



Atkins Engineers Complete IT Overhaul With VMware Virtual Infrastructure

VMware Virtual Infrastructure Saves over £250,000 in Hardware Costs and Streamlines Development Processes

RESULTS

- Hardware cost savings of more than £250,000 in first year
- Achieved 8:1 server consolidation ratio
- Increased server utilization from around 5 percent to 70-80 percent in development environment
- Created cost-effective disaster recovery strategy
- Faster application development with new test and development environment
- Created new test machines 12 times faster
- Ability to configure multiple virtual networks on the fly

Atkins Identifies Major Areas for Improvement

Atkins is one of the world's leading providers of professional, technologically based consultancy and support services. With a turnover of £1.15 billion in 2004-2005, it is the largest engineering consultancy in the UK, and the third largest in the world. Atkins employs approximately 14,000 staff and has Global offices in Europe, USA, Asia Pacific and the Middle East.

In the UK, Atkins has 105 permanently connected offices spread across the region. About 12,500 users rely on IT services designed by the Atkins Enterprise Solutions team, which is organized into specialist areas and led by Stephen Powell, enterprise solutions lead - project & design office.

During its regular technology review, Atkins' IT Management and Enterprise Solutions team scrutinized the IT infrastructure and services to find areas for improvement. This review highlighted a number of issues, including:

- The challenge of centralized management due to the requirement for local IT resources in every office
- The need to purchase many new servers each year to support the demand for new applications
- The lack of hardware value for money, with server utilization as low as 5 percent
- Power and space requirements threatening to exceed existing capacity
- Insufficient availability of development servers slowing test and development cycles

Building a Future-Proof Environment

Following the review, Atkins concluded that consolidation and containment were required to stem server sprawl and to increase availability of applications and infrastructure. The Enterprise Solutions team knew it needed a new platform to achieve its goals, and began to investigate virtualization technology from VMware® and Microsoft.

Centralized management and a robust product were essential criteria, so Atkins quickly resolved to engage in a pilot project with five VMware ESX Server Virtual Infrastructure Nodes (VINs) connected to a storage area network (SAN). With the pilot project's success, Atkins realized VMware provided a comprehensive solution that could not be matched by Microsoft Virtual Server. That original VMware test environment has now become the Enterprise Solution team's "development" area with approximately 130 virtual machines running on the five servers.

Having identified the suitability of VMware ESX Server for its data center and disaster recovery sites, Atkins designed a solution utilizing VMware GSX Server to consolidate multiple servers located in remote offices. Fifty offices are now beginning consolidation of print servers, domain controllers and other infrastructure services onto fewer physical machines running GSX Server.

"We are transforming our IT environment by moving to a VMware virtual infrastructure and we have already realized the benefits," explains Powell. "We are using our hardware resources much more efficiently, enabling us to start bringing power and space consumption under control."

"We have completely transformed our IT infrastructure by moving to a virtual infrastructure and the benefits are being felt already. Our hardware, resources are being used more efficiently, enabling us to start bringing power and space consumption under control."

Stephen Powell
Enterprise Solutions Lead - Project & Design Office, Atkins



VMWARE VIRTUAL INFRASTRUCTURE AT WORK

- VMware GSX Server at 50 sites
- Windows 2003 host operating system
- VMware ESX Server on 12 datacenter servers and two disaster recovery servers
- ESX Server on 4-CPU HP Proliant DL 580s with 16GB RAM
- Two EMC CLARiiON SANs
- VirtualCenter, VMotion™ and Virtual SMP™
- Windows 2003 guest operating systems
- Applications running in virtual machines include: print servers, domain controllers, Citrix, facilities management applications, professional engineering applications

Implementing VMware virtual infrastructure throughout Atkins' data center and remote offices has resulted in the following benefits:

- **Centralized management, tighter control and lower administration costs.** Atkins' entire virtual infrastructure environment can be viewed from a single console with VMware VirtualCenter hosted in the central datacenter. For the first time, IT staff can provision and manage servers remotely.
- **Higher utilization.** With an average server consolidation ratio of 8:1, new deployments are now running at a far higher utilization rate. As a result, Atkins gets greater value out of its hardware investment.
- **Contained server sprawl.** One key objective of the Atkins IT Management team was to reduce the purchase of new servers. With VMware technology, Atkins is able to deploy virtual machines on existing servers instead of needing to buy more hardware to accommodate new applications and projects. So far this strategy has allowed the company to avoid the purchase of more than 80 new servers, saving Atkins £250,000.
- **Streamlined test and development.** Prior to using VMware software, developers would have to reserve time to use machines for testing, and spend an hour rebuilding each server before they could begin. With VMware virtual infrastructure, developers have as much capacity as they need and getting started takes just five minutes. VMware software has also enabled an enhanced replication of the production environment for last-stage change and patch testing. "With VMware software, every day, colleagues remark how much easier and more flexible the development environment is to use," says Powell.

Reaching New Heights With VMware – Hosted Disaster Recovery

Not only has Atkins used VMware virtual infrastructure to gain control of its servers and streamline processes, it is also using virtualization software for its first self-hosted disaster recovery site.

In order to ease pressure on the central site and improve its business continuity capabilities, Atkins is creating a new disaster recovery site starting with two servers running ESX Server VINS linked to an EMC Clariion SAN. Real-time data replication will be achieved using IP-based asynchronous data transfer.

"Previously we were constrained by cost from creating a replicated corporate environment," explains Powell. "However, VMware virtual infrastructure is considerably less expensive than the traditional one-to-one server replication method, and it provides added benefits in areas of resilience and recovery."

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