UNIVERSITY OF STIRLING

CASE STUDY

UNIVERSITY OF STIRLING CHOOSES RED HAT ENTERPRISE LINUX FOR APPLICATIONS AND INTEL ITANIUM 2-BASED SERVERS

The University of Stirling in Scotland, UK was founded by Royal Charter in 1967 and has now established itself as a major center of education with remote campuses in Inverness and Stornoway. The University is organized academically into four faculties: Arts, Human Sciences, Management, and Natural Sciences. With a respected teaching reputation, supported by an active research culture, the University of Stirling has over 9,000 students and 2,000 staff.

Understandably, human resources and payroll are among the most critical systems supported by the University's IT department. So when its systems began to lag, it turned to Red Hat® Enterprise Linux®. Not only did Stirling University more than triple its performance, it also cut costs by 50%.

LEGACY UNIX CREATES PERFORMANCE PROBLEMS

Since 1990, campus computing has been built around products from HP. Many of the original servers were HP9000s running HP-UX 11.0. When Stirling University decided to deploy SAP for human resources and payroll, it did so on this same system. However, performance began to suffer after several upgrades. At certain times of the month, when heavy reporting was taking place, the system ran very slowly, causing significant inconvenience to users.

UTILIZING A TRUSTED BUSINESS PARTNER

Since the late 1990s, the University of Stirling has worked closely with Abtech Computer Services UK to develop and refine its IT strategy. Among other credentials, Abtech is a Red Hat Advanced Partner and an HP Linux Elite Partner. With Abtech's expertise, the university introduced a Storage Area Network (SAN) and implemented a centralized backup strategy. Additionally, Abtech had helped Stirling migrate several applications to Linux. With these successful projects behind it, Abtech was in prime position to advise Stirling University regarding the performance issues it was seeing with its UNIX® systems.

FAST FACTS

Geography: Scotland, United Kingdom

Industry: Education

Challenge: To significantly improve performance of legacy UNIX systems, while creating a compelling cost/benefit case for new systems.

Solution:
- *Platform:* Red Hat Enterprise Linux
- *Software:* SAP Enterprise R/3 with SAP HR/Payroll Public Sector version 4.70 on Oracle Database 9.2.0.5
- *Hardware:* HP Proliant DL380, HP Integrity Servers (rx4640 and rx2600) based on Intel 1.3GHz Itanium 2 processors.

Benefits:
- Three-fold improvement in system performance
- Lower project costs (as much as half the previous system costs)
- Multi-platform support
- Impressive reliability and stability

"We chose Red Hat Enterprise Linux because it offers a high level of support and stability for critical applications such as SAP."

RED HAT PROVIDES SUPPORT FOR ITANIUM 2 MICROARCHITECTURE AND CRITICAL APPLICATIONS

After lending Stirling a couple of test systems, Abtech studied the performance statistics and demonstrated that successfully splitting the database and application layers could deliver significant cost savings and performance gains. Given its prior experience with Linux, the university was already familiar with cost and performance benefits of the operating system.

"We believe with the current configuration of the IT system the servers will pay for themselves over the next three years just by savings in ongoing support costs."

Stirling University migrated to a two-tier system. The application tier is based Red Hat Enterprise Linux with SAP Enterprise R/3 with SAP HR/ Payroll Public Sector version 4.70 and HP Proliant Servers (DL380). "We are particularly impressed with the Proliant DL380s. With dual gigabit Ethernet interfaces and six internal disk slots, a lot of our discrete services will fit neatly on one of these boxes," said Brian Bullen, UNIX Systems Administrator at Stirling University. "We chose Red Hat Enterprise Linux because it offers a high level of support and stability for critical applications such as SAP."

The database tier is based on Oracle® Database 9.2.0.5 and HP Integrity Servers (rx4640 and rx2600) with Intel™ 1.3GHz Itanium™ 2 processors, as this offered better price and performance than alternative RISC-based servers. "With Itanium™ 2 we also maintain flexibility in choosing any operating system in the future, which will allow us to adapt to changing requirements in the years to come," said Martyn Peggie, HR Information System Manager at Stirling University. All server backup was done via the SAN to a HP MSL tape library.

RED HAT ENTERPRISE LINUX DELIVERS HIGH PERFORMANCE AND LOW COST

The solution was implemented in spring 2005 to immediate benefits. Reports can now be run while users are working on the system with no noticeable performance problems. "Initial data suggested at least a three-fold increase in performance. We had to do a bit of tuning on the client side, but the servers worked well beyond expectations," said Bullen. The time taken to run payroll reports has been reduced from 80 minutes to 12 minutes.

"Initial data suggested at least a three-fold increase in performance."

In addition, the use of commodity servers means project costs are much lower. The previous system and storage cost £4,500 per year to support (£13,500 over 3 years). The university now has four systems at a cost of £2,600 per year to support (£7,800 over three years). That's almost half the cost for four times the number of systems. "We believe with the current configuration of the IT system the servers will pay for themselves over the next three years just by savings in ongoing support costs," said Bullen.

"With Itanium 2 we will maintain flexibility in choosing any operating system in the future, which will allow us to adapt to changing requirements in the years to come"

www.redhat.com
INS138814US, 10/05