

SD VMUG July 10th presentation - ...



Lawrence 90 posts since

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Running VMware ESX 3.x on the cheap

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{Slide 2} Options for running ESX on the cheap

bq. for lab/testing/training/demo purposes

Challenge is ESX will install on IDE/ATA, but VMFS storage requires SCSI

Therefore, 2 primary inexpensive options:

1. Use iSCSI setup
2. Use SATA controller that will use a SCSI driver (thereby fooling ESX)

Links on White-box setups

- <http://communities.vmware.com/thread/121231> Cheap ESX solution (Tests)
- <http://vmetc.com/2008/03/14/esx-home-lab-hardware-shopping-list/>
- http://www.vm-help.com/esx/esx3.5/Whiteboxes_SATA_Controllers_for_ESX_3.5_3i.htm Motherboards and unsupported servers that work with ESX 3.5 and / or 3i Installable
- http://www.vmprofessional.com/index.php?content=sata_faq
- Inexpensive white box clones
 - HP D530
 - <http://www.ntpro.nl/blog/archives/325-The-ultimate-ESX-3.5-white-box.html>

Or, run ESX 3.x under Workstation 6.x!

{Slide 3} Running VMware ESX 3.x under Workstation 6.x

- Running ESX v3.0.x under Workstation v6.0.x
http://www.xtravirt.com/index.php?option=com_content&task=view&id=99&Itemid=124
- Guide to installing VMware ESX3 on Workstation 6
- Guide to installing VMware ESX3 on Workstation 6 - Part 2 [IET Virtual Shared Storage](#)
- Guide to installing VMware ESX3 on Workstation 6 - Part 3 [OpenFiler Virtual Shared Storage](#)
- Commentary on VMware ESX3.5 on Workstation 6.0
 - Basically talks about the need for a newer revision of AMD Virtualization (AMD-V 'Pacifica') / Intel Virtualization Technology (VT) found in Intel Quad-Core CPUs (and I believe 3rd generation AMD chips (Phenom))
- Desktop CPUs
 - http://www.intel.com/products/processor_number/chart/core2quad.htm
 - Most, but not all, Intel CPUs T5600 or higher have VT
 - <http://products.amd.com/en-us/DesktopCPUResult.aspx>
 - <http://products.amd.com/en-us/NotebookCPUResult.aspx>
 - Note: Server/workstation CPUs
 - Looks like AMD quad-core Barcelona based Opterons share 10h architecture with Phenoms, so should also work • Xeons released mid-2007 should also work
- VMware Workstation v6.5 beta 2
 - Originally removed support for some Intel virtualization handling ("too bloated / cumbersome") to support ESX v3.5 but based on community feedback was added back to v6.5. AMD support was always present

{Slide 4} My Experience - setup

- Dell Latitude D820 T7200 (Core 2 Duo 2.0 GHz VT enabled, 64-bit capable) 2GB RAM
- External Raptor 10k RPM SATA drive for VMs
- Host OS - was running Vista Ultimate x32 SP1, but needed more ram, so dropped host OS to - XP Pro x86/32 SP3
- VMware Workstation 6.5b2 (build 99530)
- 5 VMs (currently) built initially based up XtraVirt.com's ESX 3.0.x under WS6.0.x
- Fedora 7 running OpenFiler / IET 0.4.15 (256MB RAM, 1 vCPU)
 - 40GB vmdk, 30+GB for iSCSI storage
- ESX#1 v3.5 Update 1 Build 82663 (768 MB RAM 1 vCPU)
 - IDE local, SCSI for local VMFS
 - VMkernel set for same NAT'ed network as Service Console
- ESX#2 v3.5 Update 1 (768 MB RAM 1 vCPU)
 - IDE only
- Virtual Center 2.5 update 1 (892MB RAM 1 vCPU XP Pro SP2)
- ESX#3 v3.0.2 Update 1 (768 MB RAM 1 vCPU)
 - IDE system drive, SCSI for local VMFS

{Slide 5} My Experience - challenges

- Virtual Center

- RAM - finally upped RAM to 768+MB and that seems to have really helped
- CPU usage - Maxing out 1 CPU, tried 2 and squeezes out other VMs so went back to 1 vCPU for VC
- Followed VMware kb article to stop statistic collection (not sure that helped - seems to have)
- not uncommon for vpxclient to crash in VirtualCenter VM (most likely CPU starved?)
- ESX couldn't see iSCSI storage in my setup (most likely user error?) though MS initiator can
- Switched from logging using VC client to log into Virtual Center and log direct into ESX server - seems to work better at the moment
- ESX using 400MB of RAM sitting there, so upped ESX VM from 512 to 768 MB of RAM
- I've adjusted the VIC timeout from 30 seconds to 60 seconds
- Running XP's Task Mgr in Virtual Center VM drives CPU to 100% with Task Mgr taking 50%???
- I do have WS 6.0.3? VM Tools installed rather than WS6.5b2's VMtools (read of blue screen with latest VM tools).
- Bottom line
 - I was unable to build a Win XP or 2003 VM under ESX under WS6.5b2 (couldn't see disk drive??)
 - I was able to get a VM running (Bart PE booting off ISO file)

Future plans

- * Switch from using ESX 3.5 to ESX3i (or latest product name) - save 300-400MB per ESX VM?