and storage hot add capabilities.

### Management
- Universally accessible and managed pools of CPU and RAM resources.
- Provides guidance on right-sizing resource consumption, risks and future issues that are unique to every customer’s unique data center environment.
- No resource pools. Basic resource limits are assigned at a per-VM level.
- No universal, top-level way to manage resources across hosts.
- No forecasting or right-sizing. Basic and static usage reporting only.

### Storage
- Virtual SAN (VSAN) provides truly integrated and easily managed software-defined storage.
- Storage DRS provides load balancing. Dynamic prioritization of I/O at the storage level ensures performance.
- Storage spaces is NOT like VSAN. It is a complex build-it-yourself NAS solution, with no VM awareness.
- No native storage load balancing. Still requires manual and separate storage configuration with numerous opportunities for error.

### Networking
- NSX provides policy-based automated network management and works with existing network hardware.
- Network configuration is contained within the VM, allowing for ease of portability and flexible deployment.
- No comparable network virtualization capabilities.
- Limited hardware-defined and manual approach lacks key features and automation and presents significant opportunities for error.
- Network is separate from the VM.
VMware’s smaller, purpose-built hypervisor, that does not require a legacy operating system, represents a significantly safer and less-risky virtualization platform due to a much smaller code-base, with far less management overhead and complexity. With Microsoft, admin time is lost having to manage a large, general-purpose operating system that contains a lot of code that is completely unrelated to virtualization.

**Hyper-V requires the installation of Windows Server 2012 and will not function without it.**

Don’t **reboot** your data center every patch Tuesday!

Operating System-dependent hypervisors add risk, complexity and require more patching. Almost every “Update Tuesday” since the release of Hyper-V has included “important” or “critical” security updates to Windows Server that **REQUIRED a REBOOT** of the host!

# of Microsoft patches required to secure Hyper-V:

<table>
<thead>
<tr>
<th>Action</th>
<th>Initial Setup of Windows Server</th>
<th>“Update Tuesday” Patches (last 12 months)</th>
</tr>
</thead>
<tbody>
<tr>
<td># of patches</td>
<td>81</td>
<td>31</td>
</tr>
</tbody>
</table>

*1.9GB of patches to apply before server can be used for Hyper-V

**Source: Microsoft Security Bulletin, January, 2015**

Microsoft’s approach to virtualization continues to be human-dependent and manual vs. the VMware SDDC’s software-defined “everything.” (compute, storage, network & management)

**Microsoft Hyper-V**

- Still requires admins from multiple technology silos to manually configure network, storage and key availability settings outside of the virtual environment, with substantial risk for errors and mistakes.
- Placement of VMs is quite manual.
- Very little in a Microsoft Hyper-V virtualized data center is policy-based or automated!
Lowest CapEx AND OpEx with VMware!

VMware’s automated, efficient and high-performance software-based approach provides up to **49% more CapEx savings** than a Hardware Dependent Data Center (HDDC) architecture.

Microsoft is still tied to a legacy HDDC model. The **VMware SDDC** can provide up to **31% more “real world” TOTAL COST savings over Microsoft** when customers leverage the benefits of vSphere with Operations Management (vSOM) + Virtual SAN (VSAN) + Network Virtualization (NSX) to reduce costs up front, while also reducing OpEx costs, risk and long-term management overhead.

BONUS:

“Our proof of concept—which involved testing and creating virtual machines, conducting a physical-to-virtual migration for some of our servers and testing the vMotion feature for high availability—convinced us that VMware had the most mature and flexible product.” —Tan H, NIE Singapore

“We considered other server virtualization platforms during our exploratory process but security is a big concern for us and we felt that the secure foundation on which VMware’s ESXi platform is built upon the ease of deployment and management, plus the number of applications per host density VMware offers made them the obvious choice” —Brian V, Pareto Logic

“Every time someone deploys a lab in minutes, we track the time the engineers didn’t need to spend creating it. With over 200,000 virtual machines deployed, the solution has saved over 10,000 weeks of work time. That’s pretty impressive.” —Jason P, Symantec

“We did a VMware vs. Hyper-V assessment and found the maturity of VMware’s virtualization and management tools meant it was a superior product over competing systems.” —Michael T, Lotus F1 Team

“With the VMware SDDC, our switching environment, network, firewall and overall hardware infrastructure has cost a fraction of what it could have. The brain and logic of our entire business sits in our SDDC and we don’t have to rely on hardware such as complex routers and switches, that cost millions.” —Jonathan K, Cloud on Demand

Customer references are a powerful way to understand the VMware difference. The following quotes were gathered from real customer interviews found at [http://www.vmware.com/getthefacts](http://www.vmware.com/getthefacts):

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vSphere 6.0 Innovation Drives Customer **Success**

vSphere 6.0 shows the commitment from VMware to deliver innovation that is most important to customers, with features and capabilities that don’t even exist on Microsoft’s virtualization platform.

- **NEW** Long-Distance vMotion between remote data centers for ultimate flexibility
- **NEW** VMware Fault Tolerance support for up to 4 vCPUs for your most important VMs
- **NEW** VMware Virtual Volumes that makes storage truly automated and VM-aware
- **NEW** VMware Content Library centralizes access to VM templates and critical files globally
- **VMware scale**: Hosts up to 480 CPUs, 12TB RAM and VMs up to 128 vCPUs and 4TB of RAM

(Media only supports Hosts up to 320 CPUs, 4TB RAM and VMs up to 64 vCPUs, 1TB of RAM)

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Learn more about the VMware One Cloud strategy @ [http://onecloud.vmware.com](http://onecloud.vmware.com)