



CASE STUDY

Conoco Phillips Offshore Network



The Client

Conoco Phillips (CP) is one of the world's largest international integrated energy companies with operations in the Bayu Undan field in the Timor Sea between Darwin and Timor Leste. CP has a gas platform in the Timor Sea with a recently constructed gas pipeline covering approximately 500km to Darwin.

The Brief

In 2002 CP required satellite communications for their sites during drilling, construction and ongoing operations. Each of the multiple sites in the region required communications directly to other sites. A fully meshed (any site to any site) solution was required for voice, with a star network back to the Perth head office (via Darwin satellite gateway) for IP data. Several of the sites were floating vessels requiring special satellite antennas that could track the geo-stationary satellite. Other short term vessels also required satellite communications such as the pipe-laying vessel building the pipeline to Darwin.

In 2007 CP issued an invitation to tender for an upgraded/restructured satellite network to replace the network previously provided by ASC. This new network was to be based on gatewaying traffic in Adelaide and linking into the existing CP terrestrial network rather than landing in Darwin, but still provide mesh (single satellite hop) connectivity between the remote sites.

The Solution - Part 1

CP chose Australian Satellite Communications (ASC) to provide their satellite communication requirements using the extremely flexible ViaSat StarWire platform. At the time the StarWire product provided the best solution to enable a fully meshed, remotely managed solution. Australian Satellite Communications provided a full turnkey solution including Design, Supply, Installation, Satellite Bandwidth, 24x7 help desk and ongoing support.

The Ensco104 (Drill Rig), Dili (Timor Leste offshore supply base) and the Safe Caledonia (Accommodation Vessel) were the first three sites implemented. Point to point data links were provided from these three sites back to a gateway site in Darwin which had existing fibre connectivity back to the Perth head office.

The entire network was controlled from a Dual Redundant Network Control System (NCS) based at ASC in Adelaide.



ASC are specialised system integrators who offer a turnkey solution from concept through to completion followed by an unprecedented level of ongoing support



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The Solution - Part 1 (cont.)

Darwin On Shore Supply Base

A fixed 3.8m antenna was installed in Darwin as the 'hub' or 'gateway' for services from the other sites mentioned below. The equipment at this site was connected to the ConocoPhillips WAN at this point to provide connectivity to Perth.

Ensco104, Drill Rig

A fixed 2.4m antenna was installed on this jack-up type vessel to provide a 512kbps dedicated IP link to Darwin. Additional modems were provided to enable fully meshed 'on-demand' voice calls to any other site in the network.

Dili Offshore Supply Base

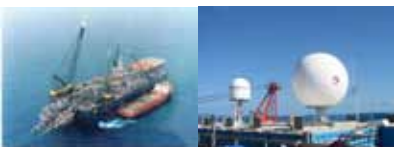
A fixed 2.4m antenna was installed at this land-based site to provide a 128kbps dedicated IP link to Darwin. Additional modems were provided to enable fully meshed 'on-demand' voice calls to any other site in the network. Satellite electronics equipment was installed in a purpose built shipping container with UPS and generator backup power. This link was also later upgraded to 256kbps.

Safe Caledonia, Accommodation Vessel

A floating vessel on which we supplied and installed a 2.4m stabilised/tracking antenna to enable a 384kbps link to Darwin. Again additional modems were provided to enable fully meshed 'on-demand' voice calls. This vessel was in the Timor Sea area for approximately 12 months, and equipment was installed and deinstalled by ASC in Singapore.

SEMAC1, Pipe Laying Vessel

This is also a floating vessel which utilised the 2.4m stabilised antenna used previously on the Safe Concordia. ASC again provided the installation, de-installation services and ongoing support for this vessel. Communications were maintained for this vessel from the time it left Singapore to the time it completed the pipeline in Darwin.



Safe Concordia, Accommodation Vessel

Another floating vessel utilised for approximately 6 months during the 'shutdown' phase of the project. The same 2.4m stabilised antenna was re-utilised on this vessel after completion of the pipeline. In an extremely tight timeframe ASC provided two separate links using a single antenna. The main system provided CP with a 640kbps link to Darwin, while the second system was used to provide internet services to the vessel staff via a 512kbps link to our antenna in Adelaide.

The Solution - Part 2

In 2008 ASC was selected as the successful tenderer to provide the upgraded satellite network for CP. ASC's solution was based on the new iDirect VSAT Technology which enabled mesh services between remote sites plus star connectivity back to the Adelaide Teleport to link into CP's existing terrestrial infrastructure. This system provides 1.5Mbps of shared bandwidth between the various sites and the Adelaide Teleport, and was designed to cater for up to 2Mbps in the future.

The project included re-pointing of existing antennas to a new higher powered satellite (GE23) and replacement of RF equipment. The new iDirect 5300 modems were also installed and configured to provide the mesh and star services.

This system is planned to be extended to other vessels as they come into this field in the future.

The Result

Australian Satellite Communications has gained much experience from this project in providing reliable communications services to offshore vessels. The company has gained a reputation as being a reliable and responsive supplier of high grade services which has led to provision of similar services to other offshore oil and gas facilities in the Northwest Shelf and Bass Strait.

Australian Satellite Communications has a well equipped Teleport in Adelaide with extensive terrestrial connectivity to be able to provide a variety of solutions for your offshore communications requirements.

