CASE STUDY

FUTURE VIABILITY

Growing storage, security, speed and business continuity requirements made it necessary to establish a modern high-performance data centre in the North Brabant Provincial House, and to link it up with a fibre optic and copper backbone. The solution selected was provided by HTC International and Datwyler.

The province of North Brabant in southern Holland is the third largest province in the country, with an area of approximately 5100 square kilometres and a population of just under 2.5 million. The parliament, government and Commissioner of the Province are based in the Provincial House in s'-Hertogenbosch, the capital of North Brabant The Provincial House consists of a two-storey building with a basement and a 24-floor office tower 103.5 metres high, the city's tallest building.

The steadily growing requirements for data storage, security, speed and business continuity were beginning to overload the existing infrastructure of the Provincial House, so in 2014 a start was made on constructing a completely new data centre in the basement of the building. Several additional backbone connections also had to be installed so that migration to the new data centre could be carried out in stages and disruption to the province's primary processes could be avoided.

High-performance installation

First and foremost the new data centre needed to be future-proof. The standards demanded of the new backbone infrastructure were just as stringent. The Provincial House not only wanted to allow transmissions of 10 Gbit/s, but also to be prepared for even higher speeds. In order to be able to incorporate systems with copper connections in the data centre, copper links also had to be installed in parallel to modern fibre optics. In addition, the cabling structure needed to be simple, clearly laid out and have no cross-overs. The time frame stipulated also posed a challenge, for the installations in the data centre and in the backbone of both buildings had to be completed within only six weeks.

Creativity and a solution-oriented approach were factors which played an important role in the bidding phase. Which is why HTC International B.V. put their money on Datwyler's proven high-performance products and customised specialist solutions.

Reserves for future expansion

The Datwyler Data Centre Solution is one of the tried and tested cabling systems. Its core components are factory pre-assembled modules, MPO plug-in modules (MPO cassettes) and ready-measured thin MPO cables. "This is a quick and easy system to install – quite an important aspect in a data centre," explained Fons Schute, the project planner responsible at HTC International. "In addition, the connections are really of very good quality."

In around 60 special 1U panels in the data centre Datwyler installed over 100 MPO cables and the corresponding number of type 2xMTP-on-6xLCQ MPO plug-in modules.

As each the panels accommodates three plug-in modules, there are still enough slots left for future expansion.

At the back the MPO cassettes are interconnected by mini-breakout cables, each of which comprises 48 OM3 fibres and were supplied with preassembled MTP connectors at both ends.

Blown fibre solution saves time and money

To modernise the backbone infrastructure – the fibre optic backbone in the Provincial House – HTC employed a special solution developed jointly by the manufacturer and HTC, Datwyler's certified partner. Altogether more than 12 kilometres of micro cable were blown into a special fireproof duct system. The cable is a 12-fibre type S-Micro OM4 multimode cable only 2.6 mm thick. A further 500 metres of 24-fibre OS2 micro cable were added for the provider connection. This combined solution substantially simplified installation, which would otherwise have been very time-consuming, particularly in the tower.

In the distribution racks on the floors the mini cables are terminated in 60 extractable type OV-A splice boxes. Datwyler supplied the bulk of these with 24 LCD adapters (multimode), as well as a few preassembled with six SCD adapters (single-mode) and pigtails. An appropriate number of management panels makes the installation layout very clear on the floors too.

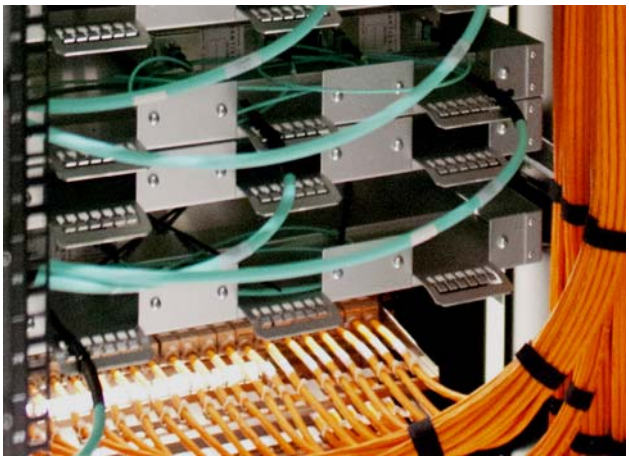
Around 1000 copper connections were installed in parallel to all the fibre optic connections in the data centre backbone. 80 percent of the 24-port panels are filled with type KS-T Plus 1/8 RJ45 modules, which meet all the requirements of Category 6_A. In combination with durable shielded data cables, approximately 12 kilometres of which were installed by HTC International, the Provincial House can also attain transmission rates of up to 10 Gbit/s via the copper network. The old copper cabling in the backbone is still used for traditional telephony.

Fibre optic connections between the old and new data centre ensured that data and applications could continue to be used as normal during installation. This meant that even during the relocation there was no disruption to the province's primary processes.

Every target met

In late April 2014 HTC handed the installation over to the client on schedule. "We are very happy with the new data centre, which meets all our requirements," says Martin Kuijl, Province team leader/project leader.

In the meantime the Provincial House has also integrated building automation and some security applications into the network. "Everything works perfectly."



HTC International underlines the good collaborative relationship with Datwyler: "Cooperation was excellent in every respect," enthuses Fons Schute. "It started with expert support in product selection, followed by deliveries made on time. In some cases, the various lengths of preassembled cable arrived even sooner than expected. Given the narrow timeframe, it was very important that delivery deadlines were met. All of the products delivered were of good quality and free from defects. And, last but not least, the price was right. What more could one want?"

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