



Project Scope Overview

Customer:	North Tyneside Council
Site Location:	Tyne & Wear
Equipment:	Net 10G and optical fibre

In only 6 years Cobalt Park has grown to become the UK's largest office park and has recently celebrated the completion of over 1 million sq ft of highly specified offices. There are currently over 14,000 people employed at Cobalt. The Quadrant (formerly Cobalt 16) is one of the key buildings in the development, a 100,770 sq ft (9,361 sq m) air conditioned state-of-the-art building. This new development for North Tyneside Council has been designed to house a number of services for the community it serves including Information & Communication Technology, Communications, Human Resources, Legal & Democratic Services, Members Services, Regeneration and Revenue Services. A total of 950 staff and the 'Council Members'.

North Tyneside had a number of unsuitable buildings and was keen to move its staff to a modern and efficient Council hub at the 'The Quadrant' within one of the most successful business parks in the country. The council approved plans by the ICT Department to remove single points of failure and provide resilient IT services in accordance with the needs and pri-orities of the authority. The data centre housed in 'The Quadrant' is the cornerstone of that plan. The main goals were to get all ICT equip-ment centralised. This would allow the ICT Service to concentrate its ability to manage and maintain the environment whilst enabling the implementation of robust information storage and back up regimes. Shaun Grudgfield the Infrastructure Consultant for Communications commented,

' The number of ways that people can communicate elec-tronically has mushroomed over the last few years. The rise of picture and video phones, for example, make it much easier to describe problems and incidents. These technologies were already being used by council staff to re-cord required repairs and graffiti but they arrive into the council using a variety of applications. In order to make the most of these and future technologies, we needed to invest in appropri-ate applications to receive, interpret and action the information coming through electronic com-munications. To do that we needed a data centre with a first class cabling system.'

The current applications in use at the council include Oracle e-Business Suite, Northgate RBH (HR and payroll) , Anite Swift (health and social care software solution), CAPS Uniform, OIT Document Management and Frontrange ITSM.

These are operated on a combination of mainly Solaris, (a Unix-based operating system) and Microsoft Windows Server 2003. Hardware on sites varied but the preferred technologies are SPARC and X86 servers (from Sun and HP); a variety of desktop PCs, X86 Small Form Factor PC and Thin Client (Citrix). Networks kit is largely Nortel Networks including the VOIP telephone system.

The five floors of 'The Quadrant' were installed with Connectix Net10G shielded cabling system; with the data centre on the ground floor connected by OM3 Multimode fibre to three communications rooms on floors 1, 2, and 3. Each of these communication rooms serviced the horizontal cabling; 900, 963, 960 points respectively with the small 4th floor of 200 points being run to the 3rd floor communication room and the data centre supporting the 600 users on the ground floor. The majority of the cabling system was run under the false floors to floor boxes, which in open plan office spaces were linked to desk pods, although in some public areas angled wall outlets were installed.



The Quadrant Cobalt Business Park; North Tyneside Council's new offices and data centre



Cable management from each floor box to desk

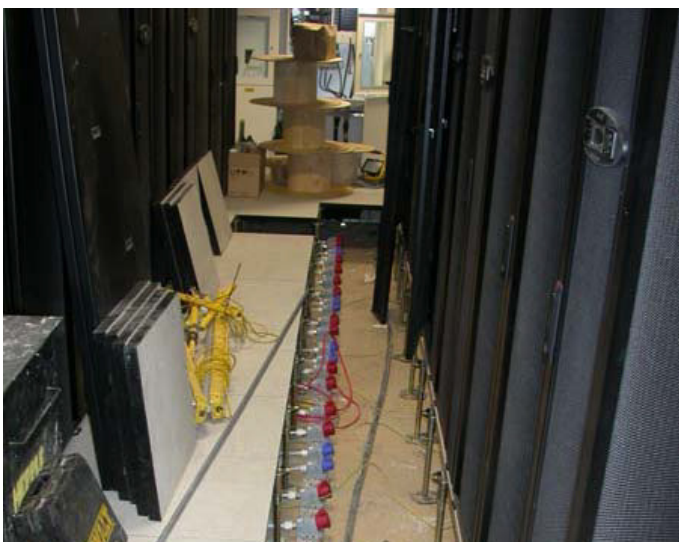


Floor box in one of the meeting rooms



Angled wall outlets with Traffolyte labelling

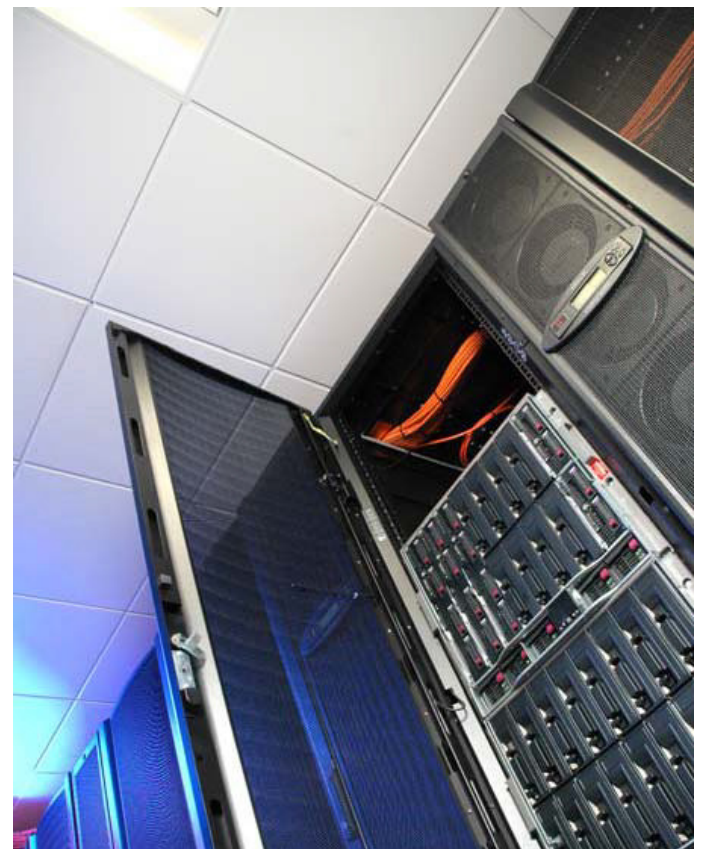
Shaun continued, 'The data centre will house approximately 330 servers eventually. This is quite a considerable power hungry resource so the energy requirements were an important part of the design, along with cooling. Scottish and Southern Energy supplied a 11kV connection into a National Grid Substation and 11kV/LV infrastructure throughout the business park but we knew we would need a reliable backup. The generators housed a few meters from the main building will give us that resilience. Keysource were contracted to design a contained hot aisle configuration. This gives us no recirculation or short circuiting of cooling air within the data centre. This maintains inlet air temperatures within acceptable limits and maximises return air temperatures, ensuring free cooling potential is exploited. With the power, gas fire sup-pression and other systems the investment is major; we knew we needed a network cabling system that would guarantee us bandwidth for at least the next 10 years. We chose Connectix Net10G because they are a UK manufacturer, the support was excellent and 10G should see us through the 25 year lease of the building. The extra investment now will be saved several times over as we are confident of avoiding any upgrade of the cabling system.'



Data centre nearing completion before the servers are moved in

The cabling system was installed by Bailey Teswaine, sub contracted by the M&E contractor NG Bailey with Bowmar Kirkland as the main contractor. Mick Tong, Senior Project Manager for Bailey Teswaine commented, 'This was a good project for us, the technical support from David and Ian at Connectix was exceptional. This was our first 10G shielded solution. With it going into a prestigious building for a high profile client; you want to be com-fortable with the product and the technology. It was an excellent solution, that I was pleased to project manage.'

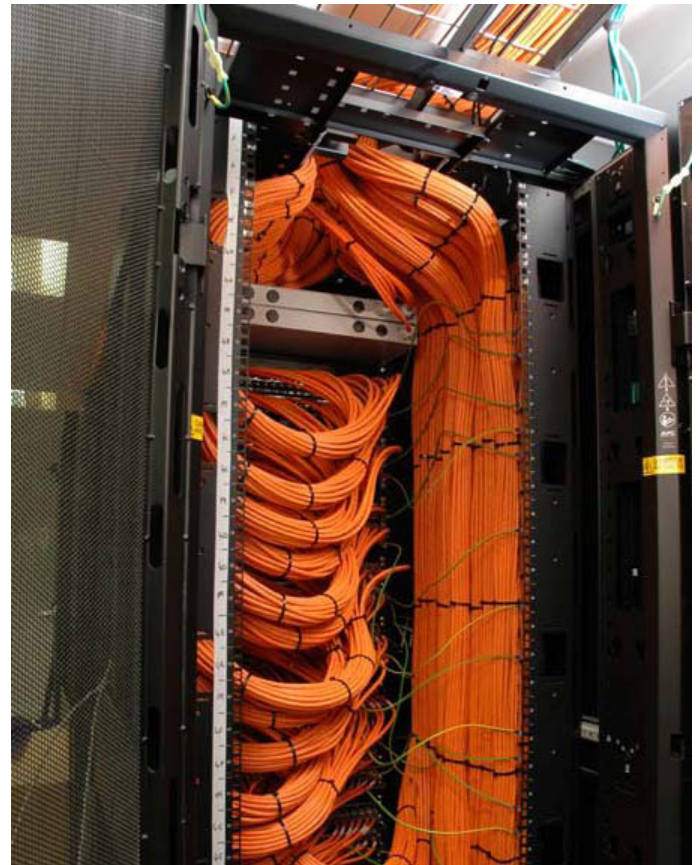
One of the key elements of this project was Health and Safety, not only during the project but for the lifetime of the building. With tons of cable being laid throughout, fire stopping and LSZH cable are essential to the safety of occupants. The other major benefit of Zero Halogen cables is that if a cable fire did start the IT equipment is less likely to be damaged by the highly corrosive and conductive acidic smoke produced by PVC cables. Shaun added, 'The 'Data Centre Design' seminars run by Connectix had been a help in identifying some areas that needed further clarification. The original specification had been put together but as with all projects of this size and complexity there were grey areas, we had the perfect opportunity during the start of the project to talk direct with experienced engineers and see samples. This meant that the effective bonding of each panel onto a Screen Bonding Conductor Busbar (SBCB) within each cabinet and shielded patch cables labelled and tested before delivery helped the project run smoothly.'



Some of the 330 servers to be installed in the data centre



Net10G patch panels and cable management



Net 10G patch panels in one of the core communication racks



The completed cold aisle with just some of the shielded Net10G LSZH data cable in tray overhead