



Server virtualization — deciding what you need to purchase

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Executive Summary

There is more than one type of virtualization and more than one product to do each type. Here, briefly, are some key facts to help you compare them and begin to map your move to virtual servers.

Server virtualization uses software to divide one physical server into multiple isolated virtual machines, each of which can run a different application on a different operating system. The first step in deciding what software platform you'll need in order to implement server virtualization is to think about the type of virtualization you'll use.

- **Full virtualization:** Full virtualization uses the hypervisor to run virtual instances of several different operating systems at the same time and without the virtual server being aware that it is running in a virtualized environment. With a fully virtualized environment, you can support the widest variety of guest operating systems, and you can completely isolate them from each other and from the host OS. However, processor performance can suffer.
- **Paravirtualization:** Nearly as responsive as unvirtualized servers, paravirtualization provides a version of an operating system that has been specially modified to cooperate with the hypervisor. As a result, you can experience a considerable performance improvement over most full virtualization methods, coupled with the ability to run a heterogeneous mix of guest OSs simultaneously.
- **OS-level virtualization:** With this server virtualization method, no separate hypervisor layer is required because it's already built in. All of the virtual servers are still isolated from one another, but they are running on top of the same operating system. The downside of OS-level virtualization is that it may not offer the same level of flexibility as the other methods. However, it can provide near-native-speed performance and is often easier to manage than a more heterogeneous environment.

Choosing a vendor

When considering what you'll buy and whose products you'll use, take the following information into account:

Vendor	Products	Pros and Cons	Virtualization Type Focus
VMware	<ul style="list-style-type: none"> • Server virtualization management and automation solutions • Virtual infrastructure capabilities • Virtualization platforms 	<p>Pros:</p> <ul style="list-style-type: none"> • Offers a range of products and solutions for companies of varying sizes • Works with most operating systems, including Linux, Microsoft Windows, NetWare and Solaris <p>Con:</p> <ul style="list-style-type: none"> • Is not an open source offering, with fewer flexible options and the potential to get locked into one vendor's offerings 	<ul style="list-style-type: none"> • Provides full virtualization now, working on paravirtualization to complement offerings

Vendor	Products	Pros and Cons	Virtualization Type Focus
Microsoft	<ul style="list-style-type: none"> Virtual operating system Hypervisor (runs directly on the hardware) 	<p>Pros:</p> <ul style="list-style-type: none"> Helps increase infrastructure flexibility Includes new security enhancements and advanced capabilities <p>Cons:</p> <ul style="list-style-type: none"> Supports only Windows and Linux operating systems Introduces hypervisor technology which is a brand-new product and somewhat unproven 	<ul style="list-style-type: none"> Provides full virtualization now, working on paravirtualization to complement offerings
HP	<ul style="list-style-type: none"> Integrated software virtualization solution Central management console for VMware and Microsoft virtual machines Integrated virtualization services Server and storage products 	<p>Pros:</p> <ul style="list-style-type: none"> Offers numerous bundling options with HP products as well as with VMware and Microsoft products Supports a wide range of operating systems, including Linux, Microsoft Windows, NetWare and Solaris <p>Con:</p> <ul style="list-style-type: none"> Provides few virtualization platform options of its own, typically relying on other vendors such as VMware and Microsoft 	<ul style="list-style-type: none"> Varies depending on product
Citrix	<ul style="list-style-type: none"> Open source hypervisor technology Comprehensive managed virtualization platform 	<p>Pro:</p> <ul style="list-style-type: none"> Offers flexible purchasing options for different client sizes and environments, including express, standard and enterprise editions <p>Con:</p> <ul style="list-style-type: none"> Supports only Windows and Linux operating systems 	<ul style="list-style-type: none"> Provides paravirtualization

Are you ready for a new virtualization platform? CDW can help.

CDW's server consolidation and virtualization solutions can streamline your data center and cut IT, hardware and software expenses. They'll also enable faster, more agile computing for the future, driving more savings and growth.

Ask your CDW account manager for details. If you don't have an account manager, call us at (800) 985-4239.