An Aggressive Approach on P2V to Address BCP & DR with the Benefit of Server Consolidation

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The Portman Building Society

The Portman Group consists of:

- **Portman Building Society** is the third largest UK building society and 13th largest UK mortgage lender.

- In the six years since 2000, Portman has more than doubled in size. During this period Portman was the fastest growing top ten building society in terms of total assets.

- The Group has total assets of £18.7 ($32) billion and employs over 2,700 staff, serving 1.7 million members.

- The Society has a network of 144 branches. Our Head Office is in Bournemouth, Dorset and it has an administration centre based in the West Midlands.

Best Discounted Rate Mortgage Provider

WINNER Portman Building Society

Best Fixed Rate Mortgage Provider (without redemption tie-in)

WINNER Portman Building Society
Agenda

- Where were we?
- Why did we need to move?
- Where did we want to be?
- How did we get there?
- We got there…
- …but what would we do next time?
Where Were We?

- Mixture of environments
  - Own Windows NT 4.0 domains & Windows 2003 Active Directory, through acquisitions additional Windows NT 4.0 domains & two Windows 2000 Active Directories.

- Hardware
  - Compaq Proliant, HP Netserver, Dell and Compaq PCs

- Existing Virtual Machines
  - Adopted VMware GSX servers
  - Microsoft Virtual PCs
  - POC VMware ESX servers
Why Did We Need to Move?

- Existing environment looked a little like this!
Where Did We Want to Be?

- Identical ESX hardware
  - Live and Disaster Recovery site
  - HP Proliant DL580G2 fully loaded
  - Booting from SAN
  - Standby server ‘+1’

- SAN
  - Network Appliance FAS 920 Cluster for Live site
  - Network Appliance FAS 940 Single for DR site for Test & Development
  - Replicated snapshots at intervals defined by the business
    • …and there was 12tb replicated (initially!)
Where Did We Want to Be?

- A simple view of our implementation

SAN → ESX Server → Virtual Machine
Where Did We Want to Be?

- The bigger picture of our implementation
Where Did We Want to Be?

- The bigger picture of our implementation
Where Did We Want to Be?

- Local resilience
  - What if an ESX host becomes defunct?
Where Did We Want to Be?

- Site resilience
  - What is the Live site becomes unusable?
Where Did We Want to Be?

- Site resilience
  - What is the Live site becomes unusable?

VMware Virtual Infrastructure – TEST & DEV

TEST & DEV SITE

Virtual Machines hosted on ESX Servers

VMWORLD 2006
How Do We Get There?

- Migrations required
  - 86 for Live, Test & Development environments
    - Physical and Virtual Machines

- Engage with a VAC
  - Resource and experience

- Boundaries
  - Migration quantity and window
  - Testing
  - Communication
How Do We Get There?

- **Tools**
  - Installed Gigabit network cards
  - Symantec Ghost V8 on a bootable Windows PE CD
  - Microsoft Windows Backup

- **Timings**
  - Power down, transfer speeds, power up

- **Real life examples**
  - 1 CPU, Proliant DL360G3 2gb RAM, 29gb data. Total time 3 ¼ hrs
  - 1 CPU, Proliant 1850R, 640mb RAM, 76gb data. Total time 5 ½ hrs
  - 4 CPU, Proliant 6500R, 2gb RAM, 319gb data. Total time 21 ½ hrs
We Got There…

...and ahead of schedule
  > First migration 6th September and last 12th October
    • …that’s 18 nights & 4 Sundays
  > 8 servers had to be moved out of scope
    • Modems or IP address

We still migrated 78 servers – that’s 3.5 per window!
  > …and to 6 ESX hosts!

Budget
  > 30% below

New process
  > Virtual Machine templates
  > Master inventory
...But What Would We Do Next Time?

- Environment review
  - Server role
  - P2V and native

- Migration issues
  - Super fast network cards no good
  - More ‘Helper’ servers
  - Licensing

- 3rd Party tools
What Do We Have Today?

- How quick can we recover the Virtual Infrastructure?
  - Same site in minutes
  - Across site in minutes

- Licensing wins
  - Websphere
    - 20 Websphere Application Server on one ESX server = 1 License

- How many ESX hosts?
  - 14 x HP DL580G2 ESX 2.5.3 hosts running 211 Virtual Machines

- How much NetApp storage?
  - 1 x FAS 920 & 2 x FAS 3050 clusters for Live
    - Started with 12tb & now have 45tb
  - 1 x FAS 3050 cluster for DR
    - Started with 16tb & now have 34tb
Questions?

If you’d like to discuss anything further…

➤ 👋 come and find me during VMworld

or

➤ 💌 darren.woollard@portman.co.uk
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