

EDS Success Story

Sun's N1™ Grid Architecture Enables EDS to Deliver Major Cost Savings



Vertical Market
Information Technology

Key Challenges

- To reduce infrastructure operating costs
- To minimize future capital investment requirements
- To provide additional capacity for a planned system upgrade to SAP R/3 Enterprise

Solution

- SAP Business Information Warehouse
- SAP® R/3® Enterprise is used to support the following functions:
 - Manufacturing
 - Repair and Overhaul
 - Human Resources
- Oracle databases

Business Results

- N1™ Grid architecture has enabled EDS to reduce the number of servers used for its SAP infrastructure – reducing systems complexity, simplifying systems management and administration tasks, and significantly reducing costs
- EDS has exceeded its cost saving targets – reducing maintenance costs by over 41% and reducing support costs by over 32%
- The number of operating systems instances has been reduced by approximately 30% – cutting management complexity by approximately 33%

In one of the first installations to combine Sun's N1 Grid vision and SAP's applications, Sun, SAP and EDS are implementing a SAP architecture that does not require individual servers for each different SAP application – thus minimizing the number of servers required, reducing systems complexity, simplifying systems management and administration tasks, and significantly reducing costs. The new architecture is based on Sun's N1 Grid vision of pooling and rationalizing computing resources, and managing multiple systems as a single entity in order to maximize efficiency and flexibility and minimize costs

Founded in 1962, as Electronic Data Systems Corporation, EDS is now the world's largest IT outsourcing services company – a position it has achieved through its world-class technical infrastructure and the experience and skills of its people. Globally, EDS has approximately 138,000 employees and 35,000 business and government clients in 60 countries.

EDS was established in the UK in 1984 and, in the past four years alone, has more than trebled in size – now serving more than 120 major clients across key industry sectors in the UK. In addition to full IT outsourcing, EDS provides a range of other IT services for its UK clients, including customer service centre design & implementation, applications hosting and supply chain management.

Amongst EDS's prestigious UK clients is an organization for which EDS provides full IT outsourcing and applications hosting services – including hosting a major implementation of SAP solutions running on a high performance Sun Microsystems™ platform. Ever conscious of the need to protect its client's investments and to help reduce costs, EDS is currently working closely with Sun on a major program to revise and rationalize the client's SAP infrastructure. The aim is to provide a highly scalable solution that will allow for future growth, whilst also reducing the complexity, and significantly reducing the client's total IT costs.

Total support costs reduced by over 32%

Maintenance costs reduced by over 41%

“Our intention is to reduce both cost and complexity by rationalizing the use of resources within the client's overall infrastructure,” explains David Pope, Global Technical Director, EDS. “However, rather than just trying to reduce the number of servers on a piecemeal, per-project basis, we're taking a holistic view of their entire infrastructure. We've started by upgrading the SAP infrastructure – previously based on 3 x Sun Enterprise™ 10000 servers – with a new architecture based on Sun Fire™ 12K servers. This new server ‘resource’ provides a framework that will enable us to consolidate other, less powerful, servers in other areas of the client's infrastructure – and then redeploy some of the servers that we'll free up as a result of that,



- By enabling the sharing of systems resources, the N1™ Grid architecture avoids costly and unnecessary duplication, and allows for greater flexibility to allocate resources as and when required
- The new infrastructure provides the additional capacity and performance to accommodate the upgrade to SAP R/3 Enterprise , and can easily be scaled-up to accommodate additional users and other new services
- EDS's client will also benefit from increased performance – enabling specific business processes to be executed more quickly, therefore enhancing business performance
- The flexibility of the new architecture greatly reduced downtime during the upgrade to SAP R/3 Enterprise . The upgrade was implemented within just one weekend – helping to minimize disruption of the client's mission critical applications

elsewhere within their organization. So we'll gradually reduce the number of servers required for each application and service they use – resulting in better use of resources and a higher return on investment throughout the client's IT infrastructure.

“The new SAP architecture also provides us with an easy and cost-effective upgrade path. It was ready for the client's planned upgrade to SAP R/3 Enterprise – and it significantly reduces the cost of systems administration, as the Sun Fire 12K servers are very easy to manage and maintain. Our main aims were to reduce maintenance costs by 41% and to reduce support costs by 32% – and we're already achieving higher figures than these.

“One of our main challenges was to reduce management complexity by having fewer operating system instances to manage. The Sun Fire 12K servers have a flexible domaining capability, which makes it easy to share resources between different applications running within a server. It also allows us to change the allocation of domains, as and when required. So far we've managed to reduce the number of operating system instances by approximately 30%, making our systems approximately 33% easier to manage – so again, we're meeting our targets.

“Apart from the cost reductions, our client is benefiting in a number of additional ways. The increase in performance delivered by the new architecture enables specific key business processes to be executed much more quickly, and will therefore help to enhance business performance.

“When the upgrade to SAP R/3 Enterprise was implemented, the flexibility of our new architecture greatly reduced downtime during the upgrade process itself. This allowed us to implement the upgrade within just one weekend, which helped to minimize disruption of our client's mission critical applications.”

Adopting Sun's N1 Grid vision – to reduce cost and complexity

EDS's client's SAP environment comprises SAP Business Information Warehouse and SAP R/3 Enterprise – which supports the client's manufacturing, repair & overhaul and human resources functions. Previously, each application had its own production and QA environments, and each environment was normally required to run on a separate server. In one of the first installations to combine Sun's N1 Grid vision and SAP applications, Sun, SAP and EDS implemented a SAP architecture that does not require individual servers for each different SAP application – thus minimizing the number of servers required, reducing systems complexity, simplifying systems management and administration tasks, and significantly reducing costs.

The new architecture is based on Sun's N1 Grid vision of pooling and rationalizing computing resources, and managing multiple systems as a single entity in order to maximize efficiency and flexibility and minimize costs. Traditionally, most applications in datacentres have required their own individual servers, and sometimes even discrete storage and networking resources – and, because many services and applications aren't designed to share resources, each system has had to include its own excess capacity in order to meet peaks in demand, even though this extra power may only be needed very infrequently. By creating relationships between hardware, applications and the operating environment, N1 Grid allows resources to be shared. This eliminates the need for large numbers of servers – each with oversized capacity – and the need to have similar functionality duplicated on several different servers.

Sun's N1 Grid vision focuses on making the datacentre behave as a single, unified system in order to reduce management complexity and cost; increase datacentre resource utilization; improve infrastructure responsiveness and agility, and ensure investment protection. New services can be deployed, and resources can be dynamically allocated, as the user's business needs change.

Some users also find that consolidating applications to run on fewer servers – that in turn have fewer, higher performance CPUs – can also reduce their software costs. For software applications that have licensing charges that are calculated on a 'per CPU' basis, Sun's N1 Grid architecture can offer users large savings on initial and/or annual software licensing costs.

Scalability to cover future growth... cost-effectively

Comprising 2 x Sun Fire 12K servers, 6 x Sun Fire™ V480 servers and 4 x Sun Fire™ V1280 servers, EDS's new SAP architecture has been designed to enable the consolidation of multiple SAP instances and Oracle databases into tiers on shared servers – thus moving away from the 'one instance per server' model. Software tools developed by Sun as part of its N1 Grid product set are used to manage the interaction. The architecture is configured as a campus cluster to provide full failover protection, with two datacentres that are approximately 1.5 kilometers apart and connected via dark fiber. The two Sun Fire 12K servers will provide one clustered pair, for the Oracle databases; and four of the Sun Fire V480s will provide a second cluster for the SAP Central Instances.

The new architecture provides the additional capacity and performance to accommodate the upgrade to SAP R/3 Enterprise , and can be very easily and cost-effectively 'scaled-up' to accommodate additional users and additional applications.

"The whole rationalization program has really been driven by our client's need to reduce IT costs significantly over the next 3-4 years," continues David. "When we first started to consider the implications of upgrading to SAP R/3 Enterprise , we knew that it would require an increase in computing performance. We began by looking at the cost of upgrading the current environment. We also considered alternative offerings; we looked at Wintel alternatives and had discussions with various vendors.

Sun committed to helping us achieve our client's aims

"However, Sun was able to propose a solution that enabled us to replace the current infrastructure with the latest technology that would reduce the total cost of ownership going forwards – yet the new solution called for negligible capital outlay and no increase in our monthly lease payments.

"Our past experience of Sun's platforms and support had always been excellent. Our Sun™ environment has always been very stable and reliable, and we've built up strong relationships with Sun's teams. So, based on Sun's innovative N1 Grid approach to reducing cost and complexity, and their obvious commitment to helping us to achieve our client's cost reduction aims, we decided to invest again in Sun. Replacing our existing Sun infrastructure with new Sun platforms is actually a lower cost option than upgrading the original hardware. This factor, together with the lower total cost of ownership of the new infrastructure is enabling us to meet our client's financial and technical needs."

From the initial discussions, Sun worked very closely with EDS to gain a full understanding of the end-user client's business needs, system utilization, workloads, service levels and projected future requirements. Sun and EDS have formed joint teams with complementary skills and resources – from systems engineers, through to professional services consultants, to senior management.

Sun iForce™ Competency Center for SAP Solutions adds value

A team of SunSM Services experts helped EDS define the system specification; and worked closely with both EDS and the Sun iForce™ Competency Center for SAP Solutions in Walldorf, Germany, to determine the optimum configuration. The Sun iForce Competency Center for SAP Solutions is staffed by a team of Sun technical experts, who offer help and advice on how to achieve the greatest returns from an investment in SAP solutions running on the Sun platform.

"Sun's iForce Competency Center for SAP Solutions added tremendous value in terms of verifying the configuration we were proposing – especially as it was such a dramatic departure from the usual systems architecture for an SAP environment," David comments. "Owing to the knowledge and expertise of the team at Sun's iForce Competency Center for SAP Solutions, they were able to discuss the proposed configuration with SAP, so that, together, Sun and SAP agreed the best way forward.

“As the program has progressed, it’s become apparent that everybody, from both EDS and Sun, has just one goal in mind – to ensure that we maximize the benefits for our client. There’s definitely a very strong ‘team culture’, and Sun’s people are genuinely interested in providing what’s best for us and our client. We’ve worked hard together to meet aggressive timescales, and I’ve come to rely on Sun’s people and to trust them. Even when we were planning what infrastructure to purchase, Sun was constantly looking for ways to help us to reduce costs – even though it would result in us spending less with them. Sun’s main aim was to ensure they delivered the optimum solution, not just to sell as much hardware as possible. It demonstrated the strength of the relationship; and our relationship with Sun is one of the stronger supplier relationships my team has – if not the strongest.

An architecture for the future

“The Sun Services team is now helping us with a study to determine how we can rationalize the number of servers currently used for other applications, so that we can increase server utilization across the whole enterprise.

“Our new ‘SAP solutions on Sun architecture’ provides a highly flexible and scalable infrastructure that meets our client’s needs today, whilst providing plenty of room for future expansion. We can add more processors and memory to the Sun Fire 12K servers, as and when required – so whatever our client wishes to add in the future, if it runs on the Sun platform, then any new applications can be implemented quickly, easily and cost-effectively.”

Solution Sun Technology

- 2 x Sun Fire™ 12K Servers
- 4 x Sun Fire™ V1280 Servers
- 6 x Sun Fire™ V480 Servers
- Sun Solaris™ Operating System

Get the details.

For more information on Sun and SAP alliance, please visit sun.com/sap.

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