Stratos Government Services Inc. will provide the USCG's high-endurance and medium-endurance cutters with Ku-band satellite airtime services

DEMAND FOR BROADBAND

Communications at sea: faster, more reliable and in a smaller package

The unyielding demand for broadband at sea continues to steadily rise. In the always-on, always-connected world we live in, an instant connection from anywhere in the world is expected—even if that place happens to be the middle of the ocean.

Demand for faster and more reliable connectivity is driven by a number of factors, most notably among them: passenger, crew and management needs. And while broadband and VSAT technology has been available for a number of years, communication technology providers are always striving to offer a better, cost-effective, more reliable connection, service and product for their customers.

SUPPLY & DEMAND

Advances in communications technology and the decrease in size and cost are fostering the upsurge in demand. "Operators are flocking to satellite broadband because they understand that cost per megabyte has decreased, antenna size has decreased and services [can now] provide global coverage," explains Joe Apa, Stratos Vice President, Global Maritime. "The industry's most progressive operators are fully utilizing broadband for ERP, file and data sharing, remote IT support and development."

An effective and reliable communications system not only helps increase morale among both crew and passengers, but also helps the vessel's operation run smoothly by ensuring an increase in efficiency and cost savings—and it is this latter point, in particular, that has ship owners and operators demanding high-performance broadband connectivity, according to Apa. "They want to achieve peak performance from a wide range of business-critical applications. They are insisting on a robust platform on which they can perform IT support from shore while a vessel is at sea (remote PC management), including downloading software updates to entire fleets simultaneously. They need to quickly transmit data from ships' board sensors that report engine performance and fuel consumption. Also, they understand how reliable broadband can facilitate rapid cargo tracking, fuel-optimization programs, video conferencing, telemedicine services and at-sea cellular services."

Rick Simonian, President, Maritime Solutions—a vertical market within Harris Caprock Communications, echoes Apa's sentiment: "Customers who have had VSAT for several years have become more sophisticated in optimizing their operational efficiencies through the constant connectivity they now take for granted," he explains. "This includes better supply chain management, improved vessel, and new mission-specific applications running onboard that provide access to shore-side expertise."

To better customer experience, companies like Stratos, KVH and Harris CapRock are offering a wide range of solutions, both new and improved, to satisfy customer needs.

GLOBAL CONNECTION

Last month, Stratos began offering its Infinity from Stratos system—which will be made commercially available by the end of this month. Infinity is a bandwidth-management and optimization solution that increases the efficiency of FleetBroadband communications, enabling the shipping company to share a vessel's FleetBroadband usage allowance with crewmembers. This, according to Apa, will allow officials and crew to benefit from lower per-minute/per megabyte costs of large FleetBroadband

Shared Corporate Allowance Packages (SCAPs) and FleetBroadband flat-fee price plans.

Compatible with all FleetBroadband terminals, the Infinity system—made up of an onboard industrial computer equipped with bandwidth-optimization software, a web portal, and a shore-based hub or server platform—has already proven effective and successful on over 100 vessels. The system provides administrators on shore, with a remote-management tool enabling them to manage all services, monitor traffic, allocate e-mails, synchronize data; and receive reports on vessel-positions all via a web portal. Infinity also facilitates the use of Personal Identification Number (PINs) for crew calling and internet use—including web browsing.

To further meet demand, Stratos' portfolio includes the distribution of Inmarsat's new XpressLink global broadband service. As the sole distributing partner providing the service, Stratos will "offer shipowners and ship managers a fully managed, redundant and reliable broadband service for vessels at sea—with global coverage for a fixed monthly fee," says Apa. Commercially available since this past July, the service offers enhanced Ku-band VSAT and bandwidth. In addition, the XpressLink service includes a free hardware upgrade to Inmarsat's innovative Global Xpress service—which Stratos will distribute.

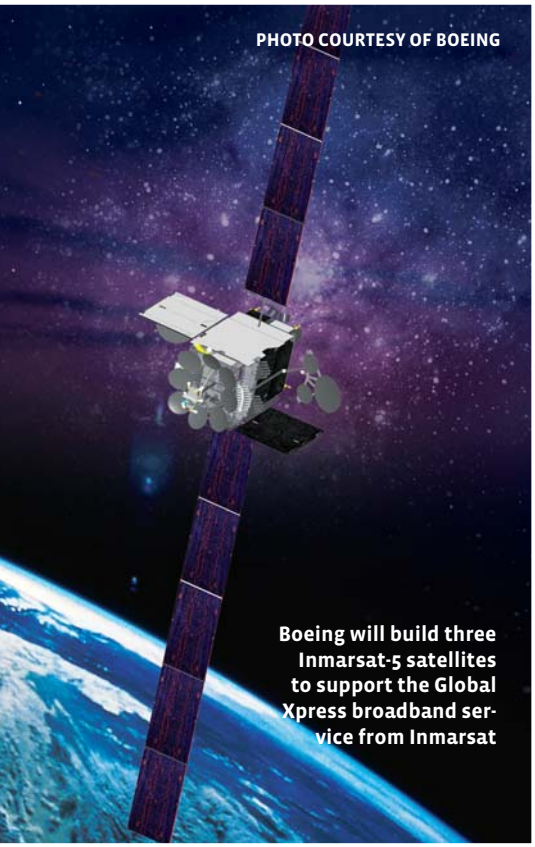

PHOTO COURTESY OF BOEING

Boeing will build three Inmarsat-5 satellites to support the Global Xpress broadband service from Inmarsat

THE NEXT PHASE OF MARITIME COMMUNICATIONS

Inmarsat is expected to launch its new Global Xpress Ka-band broadband system in 2013. The U.K.-based satellite telecommunications company has announced that it will invest $1.2 billion in the system, which is expected to deliver speeds of up to 50Mbps. The service will be the first to offer global mobile broadband coverage and deliver unparalleled speeds and bandwidth to its customers. Inmarsat has also announced that the Ka-Band system will be less expensive than the current Ku-band offerings and will be delivered to smaller and cheaper terminals.

"Global Xpress will be the world's first global Ka-band network, combining ultra-high bandwidth and exceptional service quality with global coverage and seamless mobility," says Frank Coles, Senior Director-Maritime, Global Xpress. "Vessels will have access to data speeds of up to 50Mbps through a 60-100cm antenna. This kind of throughput, on a global basis, is unprecedented. This is true mobile broadband."

Boeing has been chosen as the builder of the all three Ka-band satellites that will provide the Ka-band service for Inmarsat. The three Boeing Inmarsat-5 702 HP Satellites will join Inmarsat's fleet of 11 geostationary satellites. According to Boeing, each Inmarsat-5 will carry 89 Ka-band beams that will operate in a geosynchronous orbit with flexible global coverage.

Back in March, Cobham was selected as the satellite terminal launch partner for the Global Xpress service. The contract includes the development, manufacturing, testing and distribution of the Global Xpress maritime satellite terminals via Cobham's SeaTel product line. By using a new core module developed by iDirect, in conjunction with the new terminals, SeaTel will be able to provide state-of-the-art capabilities to bring Global Xpress services' objective to fruition.

Additionally, Thrane & Thrane has signed on as a key launch manufacturer for the Global Xpress Service. The Denmark-based company will add new terminals to its Sailor range line for Global Xpress customers.

"The higher data speeds and compact terminals mark Global Xpress as an important development in the world of maritime communications," says Casper Jensen, VP, Maritime Business Unit, Thrane & Thrane. "We are keen to use the knowledge and experience we have acquired as a long-standing Inmarsat manufacturer to ensure the new Sailor terminals capture the promised speed, reliability and flexibility of the forthcoming new service."

Thrane & Thrane has also signed a partnership with Marlink for Thrane's new Sailor 900 VSAT antenna. Marlink will add the new Ku-band antenna to its VSAT portfolio. The Sailor 900 VSAT will feature a low-profile and high performance RF design and can be integrated with all VSAT medium units. The Ku-band antenna on the Sailor 900 VSAT features multiple LA and diagnostics ports, and Built-in Test Equipment (BITE).

"By including the new Sailor 900 VSAT antenna in our product offerings we continue to bring flexibility to our customers, offering choices of hardware and products that suit their specific needs," says Tore Morten Olsen, CEO Marlink. "Ship owners worldwide have very different communications needs."

DIFFERENT MARKETS, DIFFERENT NEEDS

Similar to Olsen, Harris CapRock's Simonian believes that while demand for bandwidth across the board is increasing, it does vary somewhat between market segments and even a vessel's size. "At the high-end of the market, such as cruise ships, the vessels are becoming fully equipped with WiFi and GSM coverage, and guests are coming on board with smartphones, laptops and tablet computers. They want to use these devices to communication onboard and to shore with reasonable costs and acceptable throughput," explains Simonian.

Harris CapRock, in particular, offers a number of applications to meet crew demand, across large vessels and fleets. As part of a managed service, its clients are provided with pre- and post-paid calling, GSM service, internet cafes and video content delivery. Harris CapRock is currently equipping a fleet of 53 vessels for Farstad Shipping, Alesund, Norway, with its SeaAccess VSAT service. The 60 cm C band antenna offers a cost effective VSAT service in a smaller footprint package.

On the Oil and Gas sector front, Stratos recently introduced the StratosMAX II Nomadic, a new version of its StartosMAX II broadband service, to the offshore energy market in the Gulf of Mexico region. According to Stratos, the

service lets companies expand their corporate networks to their mobile operations throughout the GoM.

And just last month, Stratos Government Services Inc. (SGSI), a wholly owned subsidiary of Inmarsat, was awarded a five-year Indefinite Delivery Indefinite Quantity (IDIQ) contract by the United States Coast Guard. Under the contract, SGSI will provide the USCG with Ku-band satellite airtime, installation support, teleport equipment and service, Network Operations center support and training for its High-Endurance Cutters and Medium-Endurance Cutters. The service will enable the cutters to interconnect with the USCG data network to exchange operations ship traffic, including SIPRNET and NIPRNET data.

GOOD THINGS COME IN SMALL PACKAGES

On the smaller vessel end of the market, the need for broadband on vessels smaller than 50 ft is also climbing. KVH company spokesperson Nicole Mongillo explains, that while historically, the satellite communication solutions available have been impractical, due to hardware size, companies like Rhode Island-based KVH are making great strides in reducing a terminal's size without sacrificing reliable service integrity.

The company has teamed up with technology partner ViaSat to design a mini-VSAT broadband network. According to Mongillo, by using an advanced spread-spectrum technology, KVH was able to built a global network that uses small, affordable hardware and delivers the fast, low-cost broadband service typical of VSAT solutions.

The mini-VSAT Broadband service offers affordable rate plans making it "easy to allow crew Internet and e-mail use with minimal affect on the ship's bottom line," says Mongillo.

KVH also offers a number of crew services on board, including its Crew Calling Gateway, "an easy-to-manage solution specifically for crew telephone use." Featuring a dedicated voice line that is to be used solely by the crew, the service can be hooked up to any telephone onboard.

"In February, KVH unveiled the world's smallest maritime VSAT antenna, the TracPhone V3," say Mongiillo. At just 14.5 inches in diameter, and weighing only 25 pounds, the system provides true broadband internet connections and crystal-clear telephone service on vessels as small as 30 feet. The antenna, designed to withstand the harsh maritime conditions, comes equipped with the KVH RingFire design and dielectric feed rod technology for excellent reception.

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