



# Woodside finds a resourceful solution to its churn factor

Ricky Robertson / Molex Premise Networks

Moves, adds and changes in the head office of a petroleum company called for a structured cabling solution.

In the 10 years since Woodside Petroleum moved its headquarters to No 1 Adelaide Terrace in central Perth, the company's operations and subsequent employee numbers have grown dramatically. Staff and their facilities in the attractive semi-circular building are in a constant state of flux as the company grows, communication demands escalate, and new technology is introduced.

## The company's business

Woodside Petroleum has been delivering North West Shelf natural gas to customers in Western Australia since 1984, and exporting Liquefied Natural Gas (LNG) to Japan since 1989 under a 20-year contract, with spot sales to Spain, South Korea, Turkey and the United States. Crude oil and gas production began from the Wanaea and Cossack Oil fields in 1995. Condensate, a light oil produced in association with natural gas, is sold on the oil market to Australian and overseas refineries.

The publicly-listed company, which manages project assets worth more than \$9 billion, directly employs 1700 people, most of whom live and work at either the head office or three other city locations. Those who work on the offshore facilities, North Rankin A, Goodwyn A and the Cossack Pioneer, generally live in Perth and commute to work by aircraft and helicopter on a regular roster.

## Cablers permanently on the job

Back in 1989 when the company's personnel moved into the Adelaide Terrace headquarters, no-one envisaged just how vital the communications infrastructure would become to ensure efficient daily communications and information access.

Moving was an inevitable option. Earlier this year, the company announced that it would shift its operations to what



Photo courtesy of Woodside Energy Ltd.

Woodside's North Rankin platform stands in 125 metres of water, 134 km off the coast from Dampier.

is reported to be Perth's first multi-storey construction for 10 years. But with a completion date of 2003, it has to be 'business as usual' in Adelaide Terrace in the interim.

The cabling system needs constant attention, to the extent that the incumbent cabling contractor, Protech Communications, has a permanent office in the basement of the building.

"Woodside employs a number of outside people that come in to do specific jobs. We make sure they have phone, data and other facilities. Permanent staff also make demands on the communications infrastructure for adds, moves and changes," said Henry Epskamp, managing director of Protech Communications. His cabling contracting company specialises in low voltage services, closed circuit TV, masthead amplifier television (MATV), voice and data cabling, PABXs and a wide range of other communication services.

"Woodside's departments are constantly growing, merging or simply shifting positions to accommodate the day-to-day running of the business. It's useful having our own staff on the premises. We've been looking after Woodside for 19 years all told," Henry said.

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## Enter LAN and structured cabling

The building itself is a magnificent piece of architecture—it has a central atrium spanning seven levels from the ground floor. Very attractive, but rather impractical from a cabling point of view.

The original design incorporated four communications risers on each level, with communications cabling most likely intended for RS 232 or 432

systems at the time. The risers were mainly used for voice cabling as floor distributors.

With new technology literally landing on us all at break-neck speed, the advent of Local Area Network (LAN) created the urgent need for a Structured Cabling System.

As Woodside's business and operations grew, the installed cabling plant

literally started bulging at the very closet doors which conceal them.

Currently, there are somewhere close to 7000 information outlets throughout the building. These outlets are utilised for voice, data, devices and any other services that Woodside decides it requires.

The company is also currently transmitting Gigabit Ethernet over Molex Premise Network optical fibre to the desktop as a requirement of some high bandwidth applications. For instance, seismology data from the ocean bed is directly communicated to the exploration division where geologists use powerful computer programs to work out where oil is likely to be.

Industry standards and end users would have us believe that the Gigabit platform has been designed only for the backbone architecture. However, by providing a very high-powered interface at the desktop, Woodside is able to use Gigabit for large file transfers and geological map drawing transfer from level to level or building to building, while still using it as the backbone.

## Complete Molex system

Woodside had chosen its network architecture, including the fibre optics, the physical infrastructure and incorporating all components, from Molex Premise Networks. Most of the outlets are Category 5, although all work installed in the past 18 months has been Enhanced Category 5.

While this enabled Woodside to transmit fast data traffic through the system, adding Category 5 cable to a riser environment that wasn't designed to hold it added to the company's problem.

Each level has a distribution riser which reticulates cabling in north and south directions. There are between 850 and 1000 information outlets on each level. When the active equipment is incorporated into this usage, a fair amount of administration is required to keep the system manageable.

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## The final solution

In May this year, Woodside, Molex Premise Networks and Protech Communications embarked on a project to make the existing riser frames safe and manageable for the IT Managers who continually use them.

As Roger Newman, Woodside's team leader network services, testifies:

"The frames in the risers had outgrown their use. They were designed to support patch panels and lightweight equipment; now each area has approximately 450-500 information outlets and each north and south riser has up to 10 Cabletron switches or hubs.

"Of course we still have a few chassis hubs which, on their own, have a weight exceeding 20-30 kgs. This has caused the lightweight metal framework to buckle and has become a potential hazard to those of us working in the closets.



Roger Newman (left) and Ricky Robertson view Molex custom-designed frames.

"Equally importantly, the administration in each of the risers had become unmanageable and subsequently was costing us more money because of the restricted access and the amount of cabling and equipment fixed in the frames. Our annual churn is approximately 200 per cent, well above the average figure for commercial premises."

## Reducing hazards

Woodside and Molex Premise Networks decided to custom-design and build a specific frame design that would meet all of Woodside's requirements and reduce the potential hazard as well as being completely functional for Roger's needs.

The existing equipment layout was never designed, it just grew. Technology upgrades, floor layout changes and new applications meant as soon as equipment came along it was inserted in the nearest space.

What this had created was a layout which could never be controlled by anyone at any level. The cable installation technician had a task to find space for adds, moves and changes. The equipment supplier equally had similar problems and at the end of the line the IT managers had no control over the cable management

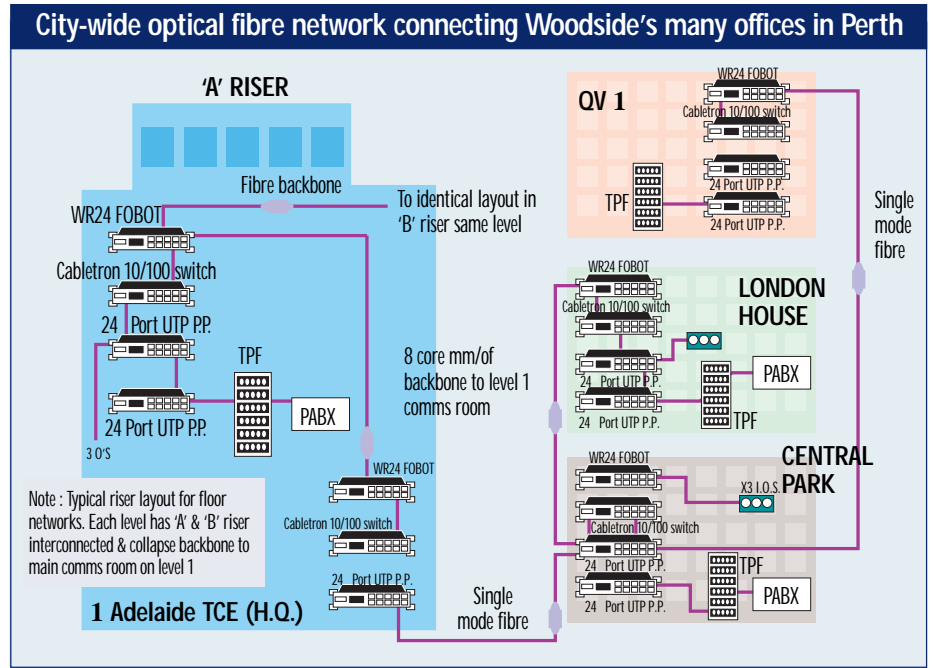
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which, as we know, can cause performance problems and lead to expensive down time, something an efficient organisation such as Woodside would not tolerate.

The new Molex Premise Networks custom-built rack began life on my drawing board. We sent prototype designs to Roger Newman so he could be assured of the appropriate quality and functionality throughout the process.

### Gaining rear access

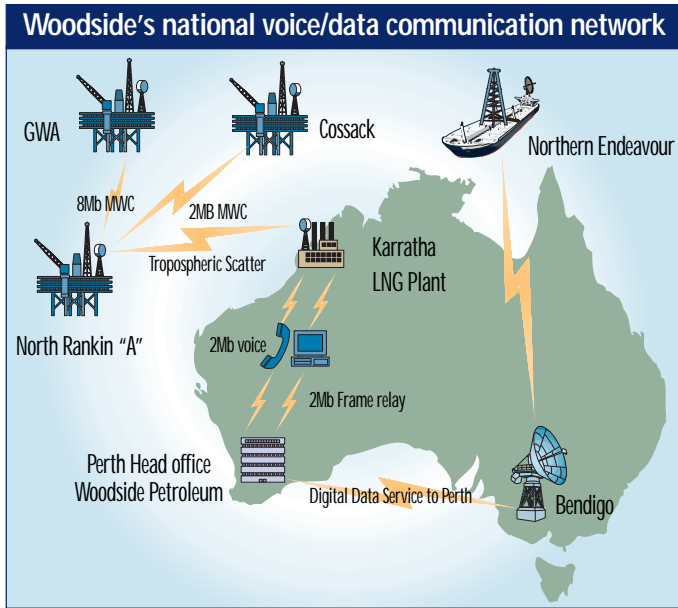
The basic design incorporates a sub frame and two swing frames, allowing IT managers/administrators to gain rear access to both active and passive components without restricting either service. The layout of the racks incorporates a clear definition between active equipment and cabling plant. One swing frame takes the cabling plant



and the other the active equipment. A problem that had to be overcome for the swing frames was the required

swing radius for the active equipment. Some of the switches are 450mm in depth and the risers are very restricting

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Protech Communications. The physical installation involved disconnecting and reconnecting approximately 20 x 24-port Molex Premise Network Powercat patch panels, as well as re-testing and trouble-shooting—an immense task for any normal commercial installation, without the restrictions placed upon this project. All parties considered the first installation a success, although as always with prototypes there would be a few minor changes to the next group of four which were due to be changed over in September.

“The whole job is now more aesthetically pleasing and easy to work with. It has given Roger and his team the flexibility to cope with adds, moves and changes at a far more economical rate than other types of system,” said Henry. **C I M**

*Ricky Robertson is West Australian state manager for Molex Premise Networks. Ricky has over 15 years' experience in designing and installing structured cabling systems in Australia and the UK.*

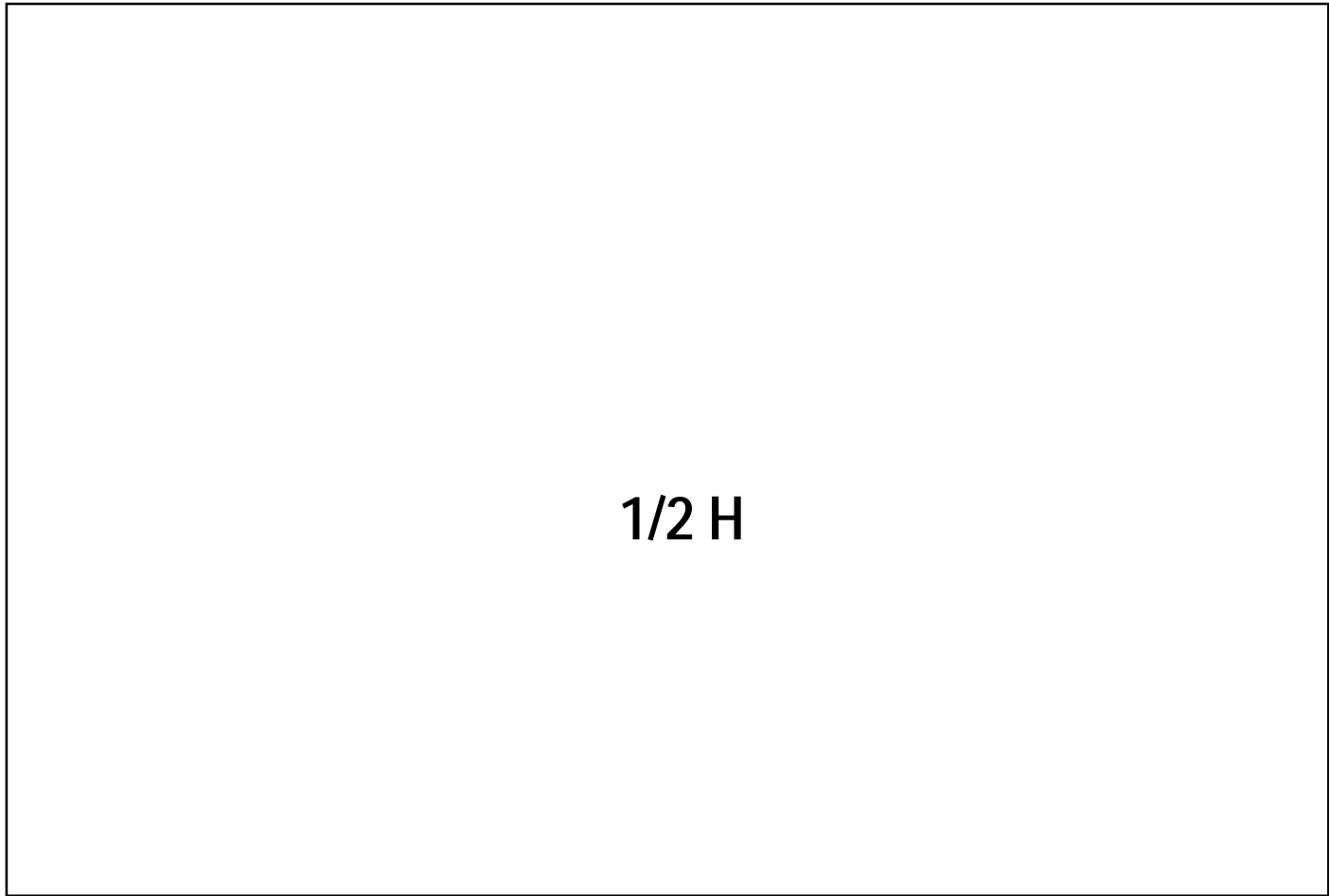
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*Acknowledgements: Roger Newman, Woodside Energy Ltd and Henry Epskamp, Protech Communications.*

in that there is no excess space either on the sides or at the rear. Accurate measurement and mock up models ensured that we could produce the required result.

The prototype was installed on a Saturday in July by



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