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## Overview

### The need

Challenged to do more with less, Dundee City Council identified IT as an area in which it could cut costs. How could the council make cost savings without impacting the quality of service to citizens?

### The solution

The council consolidated its Oracle Database environment supporting critical services from distributed servers to an IBM® zEnterprise® BC12 platform, dramatically improving efficiency.

### The benefit

Ten years of 24/7 availability ensuring citizens can always access the services they need; centralized management enabled a ten-fold workload increase to be managed without increasing staff.

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# Dundee City Council

*City government discovers the outstanding reliability of Linux on System z*

Dundee is the fourth-largest city in Scotland, the United Kingdom, home to 145,000 citizens, a number which surges by 20,000 students during university term-time. The population is served with a wide range of municipal services overseen by the city council.

## Responding to the drive to do more with less

Dundee City Council's principal goal is to provide high-quality services to citizens as reliably and cost-effectively as possible, and so it is always on the lookout for ways to stretch budgets further without compromising on service quality.

Tim Simpson, IT Infrastructure Manager at Dundee City Council, comments, "If some of our social care systems are not available, people's lives could be at risk. The people using our services do not care about the systems that they are running on, they just need to know that if they need that service, it is available."

The council soon identified its IT infrastructure as an area where changes were urgently needed to avoid service interruptions, and also where significant savings could be made.

"Back in the early 2000's, we were facing major problems," explains Tim Simpson. "We had an overflowing data center, so we could not physically get any more power into the building without spending significant sums of money, and the air conditioning was grossly overloaded."

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*The evolving management tools of the IBM Enterprise Linux Server have helped Dundee City Council effectively handle a growing workload without adding to its team. "In simple terms, you could say our workload on System z has increased ten-fold in ten years. We have not had to hire any additional labor to support our growing workload – it is still all handled by just two people," says Tim Simpson, IT Infrastructure Manager at Dundee City Council.*

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## Solution components

### Hardware

- IBM® zEnterprise® BC12

### Software

- IBM z/VM®
- Oracle Database 10g
- SUSE Linux Enterprise Server

### Services

- IBM Global Technology Services® – Technical Support Services
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## Thinking outside the box

Convinced that the answer to its IT challenges lay in virtualization, Dundee City Council began formulating a plan to consolidate physical servers to virtual instances hosted by fewer machines. But a radical proposal would introduce a whole new way of thinking.

“It was suggested that we look at the IBM System z platform,” says Tim Simpson. “When we discovered it was a mainframe, quite frankly, we laughed. But when we investigated further and looked at the total cost of ownership, it turned out that it would cost less to run than replacing our existing servers, while requiring less space and cooling.”

## Simplifying for success

System z mainframes, running Linux, have been the council’s platform of choice ever since, with the most recent iteration an implementation of two IBM zEnterprise BC12-based Enterprise Linux Servers. The platform is dedicated to running the council’s business-critical Oracle Database environment on SUSE Linux Enterprise Server, supporting a range of critical services including payroll and all online services running on a different platform. Each zBC12 is equipped with two IBM Integrated Facility for Linux (IFL) specialty engines that are used to run approximately 50 virtual Linux servers. By enabling more efficient management, the solution offers the council superior price-performance.

Tim Simpson elaborates, “We can run our entire Oracle environment on just two IFLs on the IBM zBC12 platform, enabling a more cost-effective management approach. As a result, we cannot understand why other relatively small businesses don’t consider a System z-based Enterprise Linux Server approach for databases.”

## Unbeaten stability

Dundee City Council chose to deploy one IBM zBC12 at each of its two data center locations, with full replication of data between the two ensuring that the council can recover in just 20 minutes in the event of a disaster. The approach has paid off, with no interruptions to service since the council moved to the mainframe, as Tim Simpson summarizes: “In ten years, we have not been aware of a single hardware failure on System z, which we could not say about any of our existing x86 machines.”

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*“You can sum up moving to System z in one sentence: it’s easy and cost-effective, so go ahead.”*

— Tim Simpson, IT Infrastructure Manager,  
Dundee City Council

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By opting for a support contract with IBM, the council can be confident that the zBC12-based Enterprise Linux Servers will continue to run smoothly without the need to build up specialized skills in-house.

“We have a support arrangement with IBM and they handle all patching and maintenance for us,” says Tim Simpson. “It might be an unusual approach, but to us, we treat the mainframe as a black box that sits in the corner and just works – all we do is build the virtual machines that enable our business. In fact, we have never had any unplanned outages. If there is an issue in the future, I have just one number to call and I know it will get resolved. IBM System z is the ultimate in reliable platforms.”

### Delivering value for money to citizens

Consolidating to System z has also alleviated Dundee City Council’s concerns around data center floor space and cooling. By cutting energy costs, the council can divert funding to other areas, maximizing value for citizens and further contributing to reductions in its total cost of ownership.

Tim Simpson says, “IBM System z offers us a greener environment. Standing next to one of our zBC12s, and then a rack of blade servers, you can immediately feel which is throwing out more heat. We have also freed up valuable rack space in our data center, giving us room to grow in the future.”

He concludes, “You can sum up moving to a System z based Enterprise Linux Server in one sentence: it’s easy and cost-effective, so go ahead and do it. It really was that easy. We always hear about companies doing proof of concept exercises. We say – just get on with it – System z works.”

### For more information

To learn more about IBM solutions, contact your IBM sales representative or visit: [ibm.com/systems/z](http://ibm.com/systems/z)



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