

VMWare Experiences QuestNet

December 5, 2006

Michael Heffernan
Solutions Architect



Outline

- **Best practices around Data Centre Infrastructure**
- **Underlying components of the this Infrastructure**
- **Components - Focus**
 - **Storage / Backup / DR**
 - **Physical Servers / Server Virtualisation - Vmware**
 - **Management Tools**
- **Myth Busters around Infrastructure**
 - **Clustering vs Server Virtualisation**
 - **Automatic failover Services for DR**
 - **Blade Centre Technology vs Standalone**
 - **Data Protection vs Meantime to recover**
 - **RPO – Recovery Point Objective**
 - **RTO – Recovery Time Objective (Business to decide)**

Standards / Best Practices around a Data Centre Infrastructure?

- **Scalable, flexible, and rapid deployments and changes**
- **Cost effective, timely return on IT investment**
- **Low labour headcount**
- **Secure, trustworthy computing environments**
- **Reliable enterprise infrastructure**
- **Keeping employees motivated – Quality of life of the Sysadmin**

Underlying components of this Infrastructure ?

- **Environmental / Network / Security**
- **Physical Servers**
- **Storage / Backup / DR**
- **Virtualisation – Storage and Servers**
 - **VMWare Experience**
- **Management Tools / Software**

Components Focus

- **Storage / Backup / DR**
 - **Storage Centralisation & Consolidation**

Advantages:

- **Availability**
- **Security**
- **Performance**
- **Manipulation (Synchronous / Asynchronous / Point in time)**
- **Tiers Storage (Cost / performance / alternative to Tape)**
- **Management**
- **Relocation**

“Place all Data in one location, therefore it is easier to manage”

Component Focus

- **Server Virtualisation – VMware (ESX)**
 - Means to Consolidate Servers save \$\$\$\$
 - Moving Risk from Standalone Servers
 - SME Applications ONLY
 - Heavy I/O Apps keep Standalone
 - SAN Connect ESX hosts and use Storage means Management
 - SAN Tools to manipulate VMware Data Storage for Backup and / or DR replication.
 - Architecting an enterprise solution is a MUST (Risk is to High)

VMWare Experience

- **Solution for Fast & Dynamic Options for Emergencies**
- **Build in “Production” ready State 1st Time**
- **Spend time to Architect the Storage / Paths / and Layout**
- **Organise Operations Team for Complete Ownership**
 - **Infrastructure Team (Storage, Linux/Unix, Backup, SOE)**
 - **Linux SME (Subject Matter Expert)**
 - **Success come from the Team, People**
- **Build a “Backout Plan” (Storage as a replication Tool)**
- **Identify the correct applications to be placed on VMware**

Component Focus

- **Management Tools**

- **Heterogeneous environments**
- **Storage / Replication / Performance / Performance (HDS)**
- **Vendor to monitor Storage / Failures (24 x 7)**
- **Commvault / HDS software Integration**
- **Server Management Software / Deployment / monitoring**

Myth Busters around Infrastructure

- **Clustering vs Server Virtualisation**
 - **Purpose of Clustering**
 - **Hardware Redundancy / Perform Maintenance**
 - **Application must be Cluster Aware (Persistent connections - Web)**
 - **Virtualisation (Only when ESX is SAN Connected and Vmotion Used)**
 - **ESX Server Drops (All Guests Fail, Manual Process recovery)**
 - **OS Clustering can be created on Separate ESX Hosts**
 - **Next version Vmware will support Cluster Groups**
 - **Scale Out and NOT Scale up**

Myth Busters around Infrastructure

- **Automatic failover Services for DR**
 - Hitachi Storage Cluster (Windows 2000 & 2003)
 - Network (Some protocols like BGP Peering) – Architected (Web Apps)
 - Services Documented and Dependencies Identified
 - Replicating Data and having servers at DR is not always the Answer
 - How do Users / Public obtain Access (Authentication)
 - Operations Process / procedures – Testing
 - Use DNS for Apps and / or Round Robin

Myth Busters around Infrastructure

- **Blade Centre Technology vs Standalone**
 - High Density (Less Rack Space)
 - IP Console remote Management
 - Power usage Higher
 - Use Less Network Ports
 - SAN Connection using Passthrough Modules
 - Cable management – Once Only
 - Servers / Services “NOT AUTOMATIC FAILOVER”
 - Redundant Components within Chassis

Myth Busters around Infrastructure

- **Data Protection vs Meantime to recover**
 - **Backup Servers effectively**
 - Daily Monitoring
 - Relevancy Actual Data
 - Time for actual Data Backup
 - Changes immanent
 - No guarantees unless unlimited resources
 - **Length of time to restore**
 - Service / Application requirement
 - Retention periods
 - Disk or Media ?

Round Up

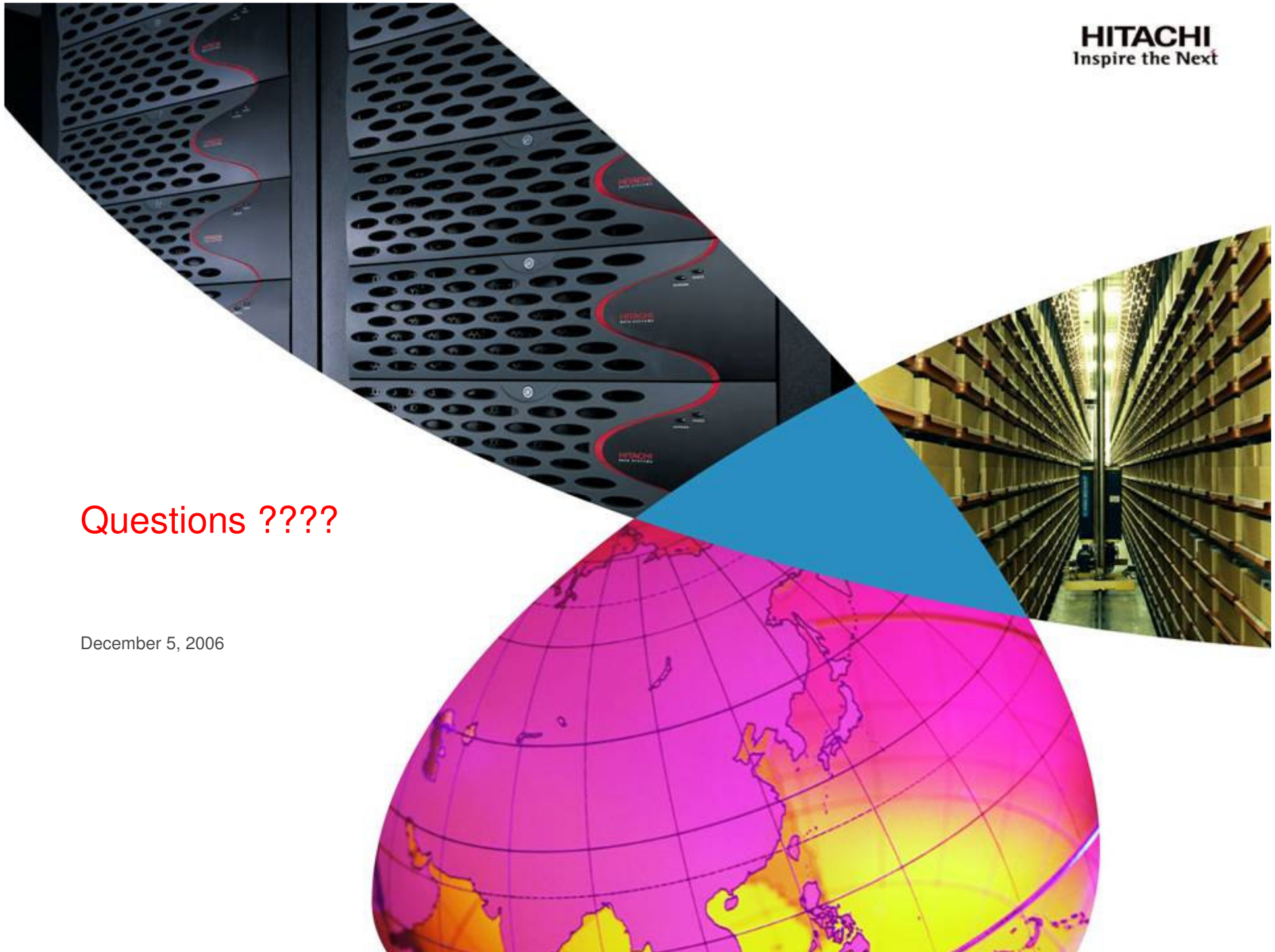
- **Storage requirements are growing**
 - Centralise Storage
 - Use Storage Software to manage, manipulate & monitor performance

- **Virtualisation is here with storage and Servers**

- **Operations are the Key to have your environment Healthy**
 - Centralise management.
 - Higher return on investment
 - Service delivery becomes more efficient.

Questions ????

December 5, 2006



Thank you

December 5, 2006

