

Locking down Virtualization

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Introduction

- What is Virtualization?
- The Atlas Computer & IBM M44 44X
- The Hypervisor
- If virtualization has been around for so long why the hype now?
- Evaluating Physical servers for Virtualization

Virtualization Technologies

- Server Virtualization
 - Application Virtualization
 - Network Virtualization
 - Storage Virtualization
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Benefits

- Server Consolidation
- Business Agility – DTD
- Business Continuity – reduced downtime
- Cost Power & heat consumption efficient
- Legacy Systems
- Test and Development Agility
- Open source tools available
- Maximum usage of Hardware Resources

Security

- Centralized and secured computing environments
- Effective against malware - Fail Safe image
- Md5sum VMs & encrypting local system images
- Publicly Available PCs – restored to base system
- Sheepdip virtual machines

Cons to Virtualization

- Resource intensive
- Bleed over
- Theft of data
- Scalability – debatable
- Mixing of risk profiles
- Exploits and Rootkits
- Single point of failure

Virtualization Software

- Microsoft Virtual PC & Microsoft Virtual Server
- VMware ESX Server
- VMware Server
- VMware Workstation/ VMware player
- VMware Fusion
- Qemu
- Xen

P2V Tools

- Bart PE Ghost
- Vmware P2V tool
- Platspin Power converter
- dd

Poor man's P2V- Linux

- Linux can be done online or offline
- Online Transfer : dd tool with ssh to transfer OS to another server
dd "if=/dev/sda1" | ssh ipaddr "dd of=./online.img"
- Use Qemu to convert img to vmdk
- Sometimes linux requires driver changes
modify /etc/modprobe.conf
network – pcnet32
hdd – scsi
modify /etc/fstab to remove unused partitions

Poor Man's P2V windows

- Windows offline
- Prepare Physical for Virtual
change any vendor specific drivers
specifically ide driver
- Offline Transfer : dd tool with knoppix
or backtrack to transfer OS to another
server
dd "if=/dev/sda1" | ssh ipaddr "dd of=./online.img"
- Use Qemu to convert img to vmdk

The Future of Virtualization

- Software Licencing/Costs Unrealistic consolidation
- Improved VM CPU architectures
- Not a silver bullet
- Real world scenarios

Thank you for your
Attention

Questions & Answers?