Case Study

Petrobras Oil and Gas Exploration Company, Brazil

"The remote management feature is essential for Petrobras. Technicians do not have to come from the mainland to service equipment that is located in the middle of the ocean." Washington Pimenta, Adviser to the Petrobras Engineering Division

Megaplex-2100 Becomes Basis for Rig-to-Shore Telephone Network in Brazil

Imagine yourself an employee of Petrobras, a major Brazilian oil and gas exploration company, working at an off-shore drilling rig, more than 240 km (150 miles) from the coast. Your day-to-day world is based on what amounts to a tiny, artificial island. All you can see are the endless Brazilian skies and a distant horizon. It is time for your midday break. Before joining your coworkers for lunch, you walk out on the platform, enter a phone booth, and call your wife.

A phone booth in the middle of the ocean may sound exaggerated even given the accomplishments of modern telecommunications. But a "rig-to-shore" network has enabled Petrobras to extend phone service to some of their drilling rigs at sea. This project is an example of how RAD technology is changing the face of telecommunications around the world. The network is based on RAD's Megaplex-2100™ modular access multiplexer connected by fiber optic submarine cables to a new 155 Mbps ATM backbone that links 40 off-shore drilling rigs in the Campos oil fields to Petrobras headquarters in Rio de Janeiro.

Petrobras technicians are quite aware of the benefits provided by this curious phone booth situated nowhere near the mainland. As a flexible multiplexing platform for a wide range of applications, Megaplex is ideally suited for grooming TDM traffic to broadband multiservice networks.

Megaplex-2100 enables data and voice transmission over the company's broadband network, while maintaining high reliability and full compatibility with nationwide voice services provided by Embratel, the nationwide telephone carrier in Brazil.

To date, the company has established remote public telephone services and point-to-point service with a comprehensive management system provided by the RADview™ SNMP central management platform. "The remote management feature is essential for Petrobras," said Washington Pimenta, an adviser to the Petrobras engineering division. "Technicians do not have to come from the mainland to service equipment that is located in the middle of the ocean."

Environment
Corporate network connecting off-shore drilling rigs with mainland in Brazil via fiber optic cables.

Goals
• Data and voice transmission over a corporate broadband network.
• Remote and point-to-point public telephone services with a comprehensive management system.

Solution
RAD's Megaplex-2100 modular access multiplexer connects remote sites to a new 155 Mbps ATM backbone via fiber optic submarine cables.

Benefits
• Highly reliable data and voice transmission and full compatibility with voice services provided by the local carrier.
• Grooms TDM traffic to broadband multiservice networks.
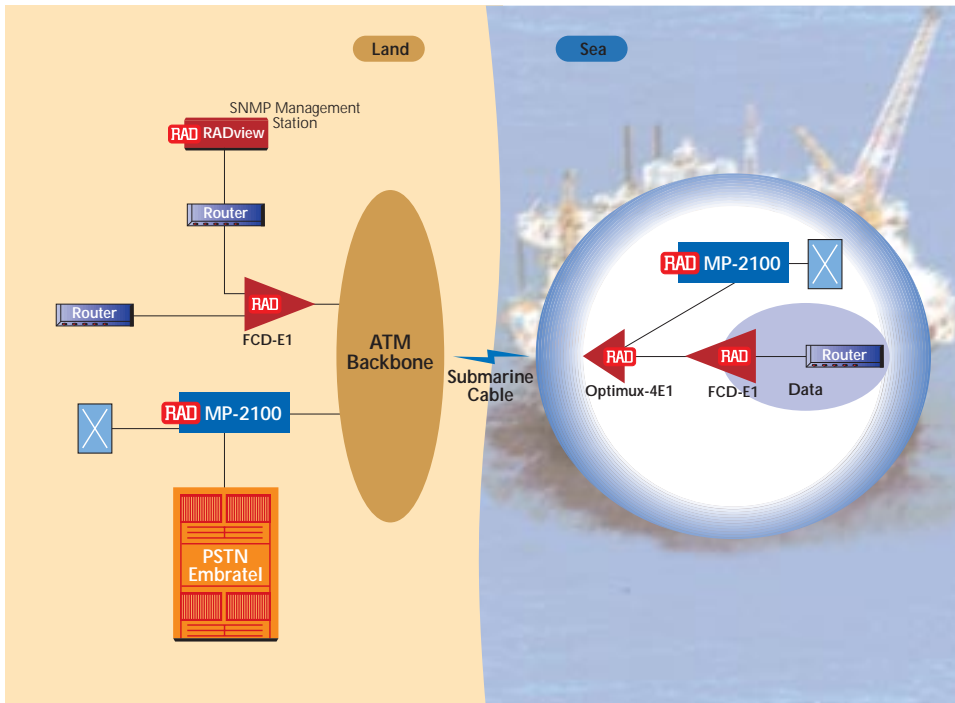
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Petrobras technicians are incorporating RAD's equipment into their internal high speed network. This will allow them to stop using expensive high speed leased lines for data and voice traffic.

Petrobras has plans to build on the success of their seaborne phone booths. As their ATM backbone expands, future applications may include video transmission as well as compressed voice services in order to save bandwidth. These are among the possibilities that are currently being studied. "Megaplex-2100 is an essential element in this effort," Pimenta said. "For example, we are interested in expanding our internal network in locations on the mainland where the company is still using leased lines for data and voice traffic."

RAD

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