

Enhancing Agility at ITI Scotland with a Flexible Virtual Environment



ITI Scotland is able to respond quickly to new business demands with a highly flexible new IT infrastructure from Kavanagh, featuring VMware virtualisation and advanced HP server and storage technology.

Scottish Enterprise set up ITI Scotland in 2003 with an initial 10-year brief to run three Intermediary Technology Institutes (ITIs) that create and commercialise intellectual property (IP) in the areas of Techmedia, Life Sciences and Energy. The long-term objective is to help build a high value knowledge economy for Scotland.

The mission of the ITIs is to bridge the gap between publicly funded early stage research and subsequent privately funded commercial development. In order to ensure that investments in the selected areas are successful, each ITI identifies future global market needs and commissions pre-competitive research and development to specifically address the demand. It then funds and oversees the research activity, retaining all IP rights. When the newly developed technology is sufficiently mature, suitable commercial organisations are actively engaged to take it to market.

“The new virtualised IT infrastructure, based on VMware running on HP servers and SAN storage that Kavanagh delivered, provides the flexibility and scalability that is crucial for our medium and long term business plans.”

TIM WRIGHT, HEAD OF KNOWLEDGE MANAGEMENT AND ICT, ITI SCOTLAND

THE CHALLENGE

Based in Glasgow, ITI Scotland is the hub that provides co-ordinated executive management, strategy, consultancy and services for the ITIs located in Dundee, Aberdeen and Glasgow. Its centralised corporate functions must ensure a co-operative work environment, deliver economies of scale and provide cost-effective IT services, which is a top priority.

With R&D programmes being added continually, each requiring IT support, ITI Scotland's computing infrastructure has also been growing with additional servers being added whenever new applications were needed. After four years of organic growth, Tim Wright, Head of Knowledge Management and ICT for ITI Scotland, decided that an upgrade of the IT infrastructure was in order.

Tim felt that their early stage IT systems would not be adequate to meet the demands of the organisation's medium to long term business plans. Also, a decision to merge two sites in Glasgow presented the opportunity to consolidate the IT infrastructure into one data centre, optimising resources in the process.

“The main driver for the new infrastructure was the need for greater flexibility when responding to changing business needs. This means being able to deploy new applications quickly without needing to install additional hardware and having a scalable architecture that enables future growth without disruption of services,” explains Tim. Additional objectives included reducing the server population and achieving an operating system independent environment to maximise options for Line Of Business (LOB) applications.

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THE SOLUTION

The ICT team intended to take advantage of the latest advances in technology to meet the goals and opted for a new architecture based on server virtualisation. Centralised data storage using a SAN solution was also specified, as it is naturally complementary to virtualisation, plus providing excellent data security and management facilities.

Tim and his team decided VMware's virtualisation software was the most open and flexible solution on the market and the most suitable for medium sized enterprises with regard to pricing. For hardware, HP was a favoured vendor as the IT organisation had used its servers in the past and had a high regard for their performance, quality and value.

As with all publicly funded organisations, ITI Scotland has to follow rigorous guidelines when making a major purchase to ensure value for money. A number of industry leading suppliers were approached with the requirements and their proposals carefully vetted. Tim and his team looked for a sound understanding of their business requirements and a high level of technical expertise in addition to competitive products and pricing.

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**TIM WRIGHT, HEAD OF KNOWLEDGE
MANAGEMENT AND ICT, ITI SCOTLAND**

"We did not want to limit our options with an overly detailed specification of requirements and so gave the suppliers plenty of scope for innovation. Kavanagh excelled in the evaluation, helping us interpret the business requirements and shape the solution specification," says Tim. As a major partner of VMware and HP, providers of the preferred technology, Kavanagh was able to negotiate a particularly attractive commercial offering and the proposed solution comprehensively met all the objectives. As a result, Kavanagh was selected to supply and implement the solution.

Tim's ICT manager found Kavanagh's workshop on VMware especially helpful, reporting that the demonstrations and Q&A sessions convinced him that the virtualisation approach was a good fit for ITI Scotland's business requirements. He learned how services can be deployed rapidly in response to demand and how new Windows and LINUX based operating environments could be added.

The solution put forward by Kavanagh featured a VMware platform load balanced across three powerful HP ProLiant DL380 servers, with SAN facilities provided by an HP EVA shared storage array. Tim values the fact that the HP hardware conforms to industry standards and is compatible with all major software environments. Existing servers were re-used for system management purposes running HP Systems Insight Manager and VMware VirtualCentre software.

This configuration provided a resilient pool of resources that would enable ITI Scotland's services to be migrated without any application changes and could be readily expanded as needed. Also important was the professional project management, training and support services offered by Kavanagh.

a Flexible Virtual Environment



WORKING WITH KAVANAGH

Kavanagh's project manager worked closely with ITI's project team to define a comprehensive installation plan that was designed to minimise the impact on data centre resources and reduce overall costs. All the equipment was delivered to Kavanagh's Bracknell solutions facility where it was assembled, configured with the necessary software and tested. Some of ITI's existing servers were also shipped to Bracknell where Kavanagh integrated them as system management tools for the new equipment.

Following successful quality control and acceptance testing, Kavanagh shipped the infrastructure to Glasgow. The systems were then installed and integrated into ITI's data centre and Kavanagh consultants soon had the new environment up and running, carrying out skills transfer to ITI Scotland's IT staff in the process.

"The entire project was executed quickly and efficiently with little disruption to services. We were highly impressed with the technical depth demonstrated by Kavanagh's consultants when tackling implementation challenges," says Tim, adding, "The performance of Kavanagh's team was especially pleasing, as our past experiences with IT service providers have not always been so successful."

It is when challenges arise that the quality of a service provider is most tested. "Kavanagh installed the new IT infrastructure on time and responded quickly and professionally to resolve any post project queries," reports Tim.

RESULTS

ITI Scotland now has a flexible, scalable new infrastructure. Migration of services has proceeded smoothly and new applications can be added quickly. Within the virtual server environment, VMware VMotion leverages the complete virtualisation of servers, storage and networking to move an entire running virtual machine instantaneously from one server to another.

In addition to meeting the prime objective of improved responsiveness to business demands, the new architecture delivers the following additional benefits:

- ◆ The number of servers employed has been reduced allowing an entire rack to be removed, thus saving costs in hardware and the associated power and cooling
- ◆ The virtualised server environment is inherently adaptive to the fluctuating needs of the business
- ◆ The centralised HP EVA storage makes it easier to perform management functions such as data backup
- ◆ The EVA environment also ensures security and provides a high degree of fault tolerance
- ◆ The ability to easily add Linux application environments is now available
- ◆ Facilities such as HP Systems Insight Manager simplify administration and expansion of the infrastructure while also enabling proactive monitoring
- ◆ VMware Consolidated Backup allows LAN free back up and integration with existing backup tools.

Tim has also found an IT partner he can trust for sound technical advice and dependable support services. "The successful execution of this major infrastructure upgrade project has shown us that Kavanagh delivers as promised. We have confidence in the expertise of its consultants and project managers and we will continue to rely on them in the future" concludes Tim.

Challenge

- ◆ Create a modern flexible, resilient, scalable architecture
- ◆ Implement the new infrastructure without disruption to the business
- ◆ Ensure optimum value for money

Solution

- ◆ New IT infrastructure based on VMware with HP servers and SAN
- ◆ HP and VMware system management tools for ease of administration

Results

- ◆ Greatly improved responsiveness to business demands
- ◆ Better reliability and resilience
- ◆ Greater workload capacity
- ◆ Reduced system management overhead
- ◆ Improved scalability for growth

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Technology highlights

Hardware

- ◆ 3 x HP ProLiant DL380 Server
- ◆ HP StorageWorks Enterprise Virtual Array
- ◆ 2 x Cisco MDS SAN Switch

Software

- ◆ HP Systems Insight Manager
- ◆ HP Command View
- ◆ VMware Infrastructure 3
- ◆ VMware VirtualCentre
- ◆ VMware Consolidated Backup

Services

- ◆ Planning Services
 - Consulting
 - Architecture and Design
- ◆ Implementation Services
 - Project Management
 - Technical Services
- ◆ Support Services
- ◆ Training Services

Why Kavanagh?

- ◆ Demonstrated understanding of the business requirements
- ◆ Proven technical capability
- ◆ Excellent project planning and management skills
- ◆ Complete customer focus
- ◆ Expert in HP and VMware solutions
- ◆ Competitive pricing

Customer at a glance

- ◆ ITI Scotland – building a knowledge economy
- ◆ Specialising in Techmedia, Life Sciences and Energy
- ◆ Fast growing enterprise
- ◆ www.itiscotland.com

For further information on how working with Kavanagh can benefit you, please call 01344 409800 or visit www.kavanagh.co.uk

Kavanagh's Strategic Partners:

2008 Preferred Partner



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