RAD
data communications

Press Release

MCP and RAD Data Communications Make Regular GSM Service Affordable and Accessible in the Middle of the North Sea

Cruise Ships Now Have an Efficient Solution for GSM over Satellite

Grimstad, Norway, March 29, 2006: You're on-board a ferry cruising across the North Sea between Newcastle and Amsterdam and you realize that you have to call home. Or someone back home has to call you. But you're hundreds of kilometers from the nearest cellular operator's service area. So what do you do? What can they do back home?

One alternative is to see if the ferry is equipped with a satellite telephone. But these services tend to be expensive and do not solve the problem of being accessible via your own cell phone number. Increasingly, therefore, a Base Transceiver Station (BTS) has become a permanent fixture on cruise ships and ferries. A BTS, connected to a cellular operator's land-based Base Station Controller (BSC) over a satellite link, enables passengers to use their regular GSM telephones while at sea. But given the expense of leasing satellite bandwidth, this alternative cannot serve a large number of simultaneous users either. So how can ship operators ensure that every passenger who wants or needs GSM service coverage will be able to afford it?

Maritime Communications Partner AS (MCP), a Norwegian-based provider of onboard cell phone connectivity to cruise ships and ferries that provides global coverage through leading suppliers of maritime satellite services, has come up with an ideal solution. MCP has deployed GSM A-bis optimization gateways from RAD Data Communications to reduce costs by saving on satellite bandwidth.

MCP's BSC, located at its headquarters in the Norwegian coastal town of Grimstad, is connected over IP satellite modems to BTSs installed on a fleet of Danish-owned cruise ships that each year transport approximately 1.8 million passengers and 200,000 cars on eight routes traversing the North Sea between Denmark, Sweden, Norway, Holland, and Great Britain. MCP connected RAD's Vmux™-400 at both ends of those satellite links.

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The Vmux-400 is a standalone device that enables cellular operators to lower backhaul costs across the Radio Access Network (RAN) by optimizing A-bis (BTS-to-BSC) bandwidth by a factor of up to 3:1. This significantly reduces operating expenses in applications in which cellular backhaul traffic has to be routed over satellites because terrestrial telecom infrastructure is unavailable.

Eliminates Inefficiencies
"RAD's Vmux-400 A-bis and A-ter optimization gateway is the ideal product solution in this type of situation," notes Toby Korall, Senior Product Line Manager at RAD. "Interoperable with equipment from other major vendors, the Vmux-400 ensures that satellite links are utilized as efficiently as possible, eliminating inefficiencies by not transmitting idle and silent frames," he continues. "In this way, the Vmux-400 can reduce satellite, microwave or wireline bandwidth by 50 percent and more, enabling service providers to offer their customers a more attractive complete solution."

Unique Clock Regeneration Enables Backhaul over Packet Switched Networks
A unique feature incorporated into the Vmux-400 provides reliable regeneration of very accurate and sensitive 2.048 MHz TDM-based clocks for synchronized network operation between the BSC and each ship's BTS. This enables the use of packet-switched networks – and, in this case, the IP satellite modems on-board the ships – for the transport of cellular voice traffic.

The BTS on-board each ship includes two radio transceivers. Each radio receiver includes one time slot for signaling and SMS messaging and three time slots for voice and data. By dynamically supporting different speech codecs, RAD's Vmux-400 allows up to twelve simultaneous calls using the higher-quality Full Rate codec when demand is low and up to 24 simultaneous calls using the Half Rate codec when demand peaks, doubling the number of cellular calls that are made to and from a ship at any one time.

"RAD's development of the Vmux-400 enables us to offer mobile services over an IP network with optimal bandwidth usage," concludes Roar Walderhaug, MCP's Chief Technology Officer. "The Vmux-400 operates very satisfactorily and has proven its high stability and robustness."

About Maritime Communications Partner AS:
MCP is the global maritime cellular operator focused on providing cost effective GSM and CDMA communications solutions especially created to fulfill the requirements of the shipping industry. MCP enables cell phone coverage by installing and operating shipborne radio networks, linking the vessels with public networks via satellite. MCP operates its mobile services via roaming agreements with cellular operators throughout the world. Through a partnership with MCP, the ship-owners benefit by providing a service in demand to their passengers, and thus enhancing their own competitiveness. MCP works in close cooperation with customers, providing unique business models

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based on revenue sharing and co-investments in the vessel's operational infrastructure. MCP is a fully recognized international cellular operator that handles all legal and regulatory challenges associated with the unique technology and service solutions that it provides to its customers.

MCP's main shareholders are Telenor ASA, Northzone Ventures IV KS and Ugland Invest Ltd.

For more information about MCP, please visit www.cellatsea.com

About RAD
Established in 1981, privately owned RAD Data Communications has achieved international recognition as a major manufacturer of high quality access equipment for data communications and telecommunications applications. These solutions serve the data and voice access requirements of service providers, incumbent and new carriers, and enterprise networks, by reducing infrastructure investment costs while boosting competitiveness and profitability. The company's installed base exceeds 8,000,000 units and includes more than 150 carriers and operators around the world. These customers are supported by 18 RAD offices and more than 200 distributors in 105 countries.

RAD is a member of the RAD Group of companies, a world leader in networking and internetworking product solutions.

RAD Data Communications site: www.rad.com

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