

## Debunking VMware's Top 10 Virtualization Myths

VMware has made several claims about Microsoft® products and its own virtualization products in an attempt to position its solutions as providing more capabilities at a greater value. The VMware arguments simply don't stack up. Following is a summary of why these claims are more fiction than truth.

For more details and to view a video on this topic, please visit:

[www.microsoft.com/vmwarecompare](http://www.microsoft.com/vmwarecompare)

### Myth 1: Microsoft lacks live migration capabilities.

VMware states that Microsoft does not, and will not, have any live migration capabilities. However, live migration is built right into Windows Server® 2008 R2 Hyper-V™ and Microsoft® Hyper-V Server 2008 R2, which is a free, stand-alone hypervisor-based server virtualization product. Live migration is comparable to VMware VMotion. It enables you to move running virtual machines from one physical host to another, without any perceptible downtime.

### Myth 2: Windows Server does not have clustered file systems.

Windows Server 2008 R2 has a great new feature—Clustered Shared Volumes—that not only provides many of the advantages of clustered file systems, but also integrates with existing Windows® management systems. For instance, you can expose a single logical unit number (LUN) to all hosts, view all your virtual machines, and put them in subfolders. You can also fail over at the virtual machine level rather than failing over at the entire storage level.

### Myth 3: Hyper-V is a 1.0 product.

VMware claims that Hyper-V virtualization

technology is akin to a version 1.0 product—unreliable and unscalable. We're so confident in its reliability that we run our popular TechNet Web site, and many other Microsoft.com sites, on Hyper-V. But don't just take our word for it. One of our customers is running 4,500 virtual machines on Hyper-V. Check out the many Hyper-V customer success stories on our Web site: <http://www.microsoft.com/virtualization/casestudies/default.aspx>.

### Myth 4: Hyper-V has low performance.

The performance of Hyper-V has been proven in both independent tests and in real-world customer deployments. In all cases, its performance is consistently rated high and at least on par with VMware ESX. In fact, in certain areas, such as disk operations, Hyper-V outscores VMware in speed. For example, *Computerworld* reports "impressive results" with input/output (I/O) operations per second, and *ZD Net* found that "Hyper-V provides a no-brainer, high-performance means of virtualizing Wintel guests."

### Myth 5: ESX's footprint size.

VMware ESX does have a small disk footprint, which makes it possible to put it on a Flash drive, for instance. However, actually running VMware ESX requires significantly more than 32 megabytes of memory. The in-memory usage is close to that of Hyper-V.

### Myth 6: VMware supports the most hardware.

VMware claims that it has the broadest hardware support of any virtualization platform vendor, and then compares itself to two other companies—but not to Microsoft. Why? If VMware listed Microsoft, it would no longer come out on top. Because Hyper-V is part of the Windows Server operating system, it is certified to support all the hardware and device drivers that Windows supports, including network, storage, host bus adapters (HBAs), and Internet Small Computer System Interface (iSCSI). You can run Hyper-V on many different platforms—our own demo system can use laptops, for instance. Hyper-V provides the same broad support as Windows, because it is Windows.

### Myth 7: VMware offers better management capabilities.

VMware frequently compares the management functionalities of Microsoft products and its own virtualization products. It tends to group its vCenter and ESX products, as well as consolidated backup and other tools, and then pit them all against Microsoft System Center Virtual Machine Manager 2008 (VMM). VMM is just one of the System Center family tools that addresses virtualization; virtualization management is infused throughout the entire System Center suite, which makes VMware's comparison a bit like comparing an entire apple pie to just a slice of the pie. For a realistic assessment, you need to

evaluate the series of VMware products against the entire Microsoft System Center suite—which includes VMM as well as Operations Manager, Configuration Manager, and Data Protection Manager. When you do, you'll see that not only does the integrated System Center suite offer all the features of the many different VMware products, but System Center is the only solution that enables you to manage physical machines, as well as all your virtual machines from Microsoft and VMware, for a single cost. Now that's end-to-end management.

### Myth 8: VMware can accommodate twice as many virtual machines on its hypervisor.

Memory Overcommit is a VMware feature that enables you to allocate more memory to virtual machines than you actually have. It can be useful in certain scenarios, like when you need to boot up more virtual machines that don't use that amount of memory. However, if the virtual machines are using the memory, the performance of all the virtual machines suffers once you've exceeded the actual physical memory. The Memory Overcommit comparisons from VMware are usually based on a theoretical 2:1 ratio, which says you can accommodate twice as many virtual machines on a VMware system as you can on comparable systems from Microsoft or any other vendor. This ratio helps support VMware's cost arguments. But, in reality, customers are not implementing those ratios. You can get the real story on Memory Overcommit

with our white paper. Download it now at <http://www.microsoft.com/vmwarecompare>.

The better, more effective approach is to maximize the capabilities of the actual virtual machines, right-size them for the memory, and use tools like System Center to dynamically optimize them and place them on the most appropriate host. This way, you can get the most out of both your virtual and physical resources.

## Myth 9: VMware is cost competitive.

When evaluating comparable Microsoft and VMware solutions, VMware's solutions typically cost anywhere from three to five times the price of Microsoft solutions. But VMware asserts that the costs are about the same. How does VMware reach this conclusion? In part, it relies on its Memory Overcommit claims and tries to influence buyers to look at price-per-application rather than price-per-host. However, both VMware and Microsoft base pricing on the physical box, so this doesn't add up. VMware does not base its pricing story on how customers actually pay for and use its products. It also compares its entry-level VI Foundation product to the Microsoft enterprise solution in an attempt to exaggerate price differences. The best thing to do is make your own comparison, using your own configuration, based on your needs. We're sure that when you do, you'll see that Microsoft

## Myth 10: You need VMware to virtualize.

According to VMware, you cannot virtualize your infrastructure without its solutions. But the truth is, you don't need VMware to virtualize. In fact, choosing VMware is equivalent to paying a virtualization tax. With VMware, you need four layers to virtualize: the hardware, the operating system, the applications, and the VMware solutions. But with Microsoft, virtualization is built directly into Windows and into the System Center suite of solutions. So you only need three layers: the hardware, the operating system, and the applications. So why go with VMware when it requires an extra layer—which equates to one extra layer of complexity, one extra layer of security issues, and one extra layer of costs? If you have Windows, not only do you eliminate the need for that extra layer, you get everything you need to virtualize and simplify your environment, with the technologies you're already using.

Microsoft virtualization solutions are clearly a better choice than VMware. We provide the features and functionality you need to manage your entire infrastructure, from desktop to data center. With no extra virtualization layer and no extra cost, the value is undeniable.

Download Windows Server 2008 R2 with built-in Hyper-V virtualization technology to get started today: [www.microsoft.com/windowsserver2008/en/us/R2.aspx](http://www.microsoft.com/windowsserver2008/en/us/R2.aspx) or download Microsoft Hyper-V Server 2008 R2, the free bare-metal hypervisor that includes live migration and clustering at no charge: <http://www.microsoft.com/hyper-v-server/en/us/default.aspx>.