

CASE STUDY FUJITSU

INFRASTRUCTURE-AS-A-SERVICE TRANSFORMS FUJITSU'S UK OPERATIONS

»WHEN I SET MY TEAM THE CHALLENGE TO MINIMISE OUR INFRASTRUCTURE, REFRESH COSTS, DRAMATICALLY IMPROVE OUR CARBON EMISSIONS POSITION TO DELIVER TO AN AGGRESSIVE TIMELINE AND TO DO SO IN A WAY THAT GIVES ME MAXIMUM OPERATIONAL AGILITY, IT FELT LIKE A VERY TOUGH TASK. I AM DELIGHTED THAT MY TEAM'S USE OF IAAS HAS ENABLED US TO DELIVER ON ALL FRONTS.«

DAVID SMITH, CIO, FUJITSU UK AND IRELAND



CHALLENGE

Following the merger of Fujitsu companies in the UK and Ireland, Fujitsu's IT department conducted a comprehensive review of its IT infrastructure looking at a number of factors including operational flexibility, the consolidation of systems from previously separate businesses, for improved reliability, cost effectiveness and a much lower environmental impact.

The internal IT team knew that a hardware refresh could not be delayed any further as a significant number of servers were over eight years old. Additionally a number of the systems were located in a co-location provider's data centre, whose rates would increase at the end of the year, adding to the financial burden.

The team reviewing the forward roadmap considered the possibility of using cloud computing and soon realised that it would be rapid to deploy and would provide quick wins in terms of cost and energy efficiency. The environment would have to be sufficiently secure and reliable with equivalent end user response times to achieve the business requirements.

"We wanted to reduce the cost of our IT infrastructure, upgrade performance and IaaS was clearly the best way to achieve these objectives," explains Sean Barker, Head of Architecture strategy team at Fujitsu UK. *"We would also provide feedback to our IaaS development team to enhance the service for Fujitsu's customers."*

SOLUTION

Fujitsu IaaS is the cornerstone in Fujitsu's cloud services offering for customers, announced in November 2009 the first customer started using the service for production workloads in April 2010.

Fujitsu's own use of the IaaS hosting environment started a couple of months later, providing a seamless extension to the IT infrastructure owned by the IT department.

IaaS provides the flexibility and cost effectiveness anticipated by the business and delivers the security, resilience and performance required to host live business systems. The flexibility and high utilisation it provides, lowers Fujitsu's infrastructure costs, and makes expenditure on additional data centre premises unnecessary.

Using IaaS to host the business systems reduces the total amount of physical server capacity required. Fujitsu had a few separate virtual server environments and numerous dedicated legacy servers hosting single applications where the utilisation was often less than 10%.

THE CUSTOMER

- Fujitsu helps its customers to reduce costs, adapt to change and improve operational efficiencies through the use of IT.
- Fujitsu is a world leading provider of IT services and products, employing 14,000 people in the UK and Ireland, with annual revenues of £2 billion.



THE CHALLENGE

- Fujitsu needed to replace the IT infrastructure for the internal business systems used by Fujitsu's UK staff but also wanted to reduce costs and create a lower carbon footprint.

THE SOLUTION

- Fujitsu now uses its Infrastructure-as-a-Service (IaaS) trusted cloud service to host its business systems on a shared infrastructure with the security, resilience and performance required for live business systems hosting.

BUSINESS BENEFITS

- CAPEX SAVING** – Fujitsu saved £3M by using IaaS instead of buying new servers and storage systems.
- REDUCED COSTS** – hosting costs reduced by 20%.
- FASTER DEPLOYMENT** – additional server and storage capacity, available in hours rather than months for faster business project implementations.
- NO IT LIMITS** – being able to call off additional resources in hours, means that the business is never constrained by a shortage of server or storage capacity.
- NO RESIDUAL COSTS** – as the IT infrastructure can decrease as required, the cost is eliminated when the IT is no longer needed.
- REDUCED ENVIRONMENTAL IMPACT** – using IaaS means that the server utilisation will increase from 10% to 70% on average, enabling approximately 85% energy and carbon saving.

Barker provides an illuminating analogy to describe the benefits of IaaS:

“We think of it in terms of vehicles. Previously, everyone had their own car which was for most of the time was left unused in the car park. But with a car pool system we would need far fewer vehicles in total and whenever I need a car, I take it from the pool and not only that, I can choose a large or small car depending on my needs. That’s how IaaS works – instead of owning IT, use what you want when you want it. That means a much improved utilisation and lower costs for those workloads where dedicated IT is not needed all the time.”

Fujitsu’s internal IT department could see the advantage of pooling resources to achieve utilisation levels of over 70% with the associated savings in the number of servers required, plus a lower power consumption and hence a lower environmental impact.

The team had the choice of designing and building a common shared pool themselves or using one that is already available. Using Fujitsu IaaS saved some development and set up costs and enabled a higher level of utilisation though a shared pool, shared with other organisations to achieve a greater efficiency than a private pool would achieve.

The system images and connecting network had to be designed and built, but the infrastructure and internal data centre network is ready; built, installed in a managed data centre, and maintained by the IaaS Shared Service team. Having the infrastructure managed by the IaaS team saved the IT department from the low level infrastructure management tasks.

“The beauty of our new shared infrastructure is that we no longer need to worry about provisioning hardware for specific applications or storage because we now have the option of using three IaaS options; virtual machines in shared or dedicated servers, or physical servers, all on pay-as-you-go terms” adds Barker. *“Every new internal project now automatically uses IaaS which is making it much easier for us to get the most out of our IT infrastructure.”*

Moving to a shared pool enables the company to consolidate the systems previously dispersed across five data centres, down to two data centres near London. These are twinned to provide operational continuity for business critical systems. This yielded rack space in Fujitsu data centres for use by customers and assisted in the rationalisation plans to close one Fujitsu data centre and move out of another co-location data centre where the co-locator was increasing their accommodation and power rates. Overall the savings for the IT budget amount to a hosting charge cost reduction of 20% per server and additional benefits in other parts of the business.

The first phase deployment includes; IT enterprise management tools, an extranet service, virtual firewalls, anti-virus management, news service, data warehouse, and application development projects. The first production workloads include systems for; business reporting, warehouse management, HR document management, sales information, CAD, BlackBerry service, and shared SQL.

The second phase includes the migration of approximately 250 production workloads as well as mail and messaging services to a Fujitsu Mail-as-a-Service platform built on the IaaS infrastructure. The migration priority for the production workloads is not a pure IT decision and involves consultation and scheduling with the associated business operations to arrive at a workable roadmap and timeframe.

Not all environments are suitable for deployment on virtual machines in a shared IaaS pool, either because of licensing limitations by the software vendor or for technical reasons such as for high performance database servers which are currently more efficiently operated without a virtualisation layer. Such workloads will be deployed on a physical server in the IaaS pool to achieve the right balance of system performance and cost effectiveness.

IMPACT

The IaaS solution is changing the way Fujitsu works and brings with it a number of benefits.

“Taking a cloud computing approach has multiple advantages. Firstly we can roll out new applications and services much more rapidly,” adds Barker. *“Previously, requisitioning a new server could take months, from initial paperwork to raising a purchase order to delivery, installation and configuration. That’s not only a significant delay for new deployments but a lot of man hours. Now, we have access to a server in a matter of hours and an application platform can be deployed across the estate in hours not months.”*

“We don’t need to commit in advance when planning hardware or software deployment so over-provisioning is a thing of the past.”

Electricity consumption will be reduced by 85%, not just from the increased utilisation, but also because IaaS servers and storage systems are energy efficient and they are installed in Fujitsu’s most efficient data centres. London North Data Centre for example has a Power Usage Efficiency rating of 1.4.

For the service and scope of this programme we expect the carbon footprint to reduce from 1,500 tons per year to 30-15 tons per year as each server is decommissioned.

As Fujitsu continues to reap the benefits of IaaS, it is looking at other areas where cloud computing could provide savings and better performance, for example one area of Fujitsu’s expertise is Salesforce.com. The internal IT department are reviewing the current Siebel CRM system which requires a major upgrade, and are instead investigating a move to Salesforce.com

“Third party hosted applications can be scalable, robust and offer consistent performance,” explains Steve Ranaghan, Systems Strategy Manager at Fujitsu. *“The ‘per person per month’ pricing model means that the systems expenditure is aligned with business use and means that the systems are readily available to additional users as and when required.”*

David Smith, CIO, concludes, *“As you would expect from an IT service provider our investment focus always prioritises serving our clients over our internal IT requirements; ‘the shoemaker’s children with no shoes’ cliché resonates. It is therefore imperative that when we make an investment that we do so in a way that maximises our return, minimises the funding required and delivers a capability that enables the agility that my company demands. Our deployment of Fujitsu IaaS has delivered on all fronts and has given us a flexible computing platform that meets the company’s needs today and for years to come.”*

FOR MORE INFORMATION

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