

The MARITIME EXECUTIVE

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Maritime Communications Shootout: No Room for Pirates

Increased Capacity + Falling Prices = Fierce Competition

By Barry Parker

MARITIME COMMUNICATIONS COSTS CONTINUE to decline as more satellite capacity is placed into service, more applications are made available, and previously unexploited market niches are addressed by providers of equipment, applications and airtime. Across the maritime spectrum, the two most important drivers for communications choices are (1) extending business applications to vessels (including the burgeoning area of remote monitoring), and (2) crew retention. Fortunately, most providers now offer packages for crew calling.

In a landscape of overlapping vendors – encompassing bundlers of airtime, hardware and onboard applications – a bit of legwork may be required to make an apples-to-apples determination of what is available, at what price, and who is the best provider. Sometimes, multiple providers may offer the best solution to a ship operator's particular needs. Maritime buyers should first define their specific needs and then make a list of potential vendors who can address their major priorities before entering into discussions with solution providers.

New on Deck: Inmarsat's "FB150" and Iridium's "OpenPort"

Inmarsat, once a nonprofit but now share-listed and a member of the FTSE index, has broadened its product line. The original Inmarsat A has been phased out, replaced by the next-generation and GMDSS-compliant Inmarsat B (with both voice and data capabilities, at speeds up to 64 Kbps) and Inmarsat C. Now, a suite of higher-speed and more robust Fleet Broadband offerings are sold through a host of distributors and value-added resellers. Earlier this year, Inmarsat completed a satellite repositioning program that brings near global coverage to users of its Fleet Broadband, which supports an Internet Protocol (IP)-compliant infrastructure. Pacific service was inaugurated in February 2009 following deployment of a third new-generation satellite. At the upper end, Fleet Broadband "FB500"

offers data throughput of 432 Kbps.

Providers have increased their marketing to owners of smaller vessels. Over the past year, two important developments have been Inmarsat rounding out its offerings with its "FB150" service (speeds up to 150 Kbps), and Iridium rolling out its "OpenPort" telephone and data service, capable of speeds up to 128 Kbps but with an IP backbone. Unlike Inmarsat's "birds" in orbits 23,000 miles above the equator, Iridium operates a network of dozens of satellites in orbits roughly 700 miles high.

Resellers play an important role, working closely with customers and identifying and exploiting niches in the marketplace. Globe Wireless, a charter reseller of Iridium packages, has focused on smaller vessels that have been using an Inmarsat "Mini-M" for crew calling, offering incentives for Mini-M users to trade their equipment in for Openport terminals. Frank Coles, President and CEO of Globe Wireless, remarked, "For crew calling users, the Globe Wireless Mini-M Trade-In program makes perfect sense...Iridium OpenPort also allows three simultaneous phone calls, the crew does not have to queue to use the phone."

An Iridium spokesman, commenting on the rollout of OpenPort, told *MarEx*, "We have now successfully completed an extremely rigorous battery of environmental and network stress tests, along with sea trials under some very demanding conditions. As a result, Iridium is confident that Iridium OpenPort is a robust and reliable product." He also stressed the role of Iridium's service providers. "Most of them are integrating the hardware with their own proprietary application software programs for crew calling, email

	Inmarsat FB150	Iridium OpenPort
Description	Entry-level broadband for smaller vessels. A package suitable for use onboard smaller maritime platforms" http://www.inmarsat.com/About/Newsroom/Press/00024319.aspx	Opens up new market segments, specifically luxury yachts, tugs, fishing and cruising vessels for which traditional marine Satcom systems have been out of reach. http://iridium.mediaroom.com/index.php?s=43&item=858
Satellites	High-altitude L-Band	Medium-altitude L-Band
Equipment Cost	Said to be "under \$5,000"	Under \$5,000
Airtime Cost	Varies	Varies
Data	Up to 150 Kb/second	Up to 128 Kb/second
Voice	Simultaneous voice and SMS service	Three simultaneous users
Backbone	IP	IP



More Capabilities at Lower Prices

Indicative of how prices have dropped in recent years, high-volume users of Fleet Broadband will pay under \$1.00/minute for voice calls under KVH plans. Inmarsat's Hurst offered insights on how pricing strategies can drive adaptation by new users: "The pricing is best compared to mobile phone pricing. With Inmarsat, you have pay-as-you-go, prepaid, and group plans, which allow fleets of vessels to use the same pool.

management, Internet browsing and SMS," he added.

Smaller vessels, with less room for large antennas (and less time for installation) have been able to upgrade from earlier-generation satellite services or, for some, get onboard for the first time. Importantly, the emerging IP compatibilities enable vessels to tie to the public Internet and to private company networks. Kyle Hurst, FB150 Product Manager at Inmarsat, told *MarEx*, "The interest in the FB150 service has been unprecedented. We expect to have the first commercial installation this summer and, as terminals have been shipped globally, uptake is likely to be exceptional from the start." In mid July, the first FB150 install was announced – aboard the 2009-built OSV "Miclyn Enterprise" – presently working in Southeast Asia.

KVH Industries serves the transportation business and the military with a range of satellite communications products. KVH offers maritime users a range of antennas for Inmarsat Fleet (a product line introduced in the early 2000s) and now Fleet Broadband, combined with airtime packages for voice, fax and data transmissions through the new IP-compliant Inmarsat satellites. Marketing Director Chris Watson explains: "The TracPhone FB150 is a great solution for smaller vessels that have never been able to support any level of Internet access." Noting that FB150 does not support fax, he says that the FB250 and FB500 are better choices for larger commercial and leisure vessels. Watson says that "Many customers for Fleet Broadband are switching over from older systems and services such as Inmarsat B and Inmarsat Fleet, which are larger, slower and cost more." Inmarsat's Hurst added, "There has been significant interest from the coastal merchant sector with demonstration events in Athens and Hamburg recently, and I am told that there have been significant orders for equipment to the target leisure and fishing markets in Asia, the U.S. and Europe."

With these kinds of options, we expect people who have not previously used Inmarsat in the fisheries and leisure areas, and merchant operators who have used Mini-M and Inmarsat-B, to become FB150 users." Inmarsat, in describing its FB150 service, says terminal pricing will address the needs of the sub-\$5,000 hardware sector.

Equipment makers are ready. Thrane & Thrane's (T&T) Maritime Business Vice President, Casper Jensen, describing its new, type-approved solution for FB150, said, "SAILOR 150 FleetBroadband is built to stand up to the extreme environments that workboats and fishing boats often operate in." The unit, which began shipping in late June, offers "competitively priced hardware and airtime, simultaneous voice and data capability, IP connectivity for email and Internet/Intranet access, a rugged IP handset, and digital satellite phone service."

Resellers play an important role in connecting the big fleets. Consider AND Group, based in the north of England, which was conducting trials of a crew email application using Iridium Open-

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Port and was soon to begin testing a messaging application on ships owned by Zodiac Maritime, with a potential rollout across Zodiac's 125-vessel fleet. A large German owner, Peter Dohle Schiffahrts, has been testing a crew-calling application provided through Vizada, a large distributor for Iridium (and others, including Inmarsat). The Iridium OpenPort service supports an "always on" data connection and three telephones that could be used simultaneously.

Ku Band VSAT: Gaining Bigger Share by Shrinking the Footprint

Maritime VSAT once connoted eight-foot dish antennas, costing in excess of \$100,000, mounted on a few larger vessels whose owners could pay upwards of \$10,000/month. Now, shrinking equipment dimensions and pricing are broadening the market. Reflecting on bundling and marketing dynamics generally, industry veteran John Minetola, a top executive handling American sales at antenna-specialist Intellian Technologies, told *MarEx*: "Intellian will sell its S60 (60 cm VSAT, 24 inches) with airtime, but we also sell it as bare equipment. To sell to VSAT airtime providers, we do not bundle airtime with our larger antennas because we don't want to compete with our own customers and vessel fleet owners prefer to buy through the airtime provider." Between airtime and equipment, Minetola explained that buyers will tend to shop for the solution with more variables. In May, Intellian indicated a suggested retail price of \$25,000 for the S60.

Intellian is also developing and marketing a line of TV antennas, and John Minetola added: "Our research into TV antennas does spill over into the VSAT design. We have a more simplified method for satellite tracking that increases

dependability by making it more solid-state and based on algorithms, rather than fragile mechanical and sensor-based. We use algorithms to more precisely control aiming motors, track satellites and reacquire signals if they are lost due to shutdown or rough seas."

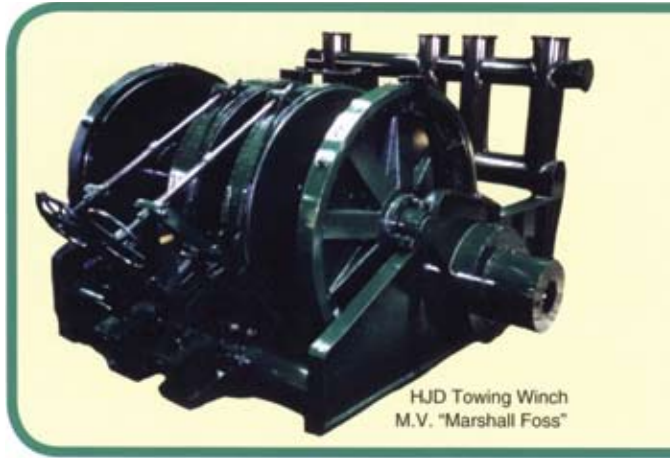
Marlink, a big communications provider based in Oslo, offers the Sealink VSAT service. Tore Morten Olsen, Marlink's CEO, told *MarEx*: "Following the increase in Ku-band coverage to include major shipping regions around the world, VSAT has become more affordable for smaller vessels. Ku-band antennas are typically smaller than C-band antennas, making them cheaper to install. Furthermore, Ku-band service costs are cheaper than C-band VSAT. These factors mean that Ku-band VSAT services appeal to a much broader market." In recent months, Marlink has announced contracts with Norway's Solstad Group (OSVs) and the ferry business of Italian owner Grimaldi.

KVH has also targeted the VSAT segment of the market, offering a "mini-VSAT" service through TracPhone V7 equipment on the Ku band platform (owned by network provider ViaSat). KVH's Watson said, "Our fully integrated hardware and service is ideal for commercial, leisure, and military/government maritime applications." Dealers were quoting prices around \$30,000 for the TracPhone V7.

Watson, based at KVH's Rhode Island head office, cited the smaller, 60-centimeter antenna as "85 percent smaller by volume and 75 percent lighter than a standard one-meter VSAT system." In addition to the obvious advantage of requiring minimal deck space for installation, Watson also cited the ability to install the antenna while the vessel is moving instead of taking the ship out of service



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for the dockside installs needed with larger antennas. In a similar vein, John Minetola pointed out that with Intellian's large R&D group, "Lower manufacturing costs and clever designs will enable us to target smaller commercial platforms such as oil support vessels and tugs, while our innovation will endear us to larger vessels and VSAT inte-

grators."

The equipment makers are moving in multiple directions. T&T is working in conjunction with KVH on a version of the KVH TracPhone V7 and mini-VSAT Broadband service, with Sailor branding. KVH's Watson explained that the mini-VSAT service (which supports

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download speeds up to 2 Mbps) offers seamless roaming and switching between satellites automatically and without manual intervention. He added that KVH can accomplish this because the satellites, from one vendor, all utilize common protocols. Billing and service are also completely integrated, he explains, unlike others who have cobbled together a product from multiple vendors instead of designing a unified package. VSAT is typically billed at a fixed monthly amount.

On the Horizon: Switching, Monitoring and Happy Hands

Intellian's Minetola stressed the importance of rapid switching between satellites, "We switch satellites as fast as you can switch channels on a TV remote control." He also talked about remote monitoring, saying "We have some novel ideas that tie into a current trend in monitoring VSAT and networks from shore." Marlink's Tore Morten Olsen amplified on this theme, adding that "The need to stay connected to the shore is growing at a rapid pace, from engineers carrying out essential maintenance and diagnostics to crew members keeping in touch with friends and relatives. Broadband is a critical part of the offshore business."

Pricing Comparisons

Besides creating an "apples-to-apples" hardware pricing comparison, customers must also evaluate likely usage patterns to determine optimal variable pricing. For example, on vessels with heavy usage patterns, fixed monthly pricing, or per MB-based pricing, may calculate out to be more economical than "pay-as-you-go" choices. Beyond this, today's maritime communications is far more user-friendly with the new generation of equipment, contributing to the twin objectives linking ships with the shore, and keeping crews happy.

Though it's possible to surf the Web with the new, lower-priced product offerings, heavy duty Internet usage (e.g., streaming video of music or sports events) still might not be viable economically. As one blogger on the Panbo.com electronics blog, aimed at the yachting market, put it, "It's nonsense to think you can afford to watch real-time stock prices flutter by or view your Webcam with your OpenPort Internet connection." Be that as it may, the world of email, satellite communications and Internet connectivity is now available at reasonable prices to even the smallest platform. In the maritime communications shootout, vessel owners and operators are the winners.

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