

BAM | Ferrovial | Kier

Cloud provides flexible, reliable infrastructure for Crossrail tunnelling contractor

In 2011 a joint venture by BAM Nuttall, Ferrovial and Kier was awarded a number of contracts to build infrastructure for Crossrail. In just four weeks Fordway set up a cloud-based infrastructure and fully managed and hosted business continuity/disaster recovery solution which scales with the project to provide total flexibility while minimising costs. Fordway also provides an onsite IT presence and 24x7 support for the round-the-clock tunnelling operation.

At a Glance

Company: BAM | Ferrovial | Kier

Industry: Construction

Product/Platform: Primarily Microsoft

Solution(s): Complete IT infrastructure services, including hardware, software and user support.

Successes:

- Rapid infrastructure provision ahead of tight project deadlines
- Reduction in required project team assets
- Remote data hosting deployed ahead of schedule
- 24-hour support from day 1, both remote and onsite
- A robust Business Continuity / Disaster recovery solutions deployed on day 1
- Storage capacity fully scalable, automatically
- Guaranteed service levels with flexible SLAs.

BFK is a joint venture between three of the world's leading tunnelling, civil engineering and construction companies: BAM Nuttall Ltd, Ferrovial Agroman and Kier Construction Ltd. In 2011 Crossrail awarded the joint venture three contracts valued in the region of £700m+. These were for two 6.4km tunnel drives between Royal Oak and Farringdon; construction of early access shafts and sprayed concrete lining works for Bond Street and Tottenham Court Road station tunnels, and the main construction works for the new Crossrail station at Farringdon. Tunnelling on the Western Tunnel Drive began 3 May 2012.



The business need: a complete IT infrastructure

The joint venture companies decided to create an independent IT infrastructure, rather than using that of one of the three participating companies.

“We also thought the project would be best served by outsourcing management of the IT to a reputable company,” explained Steve Shepherd, Head of ICT at BAM Nuttall, responsible for ensuring the project has adequate ICT Services for successful completion. “So we developed a public tender for an infrastructure to support the main project site at Westbourne Park and several satellite sites.”

“IT plays a vital role in every aspect of a complex civil engineering project,” added Geoff Bull, BFK Quality Manager, based at the main project site at Westbourne Park. “Everything we do involves either communications or data storage, from working with our subcontractors, partners and Crossrail to the biometric site access management systems which we run through the network. Our IT system has to be extremely robust to support the tunnelling operation.”

The project required a complete IT infrastructure linking the main project site and several satellite sites, with robust business continuity/disaster recovery. The supplier was also required to configure all PCs and laptops for project staff and provide comprehensive user support, including a daily onsite IT presence, roving support to the satellite sites and a 24x7 helpdesk to support the tunnelling operation and 150 staff.

BFK shortlisted four organisations, then reduced the list to Fordway and one other company. Initially, they opted for the other supplier. However, it became clear that this organisation's pricing model would cost more than anticipated, and there were concerns about their ability to provide the required level of service. BFK therefore turned to Fordway.



Managed cloud offered a rapid solution and improved recovery

“We were happy to deliver the solution in our tender response, which included providing server capability and data storage at the project’s Westbourne Park site,” explained Richard Blanford, Fordway CEO.

“However, we suggested an alternative which would reduce the time required to set up the infrastructure and provide an improved recovery solution – a cloud-based solution using our infrastructure in two UK data centres to provide storage and back-up respectively. We explained this to BFK, who quickly evaluated it and decided it provided a good solution to their needs.”

Fordway’s project team had just four weeks to produce a detailed design and deploy a tailored cloud-based infrastructure, including a fully managed and hosted recovery

solution and all client devices. The solution uses VMware server virtualisation to manage data storage. Fordway supplied all the software up to the operating system and email and set up email archiving, spam filtering and an antivirus system.

“We’re using the VMware features to streamline the user experience as much as possible,” explains Richard Blanford. “However, we know the technical wizardry involved won’t concern those on (and in!) the ground. All they’ll experience is a seamless IT service. It’s been a challenging project and proves that tunnelling doesn’t have to be boring!”

Fordway is responsible for all back-ups and replicating the whole environment. They provide a ‘warm standby’ recovery service, and in the event of a problem can bring all systems back online within 30 minutes to two hours. They also hosted a recovery workshop for BFK and helped put together their business continuity and disaster recovery plan, including a test plan. The procedure is written so that anyone within Fordway’s technical team can implement the plan immediately if there is a problem.




Pre-configuration gave everyone the same desktop

BFK considered renting user hardware and software, but after considering project length and the number of people involved decided it was better to buy the equipment. This will be fully depreciated by the end of the project. PCs and laptops were delivered directly to Fordway’s Godalming office so they could be pre-configured. Fordway built a desktop image and replicated it across all machines, which were then delivered to temporary storage at Westbourne Park while the project offices were constructed.

They also created a two-page introductory leaflet for users, who included staff from the three joint venture companies, new employees and contractors, and developed different security access levels for each category of staff.

The PCs were set up in parallel to the office furniture. “The furniture suppliers were putting desks together and the moment they finished each one Fordway put a PC

on it and began completing the configuration!” said Geoff. “For the members of the project team, it was just like starting a new job. We had 100 people turning up on day one who all received a new computer, a new email address, new software and guidance from the Fordway team on how to use everything. They were also given Fordway’s introductory leaflet and a business card for the Fordway helpdesk.”



“Fordway were very much part of the implementation and were there over the weekend ensuring everything was working before our staff arrived on Monday morning.”

Geoff Bull, Quality Manager, BFK

Pre-configuring all PCs and laptops ensured every member of the project team started with the same IT desktop environment: Windows 7 and Office 2010. “The three companies all had different versions of the main office programmes, and Ferrovia used Lotus Notes, so this ensured a level playing field for everyone working on the project,” said Geoff. “It’s vital when moving documents around and ensures everyone can see each other’s calendars and schedule meetings electronically - all of which saves time and helps the project run more efficiently.”

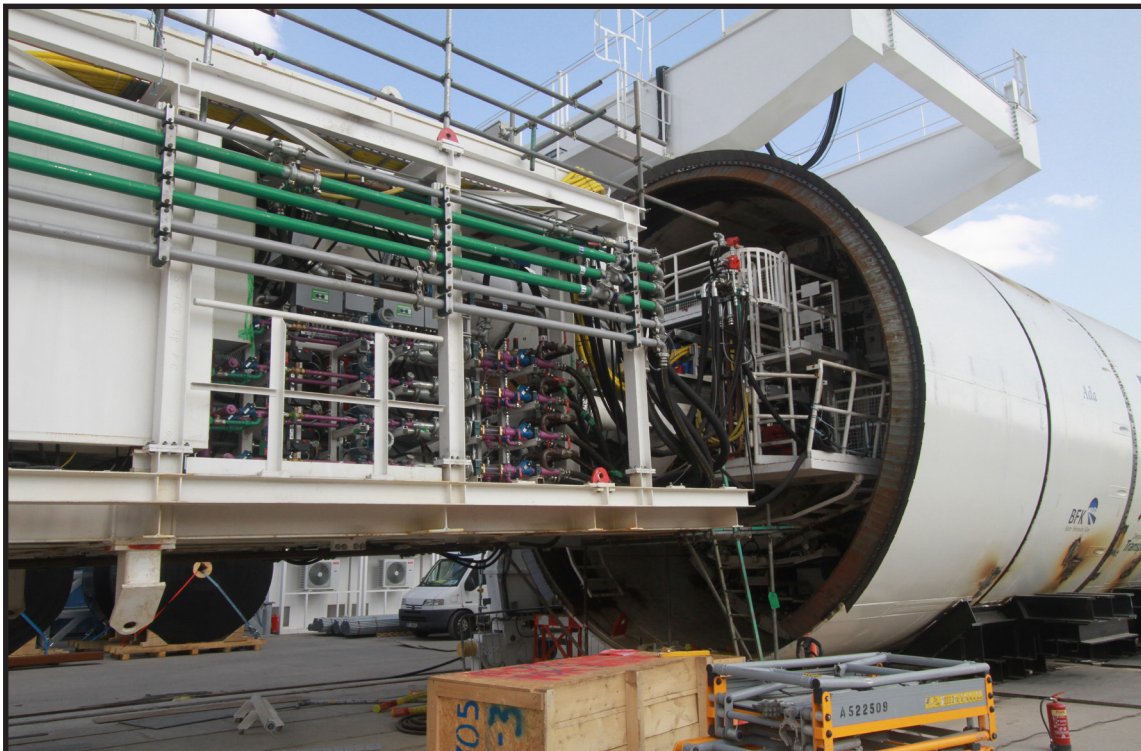
Offsite storage and servers ensured high performance at all sites

Using Platform as a Service was a key factor in getting the new infrastructure up and running quickly. Fordway can add capacity as and when needed and then scale it back as the project draws to a close. BFK only pays for capacity used and can tailor it to suit their needs. The software is also provided using a scalable rental model. The project team grew quickly from the original 150 users to 240 and continues to change as the project develops.

Initially, BFK planned to have servers and data storage at the main project office but decided Fordway’s proposal of offsite servers and storage delivered a more robust recovery solution and provided a level of confidence that the IT will perform well in every location by taking away the reliance on the primary project office.

“If the servers and storage were located in the main project centre, we could have seen a degradation in Aperformance at the satellite sites, but this solution means that they all experience the same level of performance,” explained Steve Shepherd.

As well as rolling out the IT infrastructure to the satellite project sites, Fordway sorted out failover and back-up between the landline and the wireless back-up system. “This is another example of Fordway going the extra mile,” said Geoff. “It wasn’t part of the initial tender but they’re working on it anyway and doing a really good job.”




Acting as both the IT manager and IT team

Fordway is effectively filling the role of the IT manager and IT team. Their combination of onsite support and a 24-hour Service Desk ensures anyone working on the BFK contract can obtain IT support whenever they need it. Two members of Fordway staff are based at Westbourne Park. One starts early and one finishes late, thus ensuring both are available during peak working hours while providing extended onsite cover. Outside these hours Fordway’s 24-hour Service Desk handles any support requirements to ensure IT issues never delay the project.

The Fordway team has a considerable degree of autonomy and responsibility, including liaising with other suppliers to the project, such as the printing service and telephone provider. They provide monthly reviews and quarterly account updates, and BFK can access this information whenever they wish.

Fordway is also working with the three joint venture companies to develop an IT policy for the project team. Each company has its own IT policy, and these are being amalgamated and updated by Fordway to take account of the specific requirements of the site. Fordway is monitoring the environment to ensure users adhere to the policies, working with the HR department as necessary.

“From day one Fordway have been positive, listened to our ideas and been able to adapt to our way of working,” said Geoff Bull. “They’ve been remarkably flexible despite everything we’ve thrown at them! We’ve had a lot of last-minute changes in demand, but their onsite and back-up teams have approached these requests as a challenge and simply got on with finding a solution. They never know what’s coming next – one day someone turned up with a fibre optic cable asking where they could plug it in!”



“Fordway very much go the extra mile for us – whatever we throw at them, they take it as a challenge and calmly find a solution. They see their role as being there to make the whole thing work.”

Geoff Bull, Quality Manager, BFK

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