xtravirt

Case study
Government

Reducing cost and complexity for government

A trusted partnership between Xtravirt and Oracle, delivering seamlessly and successfully

METROPOLITAN POLICE

We partnered with: **ORACLE®**

The partner

Oracle Data Center Fabric solution simplifies datacentre management by allowing dynamic connection of any server to any network and storage device. All traffic types, including Ethernet and Fibre Channel, traverse a converged infrastructure, resulting in a dramatically simpler and more efficient environment.

Complexity is reduced by eliminating 70% of the network cards, cables and switch ports required in a traditional data centre. Using Infiniband connectivity, each server can achieve up to 112 Gbps in bandwidth for increased application performance.

Xtravirt's successful partnership with Oracle emphasises their capability to be subject matter experts in a specialist solution whilst bringing a wealth of additional knowledge and expertise to fully integrate the big picture.

The challenge

A high profile UK government department required to reduce its IT operational costs by closing one of its datacentres and reducing space in another by 50%. This could only be achieved by virtualising the majority of its 1500 physical server roles located across three datacentres to a highly available virtual environment over two datacentres for production and DR services.

To facilitate this, the customer approached Oracle, who partnered with Xtravirt, along with Microsoft and HP to design a one rack scalable solution that could be deployed in the two datacentres across production, pre-production, development and test environments over Impact Levels (IL) 3 & 4.

The solution

Oracle, Xtravirt and Microsoft worked together to create a Server 2008 R2 Core image with integrated Oracle drivers. Server profiles were created using Oracle Data Center Fabric to provide vNIC's dedicated to secure VLAN's and vHBA's that could be easily published to newly provisioned servers.

This enabled a PXE boot vNIC to be created at power on to allow bare metal provisioning of the HP blade via Microsoft System Center Virtual Machine Manager (SCVMM). Once complete highly available (HA) vNIC's and a vHBA were presented to the newly deployed server.

With Oracle Data Center Fabric if a blade within the appliance fails it can be replaced or rebuilt when technical issues arise with no change to MAC addresses or WWN. This ensures consistent connectivity to storage and the network.

In addition, the Oracle Fabric Directors were configured to separate out I/O streams for each VM to prevent any likelihood of data leakage between different VMs as they communicate with the network or storage devices. One Oracle Fabric Director was configured as primary path for HA vNICs, thereby utilising vNIC switching which allows communication within the appliance and greatly reduces the amount of network traffic external to the appliance. When a VM is live migrated between hosts within the appliance this would occur at the Infiniband connection speed of 40Gbps.

Project at a glance

Requirements

- Reduce datacentre costs
- Migrate from physical hardware to a resilient virtual infrastructure
- Automate deployment of infrastructure

Solution

- Oracle Fabric Directors
- HP Blade servers, EMC VNX SAN
- Microsoft Hyper-V hypervisor
- Server 2008 R2 Core image automated to minimise manual procedures
- Detailed design along with operational guides
- Build proof of concept and provide guidance for production build

Results

- Reduced administration cost
- Improve Hyper-V host deployment times
- Secure IL environments hosted within the same appliance
- Common hardware and software components further reduced on-going support and maintenance costs

xtravirt

Case study
Government

Consultant commentary

"This is true testament to how successful partnerships can be well conceived, and with genuine commitment on both sides, flourish into a winning combination"

Gavin Jolliffe, CEO, Xtravirt

The results

- Fast deployment of Hyper-V hosts with network and storage connectivity preconfigured before the server is deployed
- Easily provisioned vNIC's and vHBA's providing consistent and secure network and storage connectivity
- Communication within the appliance at 40Gbps, greatly reducing external bandwidth and improving server performance
- High bandwidth connectivity between appliances within a datacentre and the Fibre Channel and IP Networks

- High levels of automation to build and rebuild the nodes in an appliance, manual steps are minimised
- Complex solutions such as embedding Oracle drivers into the Hyper-V build via console achievable with Xtravirt's specialist Oracle capability and deep virtualisation knowledge and experience
- Xtravirt's ability to flexibly work with a multitude of partners and technologies ensures the customers experience is joined-up and assured

About Xtravirt

Xtravirt is a leading, independent provider of enterprise virtualisation solutions. We deliver data centre, workspace and cloud transformational solutions to clients across public and private sectors, both in the UK and internationally.

Our consulting organisation is recognised globally for contributions to industry and community development which, combined with our astute management, methodology and proven track record, provide unsurpassed value to our customers.

Please visit our case study library at xtravirt.com where you can read more of our success stories.

For more information contact:

Xtravirt Limited
Riverbridge House
Guildford Road, Leatherhead
Surrey KT22 9AD

Email information@xtravirt.com
Tel +44 (0)800 4880 038
Web xtravirt.com