

# Worth Getting Hyped Up Over Hyper-V? To beta or not to beta – that is the question?

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## Background

The maturing of virtualisation technology has seen it become an accepted and integral part of the network infrastructure of many enterprises. It can be said that virtualisation is no longer a “fringe” technology and has definitely entered the mainstream.

The benefits of virtualisation have been proven. It can provide security of network services by mitigating the risk of host failure while optimising server resource utilisation. Enterprises with some commitment to a sustainable future can also reap the financial savings from lower energy costs and having less physical hardware to dispose of or recycle at the equipment’s end of life.

Virtualisation technology in the classroom is not new. In one form or another, IT educators have taught it to networking students to prepare them for the environment they will encounter when they pursue an IT career. It has also been used in many innovative ways to make the hardware in teaching labs go a lot further and enable students to build large complex networks of many servers with fewer physical machines.

Part of the educator’s role is to research and keep abreast of the new technologies, trial them as they become available and assess their suitability in the teaching environment. Several of the major vendors have recently introduced new products (and betas) that have been worth investigating.

## Intel-VT (and AMD-V) – A New Era

Intel Virtualisation Technology (Intel-VT) and AMD Virtualisation (AMD-V) extensions to the 64bit x64 architecture have been available since 2006. However it is only in the last year or so that a classroom full of relatively inexpensive computers based on an entry level Intel Core 2 Duo processor (eg. an Intel E6550 CPU) opened up the potential not only for 64 bit computing but also the use of Intel-VT hardware virtualisation support.

Even with the most basic motherboards, support for 8GB of RAM opens the way for hosting several virtual machines on one physical machine.

Many vendors (Microsoft, VMware and Xen) already have had products that have made some use of Intel-VT and AMD-V. However, newer technologies and products (“free” and/or useful in the classroom) are on the horizon, eg. Microsoft’s Hyper-V, VMware Server 2.0 (beta testing) and Citrix/Xen.

## Hyper-V

Microsoft Hyper-V, (codenamed Viridian) is a hypervisor based virtualization system for x64 versions of Windows Server 2008. The Hyper-V hypervisor will also be available as a stand-alone offering, without the Windows Server functionality, as Microsoft Hyper-V Server. Release candidates of Windows Server 2008 included a preview of Hyper-V.

Although during testing it proved reasonably stable for virtualising Microsoft operating systems Hyper-V has proved disappointing with its very limited support for other operating systems (only SUSE Enterprise Server 10 is officially supported).

## VMware Server – Version 2 Beta

Version 2 of this popular product has several enhancements over the Version 1 series. Among these is a web-based interface for virtual machine management, improved 64-bit guest support and native 64-bit host support on Linux (VMware Server now runs natively on 64-bit Linux host operating systems).

Unfortunately (but to be expected with a beta product) many snags were encountered in attempting to get a variety of guest operating systems to install or function.

On the up side, it promises support for an extremely wide range of guest operating systems and when the final release is published it will most likely be the more suitable virtualisation product in a teaching environment.

## Citrix/Xen

With the recent completion of the XenSource acquisition, Citrix now adds two new and soon to be released products, Citrix XenServer for server virtualization and Citrix XenDesktop for desktop virtualization.

It is yet to be seen how committed Citrix is to maintaining open source roots of XenSource. This major player in the virtualisation field will be worthy of investigation in the near future.

## Links

<http://www.microsoft.com/windowsserver2008/en/us/hyper-v-faq.aspx>

<http://www.vmware.com/products/server/>

<http://virtualizationreview.com/features/article.aspx?editorialid=2454>