



Success Brief

Quad-Core Intel® Xeon®
processor 5300 series



“By underpinning virtualisation, Intel® technology has ensured we don’t have to rebuild our data centre.”

Göran Andersson, Head of IT,
Carnegie Investment Bank AB

Taking it to the bank

Carnegie, a leading Swedish investment bank, makes huge savings by turning to the Quad-Core Intel® Xeon® processor

Carnegie is a 200 year-old leading independent Nordic investment bank with a strong position in securities broking, asset management, pension advice and private and investment banking. Its operations are focused in the Nordic regions but it also provides products and services from Luxembourg, Switzerland, the UK and US. Headquartered in Stockholm, Sweden, it has approximately 1,100 employees in eight countries, is listed on the Nordic Exchange, OMX, and manages approximately SEK 25 billion (USD 4.2 billion) in assets.

In 2009, the bank is planning to move its operations to larger premises. This includes a new data centre. However, in the meantime, its existing data centre, split between two physically close but separate locations, was complex and costly to manage. It housed 140 legacy servers which had developed in an ad-hoc manner over the years leading to increasingly reactive rather than proactive management. Growing cooling requirements were also adding to concerns. Waiting until 2009 was out of the question. Yet a new purpose built data centre, to be used until the company moved locations, would cost an estimated SEK 10 million (USD 1.7 million).

As a result, the bank wanted to explore alternatives including a virtualised server environment. Carnegie charged its reseller, ITF, with sourcing a suitable technology. In turn, ITF benchmarked Carnegie’s existing legacy HP ProLiant DL760* servers, powered by an array of Intel® technology, against HP ProLiant 380 G5* servers powered by the Quad-Core Intel® Xeon® processor 5300 series. Both were running VMWare ESX Server 3.5* virtualisation software that permits resource sharing of a single server across multiple environments.

The servers powered by the Quad-Core Intel Xeon processor 5300 series showed a 50 per cent performance improvement over the legacy servers – clearly revealing the virtualisation potential. Carnegie then replaced 100 of its legacy servers with 16 HP ProLiant 380 G5* servers powered by the Quad-Core Intel Xeon processor 5300 series and in the process created approximately 140 virtual servers.

Measures of Success

- Replaces 140 legacy servers with 16 HP ProLiant 380 G5* servers powered by the Quad-Core Intel® Xeon® processor 5300 series
 - Benefits from an energy-efficient, powerful and reliable data centre that underpins key business operations until the company moves to a new larger location in 2009
 - Creates approximately 140 virtual servers which are used to develop a consistent ‘on-demand’ staging and testing environment, to run, for instance, new bespoke applications and security patch management tools
 - Adopts a twin back-up and restore strategy, as opposed to its previous single track strategy thanks to virtualisation over storage area networks
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Sweeping cost savings are bolstered by increased energy and operational efficiency

The virtual servers are being used to create an 'on-demand' staging, testing and development environment. This means Carnegie does not have to maintain a large number of legacy servers and always has a consistent environment in which to test new and bespoke applications, and security patch management, for example.

Carnegie is also able to adopt two back-up and recovery strategies; application restoration and single file replacement. Previously it was restricted to using file replication due to the two locations of its data centre. It can now use both methods by replicating them over storage area networks linking the data centres.

All servers with the exception of those running real-time trading systems, have been virtualised including those running business applications and Microsoft Exchange* Server. And from the end-user perspective there was no change in service delivery which was marked down as a particular success.

Carnegie has made an estimated SEK 2 million (USD 334,000) saving each year on hardware support and personnel costs. It has also reduced its energy costs by an approximate SEK 1 million (USD 167,000) thanks to an estimated 1.1 million KWh annual saving. The price for one KWh is approximately SEK 0.92. Thanks to the reduction in physical servers it also shelved its plans for extra cooling equipment while also making a SEK 10 million (USD 1.7 million) saving by avoiding the need to physically rebuild its data centre.

Return on Investment

- **Saves** SEK 10 million (USD 1.7 million) over three years, the cost of building a new data centre, which it was planning to go ahead with until benchmarking the Quad-Core Intel® Xeon® processor 5300 series
- **Saves** an estimated annual SEK 2 million (USD 334,000) on the cost of supporting and maintaining 140 legacy servers – also frees up personnel to concentrate on core tasks
- **Reduces** yearly energy costs by approximately SEK 1 million (USD 167,000) thanks to an estimated 1.1 million KWh annual saving arising from the server consolidation
- **Expenditure** on 16 HP ProLiant 380 G5* servers powered by the Quad-Core Intel Xeon processor 5300 series was the same as that spent on HP ProLiant DL760* servers approximately four years earlier, enabling Carnegie to gain twice the performance and greater energy efficiency at the same cost



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