Vertical Communications Integrators

Sea Tel and Global Star integrating ML-IP for Maritime Applications

Customer Background

Four communications companies together have developed a near broadband data networking solution for satellite-based maritime applications, in the process overcoming obstacles that have, until now, prevented ship-based Internet access for all but the largest ocean going vessels. This case study examines how these companies – Sea Tel, Globalstar, QUALCOMM and ePipe – worked together to deliver a significant communications breakthrough in the maritime industry.

Pre-ML-IP Solution

Until recently, the challenge of Internet access at sea has presented insurmountable hurdles. Ships are constantly moving, are usually in remote locations, face the challenge of rain fade and need coverage over a very wide area. Their remoteness demands the use of satellite communications, which introduces problems with available data bandwidth. Satellite modems are usually limited to speeds below 10Kbps, which is generally insufficient for Web surfing or most other data networking applications. Furthermore, most satellite communications were designed with voice in mind, and only occasional data.

Sea Tel has addressed the problems of communicating at sea by building rugged, reliable integrated access solutions, which are supported by a global network of integrators that install and service the equipment. Globalstar has addressed the issues of reach with a network of satellites and ground stations throughout Europe, Asia, North and South America and the Pacific that provide coverage for ships across the globe. QUALCOMM has addressed the issues of affordable, reliable data communications by providing advanced satellite packet modems with omni-directional antennas.

However, until ePipe entered the picture, lack of bandwidth continued to be an inhibitor to the uptake of data communications for satellite-based marine applications. In searching for a solution, Sea Tel discovered ML-IP, developed by ePipe, to be the answer.

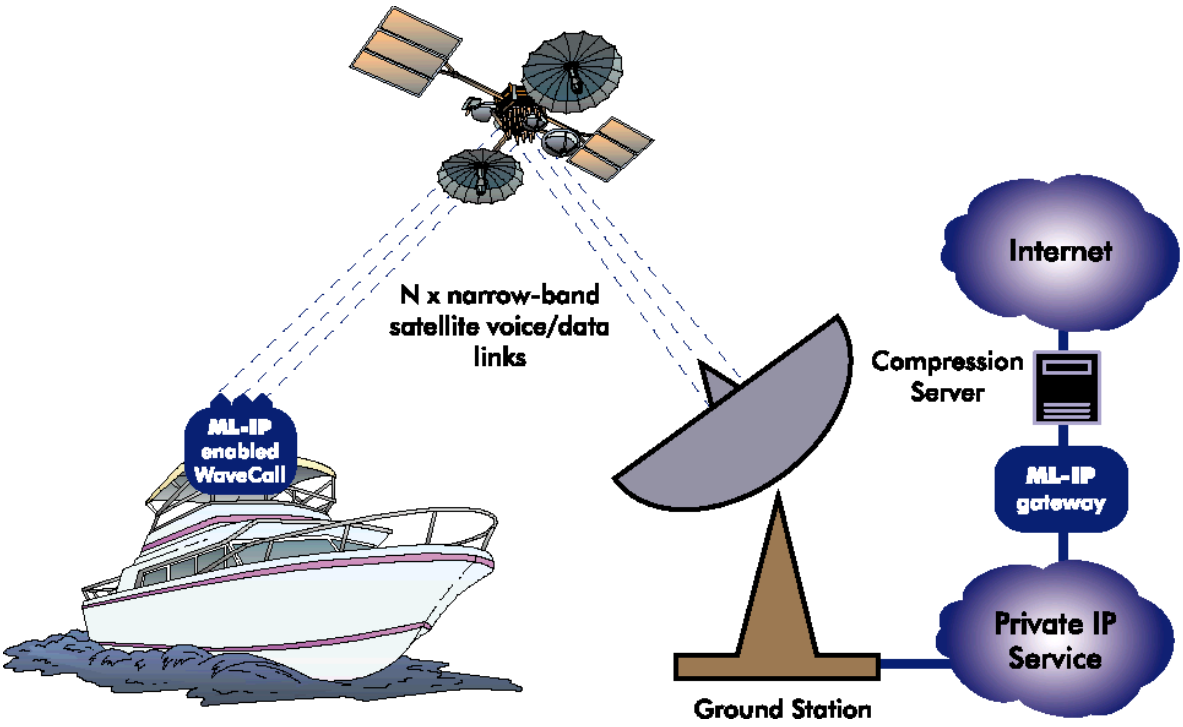
ML-IP On Board

Sea Tel is the world's largest manufacturer of commercial shipboard stabilized antenna platforms for satellite communications. Sea Tel integrated their technology with technology from QUALCOMM and ePipe to create the WaveCall MCM3 and WaveCall MCM8 systems, which are the core of the maritime solution.

Globalstar is a next-generation provider of mobile satellite communication services, providing access to voice and data communications services throughout the world. Globalstar provides the satellite systems that transmit data to and from vessels and provide the connection to the Internet.

QUALCOMM, best known as the company that pioneered Code Division Multiple Access (CDMA) technology, developed the satellite packet modems that are used within the WaveCall systems to communicate with satellites.

ePipe, a developer of Internet access and Virtual Private Network solutions, is partnering with Sea Tel in integrating ML-IP dial-up gateways. These gateways are the basis of the multi-channel technology used within the WaveCall systems on the vessels. ePipe's engineers also worked with Globalstar to provide ground stations with an ML-IP service that scales up to 8 bundled connections per subscriber. This ML-IP service allows subscribers to deploy fast, symmetric and transparent aggregated voice and data connections.



Virtual Broadband Connections

The WaveCall systems each feature ML-IP dial gateways that bundle three modem connections (MCM3) or eight modem connections (MCM8) to create an aggregated bi-directional bandwidth for voice and data of between 28.8Kbps and 77Kbps in one small antenna dome. This can be further boosted by SatSpeed compression software on the client PCs.

Each Globalstar ground station also has an ML-IP access gateway that terminates N number of bundles and provides an interface to the Internet.

Because ML-IP is access network agnostic, the WaveCall systems can also access corporate data networks anywhere in the world, and be incorporated into a truly global corporate VPN. The ML-IP router within the WaveCall dynamically scales bandwidth, responding to demand by activating one to eight circuits as required by the data and voice load.

The WaveCall systems can be set to operate as high-speed data only or a combination of simultaneous voice and data. Unlike previous offerings, the WaveCall offers the flexibility to be on the phone and on the computer at the same time.

The Future

The MCM3 was premiered at the Fort Lauderdale International Boat Show in October 2001. The MCM8 was announced in late October 2001, with first customer trials commencing in November 2001. Initially, the WaveCall systems will be used for Internet access for email and Web browsing. However, the integrated solution offers some exciting possibilities for a wide range of maritime applications. These include fishing fleets, oilrigs, freight/logistics, short and long haul transport, tourism and executive leisure boating.

For more information just visit: -

http://www.seatel.com/brochures/wavecall/MCM3/br1.html