Discovery Conference 2009

VIRTUALISATION

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NiUG INTERNATIONAL ASIA PACIFIC CHAPTER

Agenda

- Introduction
- What is Virtualisation
- Why Virtualise?
- Virtualisation Products
- Real World Implementations – David Humphreys
- Questions

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Introduction

- MWTG Specialise in providing SMB, NFP and Associations with effective IT Solutions within Budget
- Full-Service-Solutions; Packaged Solutions from the Edge to the desktop, IT Audits, Disaster Recovery Planning, SharePoint
- Partners;
  - Microsoft – Certified – Infrastructure and SharePoint Specialists
  - Vmware – Professional
  - Watchguard – Expert (Southern Region Expert Partner of the Year 2009)
  - Sophos – Gold
  - f5 – Gold
  - Hardware vendors – HP, IBM, DELL

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What is Virtualisation?

Definition – Virtualisation is the creation of a virtual (rather than Actual) version of something, such as an operating system, a server, a storage device or network resource

- Require Physical Host
- Require Physical Storage
- Require Virtualisation Software that provides **simulated Physical hardware** to Guest Operations Systems
- Virtualisation Software allows a piece of hardware to run multiple Guest operating systems at the same time independently of each other

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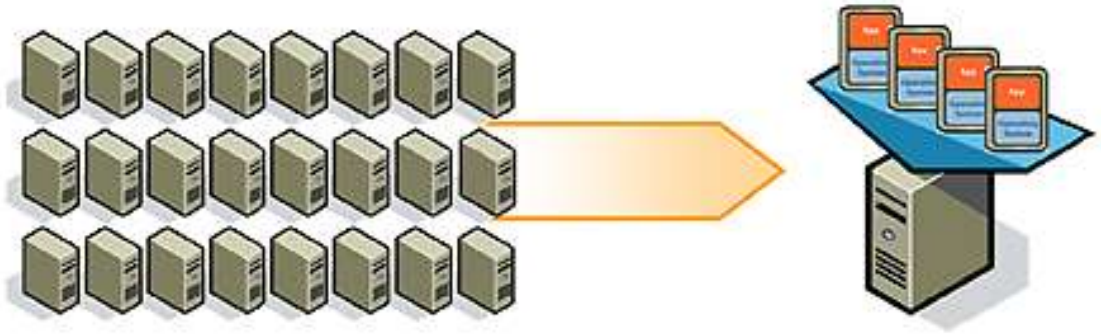
What is Virtualisation? – cont'd

- Guest OS are unaware they are running in a virtual environment
- Virtualisation Type;
  - Hypervisor – Runs directly on bare metal
  - Server – Runs on a traditional installed OS (Windows, Linux)



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Physical Host resources

- Typical servers are severely under utilised using on average 5%-10% of their available resources
- Virtualisation Combines the resources and presents them to Guest OS when they are required
- Combine CPU Cycles and RAM

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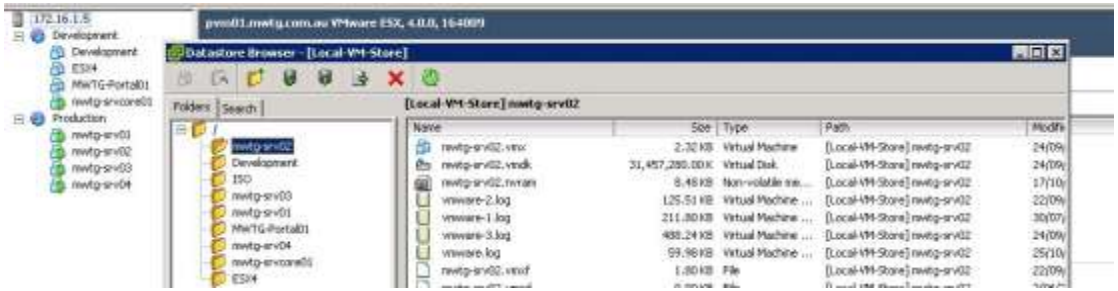
Guest Operating Systems

- Guest OS lives as files on the host
- Can be stopped and started independently of other Guest OS
- Allocated a *Slice* of the available resources but can request more if needed. i.e. payroll system, invoicing
- Each are independent installations of the OS (Windows, Linux)
- No conflict between applications
- Portable



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Why Virtualise?

- **Server Consolidation and containment. (SCON)**
  - Decrease Costs for Hardware, Cooling, Power, Space
  - Increase server Utilisation by about 60%-80%

- **Infrastructure Management**
  - Heterogeneous networks comprising different hardware, OS and Apps
  - Guest OS H/W independent so IT Dept's can standardised across all Hardware and Apps.
  - Servers provisioned in minutes not days (if hardware is required)
  - Live workloads can be managed without downtime. Vmotion and DRS
  - Server pools can be added to increasing Resources.

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Business Continuity

- Automatic Restart of Guests OS after Host failure - Vmware HA
- Eliminate the cost and complexity of DR with portable Guest OS that are hardware independent.
- No hardware lying Idle waiting for a disaster

R&D Networks

- Create a clone of the production environment that is isolated to test upgrades, patches and new software.

Virtualisation Products – Vmware

- Vmware Workstation
  - Installed into existing OS – Runs only when logged on.
  - Better for software testing as you can take multiple Snapshots
- Vmware Server
  - Installed Into existing OS – Runs as a service
  - Better for running in production
- Vmware vSphere
  - Hypervisor – Installed on bare Metal
  - ESX and ESXi (free) Installable and embedded
- Vmware Consolidated Backup
  - Used for Image level and file level backups of VMDK's