FUJITSU

"Realising HMRC's vision of World Class and bringing their IT into a more modernised, cost efficient and greener state …"

SUMMARY OF KEY FACTS

Organisation
HM Revenue & Customs (HMRC)

Services delivered
HMRC Service Transformation – migration to newer improved infrastructure and technology

Benefits
- Reduced power consumption (through data centre migration & server consolidation/virtualisation) – "Green Agenda."
- Reduced foot-print in data centres (via server consolidation/virtualisation).
- The delivery of low cost, faster to deploy, more standard proprietary capabilities for future project use.
- Reduced Technology Refresh cost.
- Working with HMRC & Capgemini to understand how we can leverage business benefit at Tech Refresh point.
- Working with HMRC to develop & define an information management strategy as opposed to a data retention strategy.
- Migration to SuperNova - runs as an independent software product on the underlying infrastructure – not proprietary hardware dependant.

  - VME applications run unchanged, therefore no re-compilation.

  - Provides a more advanced industry standard infrastructure – underpinning Fujitsu's vision and commitment to VME beyond 2020.

Back in December 2007, the Aspire consortium agreed a contract change with HMRC, formalising a 3 year extension to the previous 10 year deal with an improved service offering. This required Fujitsu Aspire to increase IT infrastructure operational performance, efficiency and effectiveness.

This required the start of a rigorous service transformation programme (STP) within Fujitsu Aspire aimed at rationalising assets coupled with technology improvements to improve HMRC's essential IT infrastructure.

The concept for driving much of the transformation work was based on an 'invasive' or 'non invasive' project model:

- Invasive projects would impact the application layer, the business process or both, and would be delivered with all three parties' involvement.

- Non invasive projects posing a nil impact on the above, except internal to Fujitsu, would be delivered with minimum input from the other two parties.

Should there be an unplanned external impact; Fujitsu would carry the full cost of rectifying it. The new contract very simply means that Fujitsu has much more freedom to drive programmes through but at the risk of compensating other parties where it fails to deliver.

Service Transformation Programme (STP) – Realising the Vision
The driving force behind much of the change within the infrastructure space has been managed by the STP. Fundamental changes in the Data Centre Operations and the Managed Services space are underway, with a shift of mission critical systems from older environments to new modern, state of the art facilities. It is in these areas where much of the focus on cost savings and improvement is being concentrated, helping not only to consolidate and rationalise technology but to cut the carbon footprint associated (another item on the HMRC requirement list). To highlight some of the key technological enhancements, the following changes have been delivered into the estate:

- Virtualisation (Windows and Linux)
- Shared platforms
- Shared / tiered storage
- VME SuperNova migration
- Linux introduction
- Unix virtualisation

Fujitsu has also taken control of the existing infrastructure estate, moving HMRC into a "service consuming"relationship. HMRC also benefit from these new capabilities for projects to exploit alongside the greater use of partners to validate and confirm our thinking as well as suggesting new ideas for further enhancements.

Creating new infrastructure capabilities or refreshing existing ones is managed through focused small scale pilots that are then exploited aggressively. This approach has meant a better understanding of HMRC's Governance and Strategy with the tangible benefit to Fujitsu of being able to avoid "significant risk" as well as encompassing the introduction of technology with a full service (Triole) wrapper. This approach provides a better view of the "As Is" v "To Be" infrastructure service and cost impacts, taking into account current utilisation (consolidation) and use of new technologies.

Migration to SuperNova

The migration to SuperNova opens the door to a wider mix of enhanced infrastructure technologies, achieving increased resilience and reliability. Its introduction leverages HMRC's IT Services position, optimising the present infrastructure and building the foundations to evolve as technologies advance in the market place. Eliciting improved processing capabilities, SuperNova is considered to be one of the most exciting developments for the last two decades. It is not a hardware product but rather a software development – its mission to achieve a platform independent system - making this happen by running VME as an 'application' on Linux.

Prior to SuperNova, the Aspire VME estate was hosted on a mixture of NOVA3 and NOVA4 platforms. Projects have already delivered this migration to Development, Test and Clone environments. This is the start of an on-going refresh requirement model for all VME based system in the HMRC estate until the end of the contract.

Virtualisation - key to the Enterprise Infrastructure Foundation

Hardware based virtualisation solutions is a "must have" in any IT organisation's tool bag. It allows you to manage multiple servers as a single pool of resources, consolidating more applications on to fewer physical servers. Thus, the obvious benefit is that you can balance the workload for less cost and help to reduce the carbon footprint at the same time. In HMRC's case, Fujitsu has applied Wintel and Linux virtualisation technology enabling HMRC to drive down further, the costs in their Wintel and Enterprise UNIX estate.

A significant number of physical servers in the Development and Test environments have been virtualised. The challenge now is to apply this approach to the wider estate – potentially consolidating HMRC's infrastructure by as much as 40% and reducing its carbon footprint by 30%. Also being developed are virtual tape libraries that improve security resilience and contribute towards HMRC's green agenda.

Choosing Greener Servers!

Within Fujitsu Aspire, product selection is heavily influenced by power consumption and efficiency ratings. The focus is on using:

• Particular generations of server based on the lowest power variant and highest processor performance.

• New platform products that require vendors to demonstrate their green credentials - working with suppliers to utilise processors that deliver reliable and high levels of throughput but with significant power savings.

Preferred vendors / technical specifications are provided in a catalogue and user guide, ensuring technical architects have the most efficient server to meet the requirement. Power consumption figures and carbon ratings have been introduced into the catalogue for every server model. The catalogue also encourages architects to ship servers with lesser disk builds, adding more disks only when the solution demands eliminating idle disks ramping up power consumption.

Summary

Enterprise Infrastructure Foundation - Virtualisation;
- delivering efficiency improvements on the current and future infrastructure estate

Continuing to build more virtual farms
- Improving the mix between physical and virtual numbers – cutting the numbers of physical hardware.

Move away from HP PA-Risc to IBM AIX – System P
- allowing shared Unix platforms

VME migrated to new SuperNova platforms
- improved processing power

Open system (Linux) deployment
- base and virtual

Fujitsu Aspire is working with HMRC to make best use of their IT infrastructure which will have been fully delivered by 2012 following the completion of the technology refresh cycle.