

# Virtualisation

Contributed by M Pretorius  
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Virtualisation (the Americans spell it Virtualization) is one of the most exciting recent developments opening up many opportunities in the server field. Often good innovations are out of reach of most people. Not so with virtualisation. There is strong competition in this field. VMware, one of the front runners in this field, has made some of its products freely available to retain its market share. Do not for a moment entertain the thought that because it is free it is somehow second grade software - not in the least. They are the market leaders but they are not the only players. Microsoft has included free virtualisation in Microsoft Server 2008 and there are a number of other vendors as well.

Because it is a relatively new development, many people do not understand it. We are used to Operating Systems and teach that nothing can run on a computer without an Operating System. Operating systems are programs such as Windows, Linux, Unix etc. Well that is now old hat. All of these and many more than you can dream of can be hosted on a VMware server.

Well, technically speaking, any software that interacts with the hardware is an Operating System, but this makes us to think of Operating Systems in a new way. With virtualisation you can run many Operating Systems on one computer where each functions completely separate from the others. You can even join many physical servers, each with a number of Operating Systems into one cluster and have a whole cloud of computers to share and manage resources amongst them.

Look at what you can do with one of the free products of VMware called VMware ESXi:

"VMware ESXi is the easiest way to get started with virtualization-and it's free. Consolidate your applications onto fewer servers and start saving money through reduced hardware, power, cooling and administration costs. VMware ESXi has been optimized and tested to run even your most resource intensive applications and databases with

minimal performance overhead. With VMware ESXi you can:

- Run multiple operating systems on a single server and reduce hardware costs
- Run a greener data center and reduce your energy cost
- Enable easier back-ups and restores for your applications
- Run the most resource intensive applications in production" [from <http://www.vmware.com/products/esxi/> ]

You do not need to load VMware's server software on a computer with an operating system such as Windows or Linux. Then again you may, if you want to. See the table below that sets out this difference.

"How does VMware Server differ from VMware's other free virtualization solution, VMware ESXi?"

The table below highlights key differences between VMware Server and VMware ESXi.

VMware Server

VMware ESXi

Architecture

Hosted

Hypervisor

OS Requirements

Windows or Linux

None

Typical Use Cases

Test & Dev, Production

Production, Test & Dev

Dedicated Server Required

No

Yes

Centralized Management Option

No

Yes

Ease of Use

High

High

Performance

Good

Best

Scalable to VMware vSphere

Easy

Easiest

[from <http://www.vmware.com/products/server/faqs.html>  
]

That is just the beginning. Add some of the other VMware products and your imagination is the limit. See the image below.

[From VMware Infrastructure Primer]

There are also some free virtualisation (virtualization) products available for desktop computers as well. Why don't you do a search on that and try it out. Then load a free Linux desktop version next to your current Windows version. You'll have the best of both worlds. What can you lose? On the other hand you can gain some valuable insight into a field that is going to change the landscape of computers in the near future.