

## MICROSOFT

***A place for everything,  
and everything in its place***

When Microsoft Australia decided to upgrade to new premises, it went hunting for a cabling solution that would be easy to manage, secure and future-proof – and a partnership capable of installing it.

- Microsoft occupies an immediately recognisable place in the world of technology. The software company is acknowledged as the second-most valuable commercial brand-name in the world, while its founder Bill Gates is also famous for regularly topping the charts of 'world's richest people'.

- Microsoft products, particularly its Windows operating system and Office desktop applications suite, are installed in the vast majority of PCs in use today. Its R&D division continues to experiment with new software technology, designed for everything from massive servers to tiny handheld computers.

### ***From Cat 3 to Cat 6***

- In 2000, Microsoft Australia began preparing itself to relocate to new premises at a recently opened corporate park.

- The shift did not involve a major displacement physically – the company shifted from 65 Epping Road to 1 Epping Road at North Ryde in Sydney. However, it did provide Microsoft with the opportunity to plan and install a

structured cabling system that could cope with Microsoft's extensive network demands – present and future – without creating network management complications for in-house personnel.

- "The facility we were in previously at 65 Epping Road was cabled with Cat 3 cabling only, with a maximum of 10Mbps link speed," says Microsoft's regional program manager, John McCarthy.

- "Also, we had outgrown the building in terms of size. A cost-analysis was carried out on how much it would cost to fit-out the old building to Cat 5, versus what it would cost to go to a newly purpose-built facility. A decision was made to go with a new facility."

### ***NORDX/CDT Provides FiberExpress Structured Cabling System to Microsoft Australia***

- The choice of location proved to be fortuitous. One of Microsoft's neighbours at the new premises was Revlon Australia. Revlon's Cat 6-compliant structured cabling infrastructure had been put in place in 1998 by Sydney electrical and datacommunications cabling installer, [GALPERN COMMUNICATIONS](#), in collaboration with telecommunications hardware supplier, NORDX/CDT.

- The two partners showed Microsoft the Revlon site to demonstrate the benefits of an installation based around the NORDX/CDT IBDN system

# IBDN *Success Stories*

*The IBDN system can enhance  
Cat 6 performance ...*

## **Classic** Cabling Product

- NORDX/CDT has its origins in the research and development arm of Nortel, a division of BCE. The IBDN division of the company was eventually bought out by Cable Design Technologies, creating the NORDX/CDT IBDN brand.

- The company's key product, the BIX connector, was actually created in 1976. However, the design was sufficiently advanced to still be in use today as part of the IBDN structured cabling system, and supports bandwidth exceeding the requirements of the final draft of the Cat 6 standard, up to and including 300MHz of clear channel, usable bandwidth.

- "Staying in front of what's coming next is the key to our whole philosophy," says James Doyle, director of marketing for NORDX/CDT Australia.

- "The IBDN system can enhance Cat 6 performance because, since its original development, it has supported the use of 50mm fibre."

- "Most current installations incorporate 62.5mm fibre for use with Gigabit Ethernet. However, because of the increasing demand for multi-gigabit applications in recent years, demand for 50mm fibre is also expected to increase.

- "The NORDX/CDT FibreExpress solution provides certified Gigabit Ethernet performance at distances of up to 600 metres."

- High speed was important to Microsoft. Its earlier Cat 3 cabling infrastructure would probably not have been able to handle voice-over-IP, which was becoming an increasingly important application for the software giant. The rapid evolution of software meant the company needed a network capable of handling future applications and technologies. Having Cat 6 in the backbone rather than Cat 3 was a critical decision for Microsoft.



## Neatness and Security

- Microsoft's main requirements included security of connections, neatness of the final installation and, naturally, price.
- "Microsoft has a very high standard for both reliability and security, and the indicators were that NORDX could satisfy our requirements," McCarthy says.
- "Everyone will be familiar with the old 110-patch frames and the issues involved in maintaining a neat patching regime. We are all familiar with the 'birds nest effect'! It's often difficult to maintain neatness where people move or temporarily patch leads."
- Microsoft was still in the initial planning stages when the cabling contractor, GALPERN COMMUNICATIONS, became involved, so design problems were kept to a minimum.
- "Because we were in front of the procedure, we didn't have any major problems," says GALPERN COMMUNICATIONS director, Simon Galpern, who worked on the project alongside manager John Hart and the installation team.
- "Having worked on various site installs with two separate contractors and the associated cooperation issues, I now believe it's better to have the same contractor do both electrical and data cabling."
- GALPERN COMMUNICATIONS, which has worked in cabling since 1978, was responsible for installing all the copper and fibre cabling throughout the building, as well as the base electrical installation. The cabling was hooked up to a range of server equipment, including Compaq, while an uninterruptible power supply from Invensys was also installed.
- "Galpern was also the electrical contractor on the project, which worked well. It was far better than some site installs, where there are two separate contractors and there is not as much cooperation between contractors," McCarthy says.
- Being involved with the installation from an early stage made the job easier for Galpern, but problems still had to be solved. Meeting the '90-metre rule' for cable run lengths over a four-story site was one of them. Galpern estimated that more than 300,000 metres of cable were used in total on the site. There are more than 3500 connection points in the building.
- The cable rooms and closets on different floors had to be carefully located to ensure the cabling system would work efficiently. All cabling has been installed under raised flooring. The final solution met Microsoft's stringent requirements for neatness.

## Saturation *Cabling Approach*

- Additional cable beyond current requirements has been installed and tested in the Microsoft building "A decision we made at the planning stage of the move was to cable the entire building – both voice and data – with Cat 6 cabling," McCarthy says.
- "We anticipate that this will provide us with the flexibility to handle future technology. It's always difficult to know what the future may hold where technology is concerned, so it's better and more cost-effective to install additional cabling, rather than retrospectively go back and fit it at a later date."
- "We provided an excess of fibre cables between floors, plus additional conduit and draw wires, should we need additional capacity."
- This 'saturation' approach means that extra capacity can easily be added without requiring re-testing. As new cabinets are required, they can simply be incorporated with pre-existing wiring. The small footprint of the installation design means minimal space is needed.
- The frames themselves have a low density of cross connects, as they use hardwired jumper connections. This design also provides security, as Microsoft technicians can do temporary moves, adds and changes using patch cords. These can be hardwired later for a secure, neat and manageable frame.
- "We made the decision to patch every data and voice outlet," McCarthy says. "If for any reason we need to temporarily move a device, such as a videoconferencing unit, we also have the ability to patch temporarily for a few days."
- "If the move is to be permanent, we get Galpern back to patch permanently. This reduces our labour costs, rather than having our engineers constantly patching leads. It also reduces the risk of 'unpatching' another user accidentally, as is often the case."
- The network also allows for easy segmentation. For example, the customer training network used by Microsoft can be isolated from the main system, ensuring that trainees don't accidentally wreak havoc on critical corporate data.
- After having been involved in the installation from the early planning stages, Galpern was almost the last company to sign off, checking details of the cabling and electrical fit-out. Fluke's DSP4100 digital cable analyser was used to certify and test network performance after installation.
- The system has now been in place for nine months, and Microsoft is pleased with the outcome. The cabling is likely to be in place for the long haul, as the equipment includes a 25-year warranty, which covers parts and labour.
- "The move was seamless to our end users," McCarthy concludes. "As you can imagine with more than 350 users, we had some minor phone patching issues, but none related to the system itself."

*...installation design means minimal space is needed.*

# IBDN *Success Stories*



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**Organization**  
Microsoft Australia

**Location**  
Sydney, Australia

**Vertical Market**  
Technology

**Number of Sites/Buildings**  
1

**Cabling Systems**  
IBDN FiberExpress System

For more information about NORDX/CDT Structured Cabling Systems visit us on the web at [www.nordx.com](http://www.nordx.com) or contact the NORDX/CDT office in your area.

