

Dundee City Council chooses IBM System z9 Business Class



Overview

■ **The Challenge**

Consolidate servers and reduce software licensing costs; introduce full disaster recovery capabilities; make more effective use of IT budget through centralisation of resources and management

■ **The Solution**

Introduced IBM System z9 Business Class (BC) server running Linux under z/VM, moved existing IBM @server zSeries 890 server to second site; now running more than 40 enterprise applications on Linux virtual servers across the two mainframes; implemented two IBM TotalStorage DS6800 servers and IBM Metro Mirror software

■ **The Benefit**

Significant cost savings in database licence fees through reduction in processor count; full mirrored disk solution for disaster recovery for both mainframe and Windows environments; ability to offer more services to citizens within budgets

Home to 145,000 people, Dundee is Scotland's fourth city, set in a vibrant, attractive and flourishing location steeped in history and culture. Local municipal services are provided by Dundee City Council, www.dundee.gov.uk, which invests regional government funding and local tax revenue in all aspects of life in Dundee, from housing to business, and from health care to sport.

As a public body, Dundee City Council is under constant pressure to do more with its budgets, and this is particularly true for the IT department. The Council continually adds new services and systems, and must keep a close eye on delivering value for taxpayer money. Following the successful consolidation of eleven mid-range servers to Linux virtual servers on a single IBM @server zSeries 800 in 2003, the Council continued its drive for standardisation and cost reduction, upgrading to a zSeries 890 and consolidating dozens more servers.

With the mainframe environment becoming ever more crucial to the organisation, Dundee City Council wanted to introduce a full disaster recovery solution, and to take advantage of next-generation technology to further reduce its software licensing costs. Tim Simpson, IT Support Manager, explains: "We run more than 40 enterprise applications on the mainframe platform, mostly based

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on databases with Web front-ends. These are vitally important for our organisation, and we wanted to find a cost-effective way to protect them against disaster.

“By implementing a new System z9 Business Class alongside the existing z890, we have created a full disaster recovery solution and gained additional performance and capacity. Our database licensing fees are on a per-processor basis; the System z9 server has more power in a single processor than the z800 it is replacing had in two, so we were able to significantly reduce our software costs into the bargain.”

Multiple applications, multiple benefits

Dundee City Council was one of the first organisations in the world to take delivery of a new System z9 Business Class – the latest generation of the IBM mainframe. The z9 BC offers a low cost of entry, granular growth, flexible configurations, subcapacity pricing and On/Off Capacity on Demand to meet growing and changing demands for traditional and new workloads.

The competitive pricing of the z9 BC made it possible for Dundee City Council to move to a two-server architecture for its mainframe systems, effectively creating a clustered, high-availability environment for applications.

“The z9 BC is a very cost-effective platform for Dundee City Council,” says Simpson. “With each new generation, the mainframe becomes significantly more powerful and flexible. Aside from the extremely high reliability and security, the main

advantage is its ability to run multiple systems side-by-side.”

Full enterprise-class disaster recovery

As part of the new solution, Dundee City Council introduced two IBM TotalStorage DS6800 servers, with a total of 30TB capacity shared between the organisation’s mainframe and Microsoft Windows environments. The DS6800s will be split between the two data centres to act as production and backup, with IBM Metro Mirror software (formerly Peer to Peer Remote Copy) providing synchronisation services.

The two DS6800 servers are each sub-divided into separate System z9 and Windows partitions, and cross-mirrored so that all data is held synchronously on both servers – enabling relatively rapid and simple restoration of data in the event of a failure on one system.

“The DS6800s provide more capacity than the previous storage server, take up less floorspace and have lower power consumption,” says Simpson. “We used Metro Mirror to handle the migration from our original z800 to the newer z890, and it worked faultlessly. With dual mainframes and the mirrored IBM storage environment we have an enterprise-class disaster recovery solution for both the mainframe and Windows.”

Consolidation delivers cost-effective results

In parallel with the consolidation of its remaining Unix servers to Linux on the mainframe, Dundee City Council continues to consolidate Windows-based systems from stand-

alone servers to IBM BladeCenter technology. BladeCenter is a chassis that provides shared power, cooling, drives, switches and ports for up to 14 ultra-slim blade servers, which simply plug into a pair of midplanes.

Dundee City Council is using Citrix MetaFrame XP and Microsoft Terminal Services running on BladeCenter to serve applications to thin-client machines on the network. "If an application server running on one of the IBM blades crashes, the users don't even notice because the other blades can automatically and seamlessly take over the workload," says Simpson.

The Council had around 4,000 desktop computers, so the move to a thin-client architecture enabled significant long-term cost-efficiencies. The desktop machines need to be upgraded less frequently, since they only need to run the simple client software for Citrix or Terminal Services. Says Simpson, "By moving to the thin-client architecture, we have switched budget away from rapidly depreciating assets – desktop machines that would generally run at only 10 per cent utilisation in any case – and redirected it towards highly cost-effective central services. It's a much more effective and sustainable use of our budget."

Greater manageability through simplicity

Dundee City Council worked directly with IBM on the deployment of the new z9 BC and DS6800s. "Our experience of working with IBM has been excellent – probably the most professional IT company I have ever

dealt with," remarks Simpson. "We intend to continue on the same path, standardising wherever possible on one of two platforms: Linux virtual servers on the z9 BC or BladeCenter. By focusing our investment on standardised, centralised systems, we are improving our cost-efficiency and can offer better levels of service to the business and Dundee citizens."

By choosing the new z9 BC to run its core business applications, Dundee City Council can achieve extremely high utilisation of its hardware assets. Using a single processor for more than 40 applications offers dramatic reductions in software licensing fees, and the budget freed up is now being put to better use in providing a full disaster recovery solution.

"Going down the mainframe route for our Linux servers means we're buying into total reliability and enormous scalability," says Simpson. "With just two physical systems running the bulk of our operations, and with the remaining Windows-based systems running on BladeCenter, it is much easier to manage systems and to ensure high availability."

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