

Virgin Atlantic Airways



Key highlights

Industry/Market:
Transportation

Applications/Solutions:
Sun Fire™ and Sun Enterprise™ servers running Oracle® database and internally developed and third party applications

Products/Services:

- Two Sun Fire™ 6800 servers (12 UltraSPARC™ III microprocessors each)
- Two Sun Fire 280R servers
- Two Sun 420R servers
- Two Sun Enterprise™ 450 servers
- Solaris™ 8 Operating Environment
- Solaris Resource Manager
- Solaris Bandwidth Manager
- Sun Management Center
- Oracle® 9i database
- VERITAS Volume Manager and File System

Key Business Issues:

- Migrate from outdated IBM Sequent platforms to a modern technology with a clearly defined future
- Enhance performance, robustness, availability, capacity and scalability
- Conserve costs
- Migrate to an operating system with a clear future that third parties are developing software for
- Provide a future upgrade path for our Oracle databases

Key Business Solutions:

- Heterogeneous server environment consolidated onto one platform infrastructure
- Consolidation plan development and Performance Analysis & Capacity Planning Service from Sun Professional Services
- SunSpectrum Platinum™ support agreement

Business Results:

- All IBM Sequent Oracle databases completely migrated to Sun
- First-tier support from Oracle and third parties
- Improvements in all respects at same TCO
- Concern about future changes in technology directions mitigated

“With no increase in cost over what we’d have spent keeping our old machines, we’ve replaced outdated equipment with brand new state-of-the-art systems, with much more functionality and performance capacity, and which are far better supported by Oracle and our third party application suppliers. We struck a fantastic deal.”

– Neil Perry, IT systems operations manager, Virgin Atlantic Airways

Virgin Atlantic Airways has successfully migrated all its 90 Oracle-based databases from IBM Sequent systems to Sun Fire™ 6800 servers, and in the process consolidated these from nine servers to two. Virgin Atlantic’s move to Sun’s technology was expedited by Sun Professional Services, whose services included initial architectural design and planning as well as configuration and installation.

Now that the migrations from IBM Sequent SE30 and NUMA-Q servers have been completed successfully, Virgin Atlantic enjoys vastly improved performance, capacity, scalability and support from Oracle and third-party application developers - all at no increase in costs. Virgin Atlantic is also moving applications and databases from its IBM AS-400 and Windows NT systems to Sun so that all their Oracle databases will reside on Sun.

Award Winning Airline Becomes Concerned about the Future of its IBM Sequent Platforms

Virgin Atlantic Airways, under the direction of one of Great Britain’s best-known entrepreneurs, Richard Branson, has grown in its eighteen years of existence to become Britain’s second largest long-haul carrier serving 19 destinations worldwide. By striving to continuously provide superior service at competitive prices, Virgin Atlantic has won not only the loyalty of its customers but also a great many awards, such as the 2001 OAG Airline of the Year award. Although Singapore Airlines purchased 49 percent of the company in 1999, Branson retains majority ownership of Virgin Atlantic.

Virgin Atlantic has been just as successful as a business as it has in becoming the choice of the flying public in England. One reason is the company’s skilled use of information technology, where for seven years Oracle databases have been the basis for the firm’s many internally developed and third party applications. In the past Virgin Atlantic ran Oracle on computers from Sequent – six Sequent SE30 servers and three Sequent NUMA-Q servers. Although these machines were originally well supported by Oracle and third party developers, support declined in recent years.

Sun is Supported Far Better by Oracle and Third Party Application Developers

In 2000, the degradation in support from third parties, combined with a number of other factors, inspired Virgin Atlantic to begin considering a migration from the Sequent platform. “We were experiencing difficulty getting third party applications to run,” explained Neil Perry, IT systems operations manager of Virgin Atlantic. “The majority of application developers we approached told us that Sun was their preferred platform, and that they’d be capable of providing better support on Sun.”

IBM bought Sequent, but made no investment in the Sequent platforms’ future. Oracle proceeded to drop the NUMA-Q from its tier one status, and then IBM announced its intentions to end-of-life the series. Fortunately by then Virgin Atlantic was already underway with Sun.

Virgin Atlantic began by acquiring a Sun Enterprise™ 450 server in late 1999 and purchasing a Sun-based revenue management application to replace an existing SE30 application. Two 420R servers were purchased in 2000 to run Veritas Netbackup and two 208R servers were purchased in summer 2001 to run a new flight operations system. The more Virgin Atlantic became familiar with Sun’s technology, the more confident the company became that the rest of its applications could be expeditiously ported to Sun. Before commencing its wholesale migration to Sun, however, Virgin Atlantic performed a very thorough evaluation of possible platforms from both IBM and Sun.

IBM encouraged Virgin Atlantic to buy its pSeries machines, but they did not fit the company’s requirements. One of Virgin Atlantic’s goals was to consolidate its nine server environments into much fewer, and there was not a suitable platform in the pSeries product line. The platforms offered

were lacking in scalability and longevity, and IBM recommended that Virgin Atlantic plan on buying new technology servers over time rather than upgrade.

IBM’s emphasis on Linux as its future workhorse UNIX® operating system was another cause for concern. “Linux has its place, but I don’t believe that it is quite ready for high-end Oracle databases,” said Neil Perry. “We did quite a bit of market research, all of which confirmed that Sun was right for us. Since Oracle is so critical to us, Sun’s strong relationship with Oracle is vitally important.”

Sun Professional Services Helps Prepare for Consolidation

To help prepare for the consolidation, Sun Professional Services worked with Virgin Atlantic to develop a consolidation plan that encompassed an architectural design of the new system, a set of operation processes for using the system, and procedures for imparting the necessary personnel skills. Next Sun Professional Services conducted its Performance Analysis & Capacity Planning Service, which identified quality of service requirements and verified that they would be satisfied by the planned architecture, operational processes, and training.

In late 2001, Sun delivered and installed Virgin Atlantic’s new servers, a pair of Sun Fire 6800 servers each with 12 UltraSPARC™ III 900MHz processors and running the Solaris™ 8 Operating Environment. Sun Professional Services helped Virgin Atlantic set up the Sun Fire servers and partitioned each of them into two domains. Sun Professional Services used the Prince2 project management methodology that is part of the SunTone™ Architectural Methodology service.

“We received very valuable direction – architecture, operational, and skill related – from Sun Professional Services. The consultants helped instill a disciplined project management approach that kept our consolidation objectives in purview at all times. They played a key role in architectural design.”

– Neil Perry, IT systems operations manager, Virgin Atlantic Airways

In January of 2002, Virgin Atlantic began the migration of its Oracle databases from Sequent to Sun. Into one domain, Virgin Atlantic moved its internally developed frequent flier, customer relations, cargo and limousine management databases. The second has third party developed flight operations, engineering and revenue management databases. The third domain contains MIS reporting databases. The fourth is for development, testing, and training. Virgin Atlantic employs the elements of Sun system management including Solaris Resource Manager, Sun Management Center, and Solaris Bandwidth Manager. Solaris Resource Manager manages the multiple databases that exist in several of the domains. Sun Management Center is used for monitoring the systems.

Migrations from IBM AS-400 and Windows NT Servers to Sun as Well

Most of the applications and databases resident on the Sun Fire servers were ported from the SE30 and NUMA-Q servers, but one of the third party engineering applications came from an IBM AS-400 system. Virgin Atlantic also intends to port all of its Windows NT based Oracle databases, which span a multitude of functions, to a pair of recently acquired Sun Enterprise 280R servers. After that consolidation project is completed, Virgin Atlantic will decommission the nine NT servers that are presently consumed by these applications, therefore enabling the use of a single set of database administration tools and practices.

In addition, Virgin Atlantic has rewritten its e-commerce applications, originally developed on NT, to a Java™ technology base to run on Sun Fire 280R and Sun Enterprise 420R servers. System integrator Conchango helped with the development and re-implementation. “Since Sun technology is such a big part of our IT infrastructure, it just made strategic sense to move the e-commerce applications to Sun as well,” explained Neil Perry.

Vast Improvements in All Respects at No Increase in Costs

All the applications formerly resident on the SE30 and NUMA-Q servers have now been completely ported to the Sun Fire servers, which are exhibiting the superb performance and reliability Virgin Atlantic expected. “The high levels of resilience built into the Sun Fire architecture really suits our needs,” said Neil Perry. “24x7 availability is very important to us, and Sun makes it easy to keep availability high with features like hot-swapping of processors.”

As a further measure to maximize availability, Virgin Atlantic contracted for SunSpectrum Platinum™ program support from Sun Support Services. “Sustaining high availability and performance is a requisite for us,” said Neil Perry. “The engineers from Sun Support Services, as part of our SunSpectrum Platinum support agreement, are a critically important part of our team.”

Virgin Atlantic has taken substantial advantage of the educational opportunities offered by Sun Educational Services. Courses on system administration, the Solaris Operating Environment, management of Sun Enterprise and Sun Fire domains, and the use and administration of the system management elements were among the courses selected.

“When we were making our platform decisions at the outset of the migration project, we agonized over what directions computer technology would be going to make sure we were moving into the mainstream. Now, with Sun architecture as our basis, we have a solution that provides a building block for future investment. Sun has a crystal clear roadmap and strategy.”

*– Neil Perry, IT systems operations manager,
Virgin Atlantic Airways*

“We performed a total cost of ownership study that shows our migration is completely justified from a cost-effectiveness point of view,” said Neil Perry. “With only two highly stable platforms instead of nine old ones, our expenditure levels on support are way down. The bottom line is that with no increase in cost over what we’d have spent keeping our old machines, we’ve replaced outdated equipment with brand new state-of-the-art systems, with much more functionality and performance capacity, and which are far better supported by Oracle and our third party application suppliers. We struck a fantastic deal.”

The migration project was successfully completed on time by Virgin Atlantic’s own highly skilled DBAs. Sun’s Professional Services and in particular their Oracle migration expertise was used to review and ratify the migration methods used, ensuring that outages were kept to a minimum. “It has been a great success,” said Neil Perry. “We look forward to working with Sun on future projects.”

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