

# VMware for the Open Source Geek

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# Who Am I?

- Shawn K. O'Shea, resident of Hudson, NH. Originally from CT.
- Full-time system administrator since 1997.
- Currently employed by Akibia, Inc. of Westboro, MA as an onsite contractor at a government research and development lab
- <http://www.akibia.com>

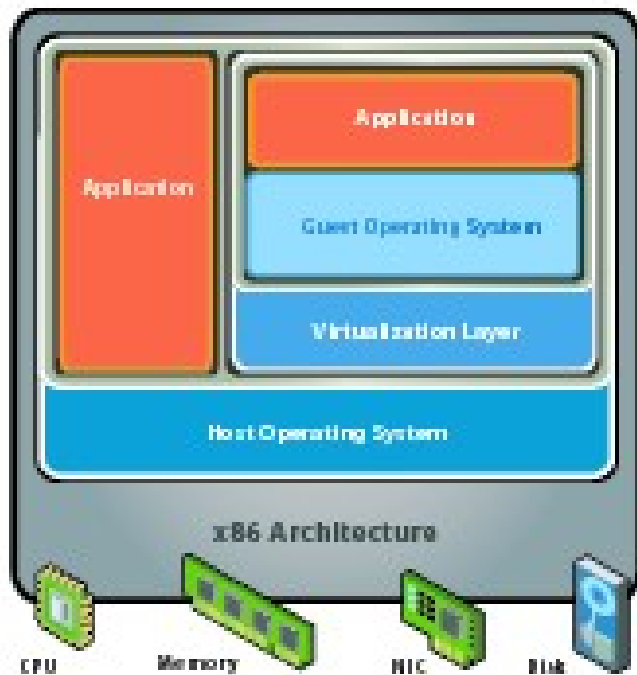


# Overview

- Virtualization
- VMware product lineup
- VMware Player
- VMware Server
- VMware ESX Server

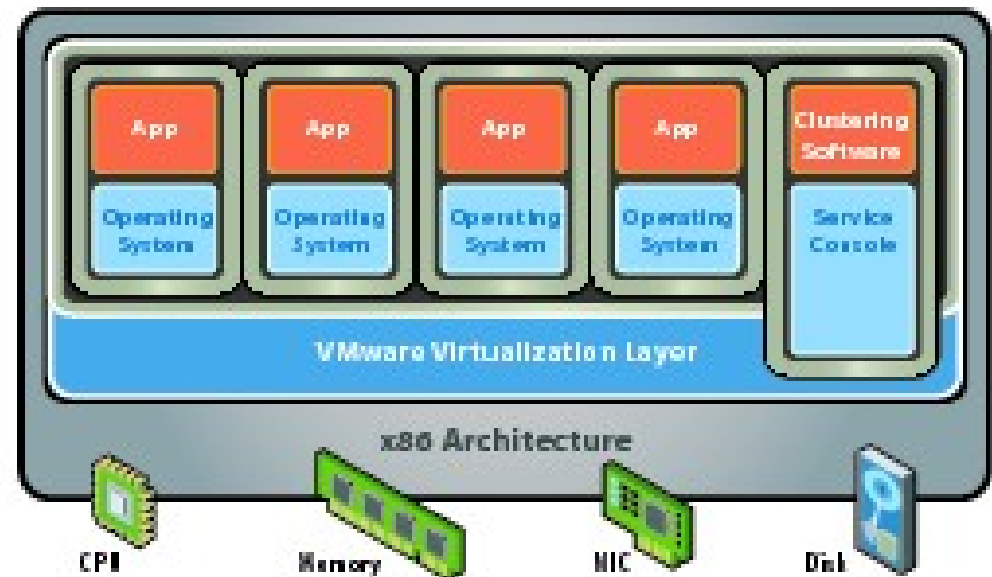
# Virtualization

- “The term virtualization broadly describes the separation of a resource or request for a service from the underlying physical delivery of that service.” [1]
- “virtualization is a framework or methodology of dividing the resources of a computer into multiple execution environments, by applying one or more concepts or technologies such as hardware and software partitioning, time-sharing, partial or complete machine simulation, emulation, quality of service, and many others.” [2]



### Hosted Architecture

- Installs and runs as an application
- Relies on host OS for device support and physical resource management



### Bare-Metal (Hypervisor) Architecture

- Lean virtualization-centric kernel
- Service Console for agents and helper applications

# Virtualization Products in the Wild

- VMware (Player/Server/Workstation/ESX)
- Microsoft (VirtualPC/VirtualServer)
- Parallels
- Virtual Iron
- Xen (Enterprise and Open Source)

# Products Links

- VMware - <http://www.vmware.com/>
- MS – VirtualPC <http://www.microsoft.com/windows/virtualpc/default.mspx>
- MS – VirtualServer  
<http://www.microsoft.com/windowsserversystem/virtualserver/default.mspx>
- Parallels - <http://www.parallels.com/>
- Virtual Iron - <http://virtualiron.com/>
- Xen - <http://www.xensource.com/>
- Open Source Xen - <http://www.xensource.com/xen/xen/>

# VMware products

- Free Virtualization Products
  - VMware Player
  - VMware Server
- Desktop Products
  - VMware Workstation
  - VMware ACE
- Enterprise Products – Virtual Infrastructure
  - ESX Server
  - VirtualCenter



# VMware Player

- Free download
- Launch (“play”) prebuilt virtual machines
- Virtual Appliance Marketplace
  - <http://www.vmware.com/vmtn/appliances/index.html>
- Ready-to-run OS or Application servers

# Demo

- VMware player for Linux install
- Ubuntu Dapper Drake Server
- m0n0wall

# The Linux User's Dilemma

- I have a requirement to run a Windows only application, but I only have Linux installed.
- VMware could be your solution

# VMware Server

- Free download
- Requires a registration process (providing personal info) in order to obtain free serial number(s)
- Will provide you with up to 100 serial numbers

# VMware server features

- 64-bit support (some experimental)
- SMP up to 2 processors
- VM snapshot support
- Can run guest OS in full screen mode

# Many fully supported guest OSes

- Windows (NT4, 2000, Server 2003, XP, Win3.1, 95/98/ME, Vista (experimental))
- Linux, with specific support for Red Hat, SuSE, Mandriva, Ubuntu
- Netware
- Solaris 10

# Demo

- Installing VMware server
- Installing Windows 2000 VM
- Installing FreeBSD VM
- Accessing already built Windows XP VM

# VMware ESX Server

- Enterprise Product
- Own standalone operating system
- SAN support. Uses VMFS clustering fs
- Create entire virtual networks with virtual switches and integrate them with existing networks (VLAN support)



# VMware ESX Server (cont)

- Host machines can have up to 32 logical processors and 64 GB of RAM
- Virtual machines can have up to 4 processors and 16GB of RAM
- With sufficient hardware, ESX supports running 128 concurrent virtual machines
- VirtualCenter provides central management

# Links

- Running VMware on a Physical Partition  
<http://news.u32.net/articles/2006/07/18/running-vmware-on-a-physical-partition>
- How to use VMware Player to create your own images  
<http://software.newsforge.com/article.pl?sid=06/05/16/1940214>
- How to launch ISO and use LiveCDs inside VMware Player  
<http://www.virtualization.info/2005/10/how-to-launch-iso-and-use-livecds.html>

# Links (cont.)

- VMware Keyboard Shortcuts  
[http://allhotkeys.com/vmware\\_keyboard\\_shortcuts.html](http://allhotkeys.com/vmware_keyboard_shortcuts.html)
- EasyVMX  
<http://www.easyvmx.com/>
- VMX-file parameters  
<http://sanbarrow.com/vmx-intro.html>

Thanks!

Questions?

# Footnotes

- [1] “Virtualization Overview” - VMware White paper  
<http://www.vmware.com/pdf/virtualization.pdf#search=%22hypervisor%20VMware%20virtualization%20layer%22>
- [2] “An Introduction of Virtualizaion” - Amit Singh, kernelthread.com article  
<http://www.kernelthread.com/publications/virtualization/>