



## VMware: How it works

VMware allows physical systems such as desktops and servers to be virtualized and run as guests on another system. The guest system, complete with applications and data, is encapsulated and runs on a host operating system which provides the necessary resources such as disk space memory etc.

Although these guest systems are isolated from one another at the system level they can communicate at the network level. The host enables access to the network interface and allows the guest to either obtain a DHCP or static IP address.

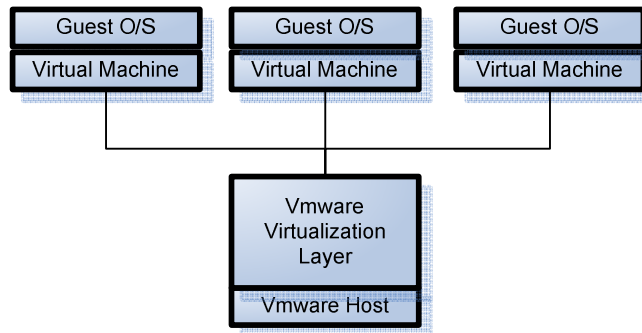
Access is also available to removable media such as CD, DVD and floppy disk.

In the past if access to multiple operating systems was required separate partitions and some means of booting the different installations was required. This is no longer the case as the VMware console allows for the management and control of guest systems.

In addition, it is possible to run multiple instances on the same host with network communication between these systems.

This simply is not possible in a dual or multiple boot system with can only have one identity at a time.

The benefits that can be achieved are enormous. For example, in a disaster recovery scenario one of the greatest issues is that the available hardware may be significantly different to the original. This makes the recovery process more



complex and, typically, longer.

However, if the system has been virtualized it can be easily re-instated on a different hardware platform the only criteria being that there is sufficient available resource.

In fact, it is fair to say that in an environment

where there are currently multiple servers greater fault-tolerance will be achieved by running under VMware continuously.

This provides a number of benefits. First, the consolidation of systems can be achieved by running a small number of powerful systems with multiple virtual machines. If systems have sufficient spare capacity it becomes easy to move a virtual machine from one platform to another. In fact, latest versions of VMware can move virtual machines without service interruption.

Existing servers can be virtualized and moved to the VMware platform or they can be installed afresh. In each case they retain their identity so users will see no difference in operation.

As each virtual machine will have access to the CD or DVD, application software can be easily installed onto, or removed from, the guest operating system.

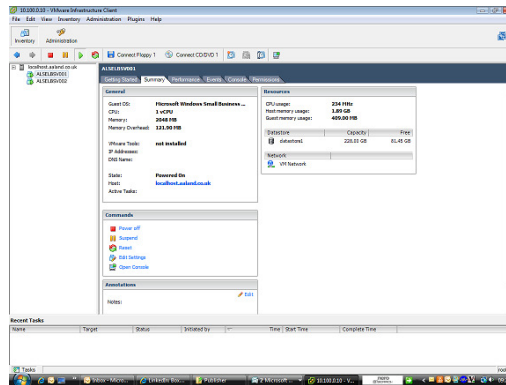
As the disk space available to the virtual machine is normally pre-allocated you need to ensure sufficient free space is available to accommodate future updates.

## VMware: Getting Started

Getting started with VMware is easy. You can test your systems using ESXi which is freely downloadable. However, if you need to copy existing physical servers over you'll the bigger brother, ESX which allows physical to virtual transformations.

I installed ESXi on a Dell Poweredge SC440 with 4Gb RAM. Not an enormous system but I've got Microsoft SBS 2003 running on it with SQL 2005 on one guest and Ubuntu Server 9.04 on another guest. If you downloaded this document from [www.aaland.co.uk](http://www.aaland.co.uk) that's one of my virtual servers!

Remember that VMware does not support



all hardware—I had to install an Intel network card to get it to work as well as 'tweak' the installer as SATA drives are not supported in the SC440. Also, remember to check for patches and updates.

Install the Infrastructure Client on another PC. It looks like the picture to the left of this column when all the guest configuration is done. Create a data-store first, then a guest; enable the CD and install the Operating System in the same way you would on a physical server.

Enjoy!

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