



Success Brief

Intel® Xeon® processor
7400 series
Defence



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Operations Director, ISE

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Fahad Al-Hussain,
President and CEO, ISE

High-flying IT

ISE delivers virtual excellence with Intel® Xeon® processor 7400 series

Company	International Systems Engineering (ISE) is one of the Kingdoms Economic Offset Companies that specialises in supporting large-scale IT strategic defence projects in Saudi Arabia.
Product evaluated	Intel® Xeon® processor 7400 series
Challenge	ISE needed to guarantee high performance, flexible IT resources to protect and process mission-critical data for defence projects run by primary customer Royal Saudi Air Force. It decided to evaluate the potential benefits of migrating to a virtualised platform..
Results	Proof of concept indicated that ISE can expect to halve the number of physical servers in its fleet, driving savings in administrative time, power and cooling costs. The virtual environment proved to be much faster and more flexible than ISE's existing architecture.
Impact	Customer requests can be met in a shorter period of time, with capacity or processing power allocated to new projects or customers within as little as ten minutes. Capabilities for disaster recovery such as snap-shooting enable greater flexibility.
Next steps	ISE expects to purchase servers powered by Intel® Xeon® processors 7400 series to support a fully virtualised environment at its headquarters.

Challenge

International Systems Engineering (ISE), an economic offset company based in Saudi Arabia, specialises in providing technological solutions for government departments. It has built a strong reputation based on many years' work on Ministry of Defence strategic projects. BAE Systems has always been one of its largest customers, relying on ISE to deliver the IT capabilities to support its own high-profile defence contracts.

With increasingly demanding projects like this one, and BAE's continued business growth demanding more resources such as desktop PCs and servers, ISE recognised the importance of optimising its IT architecture. It needed to implement a high-performance platform that would allow virtualisation to simplify and streamline management and allocation of resources for BAE's requirements.

Deployment

The IT team at ISE knew that supporting more data and increased business for BAE on its existing IT architecture would be challenging. Data centre space was becoming limited and power and cooling costs were rising while manageability was becoming harder. The company recognised that virtualisation would provide a solution to these issues, but it was keen to find the right technology partner to help it deploy the optimum solution.

It was at this point that ISE turned to Intel for support in designing its new environment. Following in-depth discussion around ISE and BAE's specific needs, Intel assisted ISE IT engineers in initiating an evaluation of VMware virtualisation technology, powered by Intel® Xeon® processors 7400 series. ISE chose the combination of Intel and VMware technology as it offered the benefits of working with two industry-leading providers, committed to delivering powerful joint solutions.

The proof of concept (PoC) ran over three weeks at ISE's headquarters, and tested the solution's performance across a number of key applications. ISE's priorities for virtualisation were its Microsoft Exchange* environment and Microsoft SQL* database as well as its main controllers and web servers. The PoC platform was aligned with ISE's existing server Architecture * in order to best compare like with like when measuring results. The team was also keen to assess the new solution's potential for enabling business continuity and disaster recovery functionality.

Speaking about his experience of working with Intel on the project, Ed Bulkeley Director of Operations comments: "The support in developing our virtualisation capabilities was extremely professional and second to none. It has a positive attitude to developing relationships with new customers and the product offering is leading edge, resilient and reliable."

Results

The team saw positive results in the PoC almost immediately. The task of the team managing the IT environment was simplified by reducing the number of physical servers on which it ran by 14, from 14 to 6. This not only saved them time but also significantly reduced the space requirement in the data centre and corresponding power and cooling costs.

Virtualising the test environments meant that applications could be installed and trialled quickly, without affecting the live environment. The increased performance of the new platform also meant that the environment itself ran much more efficiently and installation of key components proved to be much faster using the Intel® Xeon® processor 7400 series and VMware. For example, a generic Microsoft Windows* 2003 image was created in 22 minutes in the virtual environment, substantially quicker than installing it on a physical server, which would take three hours. "The savings evident from such virtualisation technology are very appealing and write their own business case," concludes Bulkeley.

Impact

For a continuously growing company like BAE, it is important that new virtual servers can now be added to the environment in under an hour, with minimal lead-time and administration needed – enabling ISE's IT resources to keep pace with business growth. ISE's other customers will also benefit from this improvement, as technicians will be able to allocate servers to new projects within as little as ten minutes.

Along with this strong improvement in service levels, the company estimates that its IT engineers will be able to optimise their own time efficiency, managing up to four virtual servers each, instead of two physical ones. In this way, ISE expects to lower its administration costs significantly, estimating that it will be able to virtualise half of its server fleet.

The high performance, virtual environment trialled by ISE has also opened up a number of new possibilities for developing its IT capabilities in line with industry requirements. ISE is now able to implement stronger business continuity and disaster recovery practices to ensure critical data is protected. It is now possible to carry out snap-shooting of all data held on the virtual environment on a daily basis. This enhanced level of protection gives the IT team the flexibility to carry out regular changes and improvements to the system without worrying about losing any mission-critical data.



Future

Having completed the evaluation of the virtual environment based on VMware and Intel® Xeon® processors 7400 series, ISE is now planning to implement it on a more permanent basis. The team will start by making use of virtualisation to support an upcoming relocation of its headquarters. It will virtualise its resources at an expected ratio of four virtual servers to each physical server.

The company expects to purchase two servers for virtualisation, one for production and one for disaster recovery and also to provide additional capacity or processing power when needed. Finally, ISE plans to introduce virtualisation to other, smaller data centres around the Kingdom of Saudi Arabia and is considering an evaluation of the benefits of desktop virtualisation.

Fahad Al-Hussain, President and CEO of ISE concludes: "Virtualisation presents a huge opportunity for IT groups to more effectively manage their environments, optimise resource loads for the physical machines at their disposal and even get by with less hardware. We clearly see our future heading towards providing utility computing for various applications that include specialised airspace and defence, and back office applications such as ERP and CRM. The Intel technology-based virtualisation platform is key to reaching to that vision, proving capable of handling the most sophisticated A&D applications."

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