

The Latest Buzzword -- "Virtualization"

What is it, really?

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First off, Virtualization is nothing new to the industry, so it is nothing to be feared. Unless of course, you were scared by IBM's VM/ESA, VSAM, or Digital's VMS.

The term is used in virtually (pardon the pun) all aspects of technology today. From storage, servers, web services to networks, virtualization is employed and takes on different meanings.

As companies cope with right sizing their open systems infrastructure through consolidation, new server or storage deployments, cost cutting efforts or growth, newer technologies make it more manageable. In the mainframe arena, virtual memory, virtual storage, virtual tape and virtual systems, known to most as Logical Partitions (LPAR), stand as the norm. Through these technologies, virtualization moves into the open systems world.

Storage Virtualization

In its purest form, storage virtualization allows users to add storage capacity. Using inexpensive, commodity disk and tape drives, users can dynamically manage those storage resources as virtual storage pools with little regard for what physically resides on the back end.

Furthermore, the technologies increase performance and availability, providing a means to replicate data using existing TCP/IP infrastructures.

Products such as Datacore SANSymphony and IBM TotalStorage SAN Volume Controller allow customers to better utilize their storage. Storage utilization averages less than 50 percent industry wide. That is a huge waste of resources. Storage on demand allocation, storage pooling, and shared storage resources are "buying back" storage. By moving the technologies up into the SAN, storage Resource Management, centralized performance monitoring, Quality of Service, and centralized storage administration across a variety of storage platforms are possible. Monolithic storage systems today limit you to using higher level functions, such as snapshots, with a single array. You cannot snap a volume from an EMC array to an IBM ESS (Shark) with either of the vendors embedded array management software.

Server Virtualization

The Intel space now includes the same capabilities as mainframes or high-end UNIX systems ... the ability to run multiple copies of an operating system on a single processor or set of processors. Processor utilization in the Intel space averages less than 10 percent. Although processing power continues to double each year, operating systems and applications fail to take advantage of the CPU power available.

It comes down to being able to fully utilize the processing power available. By using server virtualization technologies from VMware or Microsoft, a user can install, on a single server, multiple copies of Microsoft Windows products, Linux, or Novell. The combined processor load of each OS and application allows us to push the utilization of processors up to 80 percent plus. Take a look at the number of systems in your environment. Would running say eight of your servers on a single system make sense? I'd have to say it would. Smaller footprint, less power and cooling, centralized management, lower maintenance costs and total cost of ownership ... just some of the benefits.

Server and Storage Virtualization software technologies allow users to manage more with less. Users can treat their hardware as commodities and utilize that hardware at levels never previously achieved.

So what is virtualization, really?

It is the smart, cost effective use of technology that lends itself well to today's challenging business climate.

About VM Powered

VM Powered LLC is a provider of virtual server and virtual storage design and implementation/integration services. VM Powered provides analysis and planning for server consolidation or new deployments using virtual server technologies from various vendors. In addition, VM Powered provides analysis and planning of platform independent storage consolidation and backup technologies to help customers create a storage architecture that will service their enterprise and provide unmatched data protection and performance.



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