

Title of Paper

Virtualisation of Test Environments

Presenter

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Level

Introductory Intermediate Advanced

Abstract

In 2005 the Irish Stock Exchange researched Virtualisation technologies as a potential solution to the standardisation and consolidation deliverables in our IT-Strategy. Over the last two years, the Exchange has utilised Virtualisation technologies to provide a versatile and cost effective method of reproducing our business critical production IT Services on a single hardware platform in our Disaster Recovery environment.

Although Workstation Virtualisation products had been used prior to this it, was only after we began using the enterprise products that the real benefits of Virtualisation in test/pilot networks were realised.

The Exchange's conference presentation details the benefits that Virtualisation has brought to the Irish Stock Exchange. These benefits include efficiencies, cost reduction, flexibility, quality and risk reduction. Specific examples include:

- a) Efficient rebuild of Operating System and Applications based on predefined templates
- b) The ability to snapshot / baseline systems
- c) The ability to isolate different networks and environments on one hardware box
- d) The ability to simulate large WAN networks. This includes comms, for example restricting virtual connections to simulate live internet bandwidth sizes.
- e) Tests which impact the underlying environment can be returned to a clean state without a system rebuild.
- f) Reduction in hardware/servers/comms needed to run a test environment. This leads to a reduction in cost for environmental services such as power, air con, and comms.
- g) Being able to clone a physical server into the virtual environment without the need to reboot production servers

Virtualisation has been a fundamental service in many of the subsequent projects that the Exchange has completed. Example projects include:

- SQL 2000 to SQL 2005 – A clone of the live server was made and a snapshot was taken of this to create a baseline. The Database Administrators were then able to test each of the different upgrade paths, reverting to the baseline when required and creating snapshots along the way to provide rollback points. This ensures the most appropriate upgrade methodology was executed.
- Patching – Application and Operating System patches are tested on a cloned version of the server before being applied to the live servers.
- Active Directory Upgrade – We were able to recreate the ISE production network and pilot the upgrade of Windows 2000 Active Directory to Windows 2003.
- Upgrade of the key business applications – Virtualisation has been used to provide a test platform for upgrade and testing of the applications

The Exchange will continue to leverage Virtualisation technologies in our development, test and disaster recovery environments.

Biography

Mark Scully is the Head of IT in the Irish Stock Exchange. Over the last ten years, Mark has contributed to many significant technical initiatives in the Exchange including the introduction of ISE Xetra (the equity trading system utilised by the Irish market), DSS – the Exchange central data store and MIS application, FAST - the electronic listing platform, Information Products systems and the ISE website www.ise.ie.

In addition to technology and application development, Marks responsibilities include information products, statistics, Management Information Systems and business development.
