

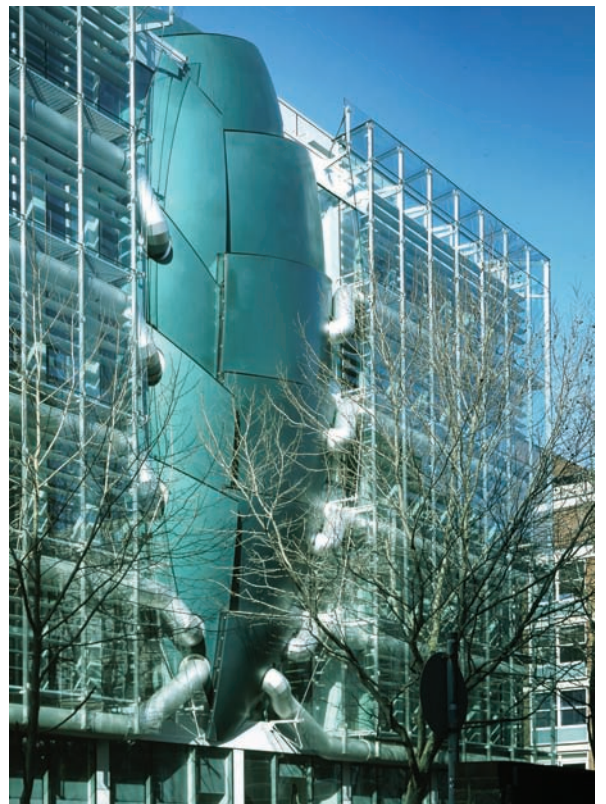
Cost-effective and Reliable New Linux-based HP Cluster.

OCSL + hp

ARUP

"The new system delivered an improvement equivalent to doubling the performance at just 75% of the cost of the legacy system"

Roger Hollamby,
Senior Engineer, Arup



Fitzrovia 2; © Morley Von Sternberg

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Fitzrovia 2; © Morley Von Sternberg



Fitzrovia 1; © Arup/Daniel Imade

Arup is a global firm of designers, engineers, planners and business consultants that provides a diverse range of professional services to clients around the world. It includes the London-based Environmental Physics team – a small, yet expanding group of experts within Arup whose core activity is in fluid mechanics.

Fluid mechanics looks at the properties and behaviour of liquids and gases, and determines how heat, mass and contaminants are transported within specific environments. A wide range of analytical and numerical modelling tools are used to provide quantitative understanding of fluid mechanics, the most common of which is computational fluid dynamics (CFD).

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In search of cost-efficiency

Until recently, the Environmental Physics team was running its CFD software on a UNIX®-based server platform. This was acquired on a leasing arrangement and was a highly flexible system that enabled the number of processors and capacity to be expanded as and when required.

However, when the lease expired recently, the team looked at changing the platform to something that, while still providing the performance and capacity needed by their high-end computing needs, was more cost-effective and easier to manage. They also required improved maintenance and hardware support. Furthermore, Arup wanted to switch to the Linux operating system for its reliability, performance, excellent application availability and attractive licensing costs.

It therefore contacted its long-standing IT advisor and HP Open Source Partner, OCSL, a certified member of the HP Open Source program for advice. OCSL had already installed a Linux cluster for a different department within the same London offices, and Arup had full trust in their expert Linux knowledge and consultancy skills.

During the initial consultation stage, the Arup team outlined exactly what it required from the new solution, stressing the importance of cost-efficiency and providing specific performance benchmarks it had to achieve. From this, OCSL proposed the

best-fitting solution, which involved a cluster of HP ProLiant DL380 G4 servers and DL145 G2 servers running Red Hat Enterprise Linux.

As a previous HP customer, Arup knew that this would provide the performance and resilience it required, but also give the team a stable platform that they could expand in the future. As Roger Hollamby, of Arup, explains:

"HP systems not only provide the reliability we require, they also bring stability and dependability. We know we can buy the same hardware configuration a few months down the line, unlike some other vendors, whose configurations can be discontinued very quickly."

"The new system delivered an improvement equivalent to doubling the performance at just 75% of the cost of the legacy system" concludes Hollamby.

An effective, efficient packaged solution

The new solution comprises an HP ProLiant DL380 G4 Server, which acts as the main access node to a cluster of 12 HP ProLiant DL145 G2 servers. These have a variety of memory configurations and run on the Red Hat Enterprise Linux operating system. The cluster is attached to an HP StorageWorks 30 Modular Smart Array (MSA) Enclosure, which is an external storage array that provides a total storage capacity of 4.2 TB.



100,000th Linux Server bought in the UK by Arup. Image shows Ian Dent, HP Linux Manager, Jane Ayres, OCSL Marketing Director and Roger Hollamby, Senior Engineer, Arup.

This whole solution was planned and built by OCSL as a packaged cluster. The majority of the server and cabling configuration was performed offsite, which minimised onsite installation time and operational disruption. Furthermore, HP and OCSL provide the level of maintenance and hardware support that Arup require to ensure continued operations should any unlikely failures occur.

A platform for the future

The new solution has allowed the Environmental Physics team to continue running its four main CFD related software applications, Star-CD, Ansys CFX, Harpoon and Enight, in support of its pioneering fluid dynamics work – at a reduced cost.

Powered by the multi-processing capability and powerful memory configurations of the Linux-based HP cluster, the advanced CFD codes allow multi-million cell models to be created in a matter of days. And as Arup looks to ever-more complex applications, such as numerical wind models, the cluster allows scalability of up to 48 server nodes to provide additional performance and capacity.

Darren Woolf, Arup Associate Director, is extremely satisfied with the new solution ***"We are very happy with the implementation of the new Linux based HP cluster. It gives us better management of tasks, with improved queuing for the graphics server and automated processing of requests."***

Based on the success of this implementation, which incidentally marked the sale of HP's 100,000th Linux server installation within the UK, Arup has already commissioned a further HP Linux-based cluster for another UK office, and Woolf is confident that the relationship with HP and OCSL will continue long into the future.

"We are always looking at new ways of providing high-end compute performance at an affordable cost. HP and OCSL have proven to be leaders in that arena, and we are already looking at new innovations such as dual-core and quad-core systems that will help us as we continue to move forward," concludes Woolf.

Why partner with OCSL

OCSL has been assisting organisations to maximise their IT investment for over 15 years. Our world-class partnerships with organisations like HP, VMware and Microsoft means that we have the knowledge to look at your IT estate with fresh but experienced eyes.

Our specialist areas include server consolidation, SAN deployments, creating integrated backup strategies and tailored support contracts. So you can rest assured that you are in safe hands.

Installed and supported by the infrastructure experts

You can feel reassured that partnering with OCSL brings you immediate expertise and on-going support. OCSL are a highly accredited HP partner and one of just a handful of ASMP (Authorised Service Management Partners), for HP. This means that backed by HP, OCSL can tailor an exact support solution to meet your needs from 4 hour on site response to ship to site for disaster scenarios.

What to do next

We'd welcome the opportunity to be benchmarked against your current suppliers because we know OCSL can offer you smarter alternatives – that's why our customers include well-known organisations like Sanofi Aventis, Allianz Cornhill and Williams F1.

Simply contact the team on 0845 6052100, email info@ocsl.co.uk or visit the web site at www.ocsl.co.uk

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