

London Borough Council Saves Millions with Virtual Desktops



Tower Hamlets cuts costs and improves agility with Cisco Virtualization Experience Infrastructure solution

EXECUTIVE SUMMARY

Customer Name: Tower Hamlets London Borough Council

Industry: Public Sector

Location: United Kingdom

Number of Employees: 4500

Challenge

- Improve worker flexibility to cope with London 2012 Olympic and Paralympic Games
- Deliver planned real estate rationalization and optimize disaster recovery planning

Solution

- Cisco Virtualization Experience Infrastructure solution based on Cisco Unified Computing System, implemented by ANS Group

Results

- USD\$11 million in real estate savings
- 100 percent improvement in flexible working capability
- 100 percent improvement in data center redundancy and disaster recovery capability

Challenge

Tower Hamlets is an important borough towards the east of London, serving a diverse population of 254,000 citizens as well as the global financial services district based in the London Docklands area. Also incorporating the newly-constructed Olympic Park, the borough had the world's attention during the London 2012 Olympic and Paralympic Games. For Tower Hamlets London Borough Council, the Games acted as a catalyst for IT investment, and the Council decided to upgrade about 200 end-of-life servers and its Microsoft Windows XP-based desktop estate for approximately 4500 users.

With the Olympics expected to result in major travel disruption, the Council decided to introduce a virtual desktop infrastructure (VDI) to serve as a platform for flexible working. The change, called the Smarter Working initiative, would support a faster migration from Windows XP to Windows 7 and, ultimately, to Citrix XenDesktop with Microsoft App-V.

A further driver for VDI-enabled flexible working was a desire to reduce costs. The Council, headquartered at a town hall building called Mulberry Place, had an impending break clause on the lease of its Anchorage House offices. This opportunity would allow it to relinquish the building in 2013, but only if occupants had some means of combining home and mobile working with hot-desking arrangements at other council offices.

“Existing technology meant people couldn't work as flexibly as they wanted to. Everybody had to come into the office, which was not suitable given the Olympics,” says Mark Ferreday, technical architect at Tower Hamlets London Borough Council. The Council was also eager to improve its disaster recovery capabilities, given that it only had one data center and no real backup facilities.



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Technical Architect
Tower Hamlets London Borough Council

Solution

The Council consulted Cisco over VDI deployment best practice, and then issued a tender. Cisco beat two other contenders to win the contract and started a six-month deployment of the VDI platform. This was carried out by ANS Group, and involved the upgrade of the Council’s existing data center and the creation of a duplicate facility at a separate site.

The solution is based on Cisco® Virtualization Experience Infrastructure (VXI), an end-to-end approach for delivering unified workspaces that uses leading cloud and VDI technologies. The core of the platform is made up of almost 60 Cisco Unified Computing System™ (UCS®) B250 M2 blade servers. Intel® Xeon® 5600 Series multi-core processors optimize VDI efficiency and user experience through extended memory capabilities. In the case of Tower Hamlets, they are each equipped with 192GB of RAM. The data centers have around 20 UCS B200 M2 blade servers, for server virtualization and application streaming, which also use Intel Xeon 5600 Series multicore processors.

To maximize networking performance, Cisco Nexus® 5500 Series Switches are configured as a unified access switch linking Cisco UCS 6140XP 40-port fabric interconnects with NetApp storage arrays. The Nexus devices can act as Fibre Channel switches, supporting Fibre Channel over Ethernet and a wide choice of transport options. The infrastructure also features Cisco Catalyst® 6500 Series Switches, which have been retained from the previous data center topology.

Built using open standards, Cisco VXI supports a wide range of applications. Tower Hamlets uses VMware vSphere Hypervisors for server virtualization and Citrix Xen Hypervisors for virtual desktops. Other Citrix products include XenDesktop 5.5 and XenApp. These products help deliver a number of end-user applications, including Oracle, SQL, and Progress Software databases, Microsoft Lync and Exchange Server 2010, and more than 500 unique government software platforms.

Council people access VDI services using either their existing desktops and laptops or standard-issue Dell Wyse thin-client terminals. “A growing number of employees also use their own devices, ranging from laptops to iPads,” says Ferreday.

Unlike before, when practically no disaster recovery capabilities were available, users and applications are now split between the two new facilities. This data-mirroring arrangement means that if one of the centers were to fail, no loss of data or applications would occur. Half the current level of virtual machines would still be available, with the capacity to quickly scale up to full capacity. The two data centers are currently dimensioned to deliver up to 2750 virtual desktops concurrently, ample for the needs of the Council’s workforce.

“I was impressed by the teamwork between Cisco, ANS, and the other technology suppliers involved in the project,” says Ferreday. “There were some initial problems but everybody pulled together to solve them. It is rare to see that; normally one party just blames the other.”

Results

Tower Hamlets has fully achieved the aims of its Smarter Working project, moving from a situation where staff always had to come into the office for work to one where they can work anywhere, anytime, using any device. This newfound agility not only allowed the Council to continue operating without a problem throughout



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the Games, but also promises to improve staff productivity, satisfaction, and loyalty. “Employees now use VDI around the clock,” says Ferreday. “Previously, if one of our employees in the field needed to file a report at the end of the day, they would have to come into the office, involving up to an hour in travel time. Now they can go straight home and file it from there.”

Tower Hamlets will now be able to give up its lease on Anchorage House, thanks to the introduction of flexible working with Cisco VXI. This arrangement is expected to result in a saving of around USD\$11 million a year in real estate costs. In addition, the Council’s data center infrastructure costs have dropped considerably since it has virtualized all its servers on the UCS platform. From requiring close to 30 racks, Tower Hamlets now only needs six, yielding savings on rent and power that will help provide a return on investment within two years. VDI will furthermore help the Council to cut its carbon footprint by an estimated 300 tons of CO₂ per year.

The move has helped improve application performance, because the virtual servers are much less prone to failure than their predecessors. Furthermore, if a virtual server should fail, a replacement can be deployed much more quickly than with a physical unit. This improved service provisioning extends to desktops. Says Ferreday: “When we brought our second site online, I installed 1500 virtual desktops in just under an hour. The traditional way, I would probably have got through about eight desktops a day.”

A consequence of this ease of deployment is that the Tower Hamlets IT team is now freed up to carry out much higher-value tasks, such as setting Citrix policies and carrying out development work. “We have kept everyone on, and they are now enhancing their careers,” Ferreday says. Moreover, distributing data and workloads across two data centers has effectively improved the Council’s disaster recovery capabilities by 100 percent. The Tower Hamlets IT team can use VMware vCenter Site Recovery Manager to switch workloads from one site to another at the press of a button.

Going forward, the Council might consider scaling out VDI further. “As it stands, the bandwidth is phenomenal,” says Ferreday. “The Cisco VXI solution integrates really well with NetApp and VMware. To be honest, it would be hard to get it to work any better.”

For More Information

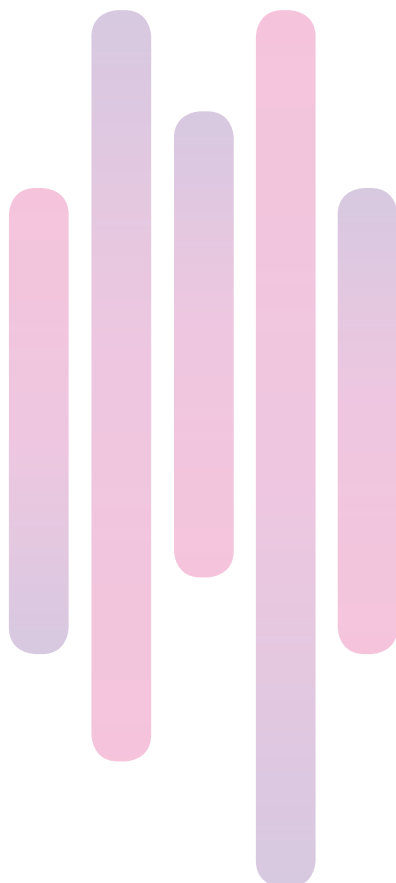
To learn more about the Cisco architectures and solutions featured in this case study, please go to:

www.cisco.com/go/vxi

www.cisco.com/go/ucs

www.cisco.com/go/vdi





Product List

Data Center Solutions

- Cisco Unified Computing System (UCS)
 - Cisco UCS B200 M2 Blade Servers with Intel® Xeon® 5600 Series multi-core processors
 - Cisco UCS B250 M2 Blade Servers Intel® Xeon® 5600 Series multi-core processors

Routing and Switching

- Cisco Nexus 5500 Series Switches
- Cisco Catalyst 6500 Switches

Fabric Interconnects

- Cisco UCS 6140XP 40-Port Fabric Interconnects

Applications

- VMware vSphere
- Citrix XenDesktop 5.5
- Citrix XenApp
- Oracle
- SQL
- Progress Software
- Microsoft Lync
- Microsoft Exchange Server 2010

Storage

- NetApp



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