

Inmarsat's data pricing strategy: the impact of mobile VSAT

One of the biggest success stories in the Mobile Satellite Services (MSS) sector over recent years has been Inmarsat's transition from a voice-oriented, narrowband provider to a data-oriented, broadband platform. Over the last six years, Inmarsat's revenues from high speed data and capacity leasing services have grown at a compound annual rate of more than 15%¹, more than offsetting the reductions in voice revenues caused by intense price competition from handheld MSS systems (Iridium, Globalstar and Thuraya). However, Inmarsat now faces a new threat from essentially flat-rate, all-you-can-eat packages offered by mobile VSAT solutions, such as Connexion-by-Boeing.

Inmarsat's high speed data (HSD) services (apart from capacity leases, which are sold mainly to the US military) have traditionally been priced on a per minute basis, with typical retail prices in the \$6-\$8 range for the 64kbps land-based Global Area Network (GAN) and maritime Fleet ISDN services. More recently, contented Multimedia Packet Data Services (MPDS) have been introduced for more bursty traffic, with pricing on a per Megabyte basis. However, MPDS prices of around \$30 to \$35 per Mbyte make ISDN more efficient for bulk download of data (e.g. emails) and creates significant price uncertainty (since it is impossible to tell before clicking on a web page whether it is a few Kbytes or several Mbytes). In addition, various problems in running VPNs over MPDS have been reported by shipowners. As a result, many maritime users have requested that MPDS be disabled on their vessels² and compared to the 20M minutes of HSD reported by Inmarsat in the first quarter of 2005³, MPDS usage is significantly lower (by our estimate accounting for no more than 10% of high speed data revenues).

While VSAT has been available in the maritime market for since the early 1990s, traditional VSAT solutions were based on dedicated C-band transponder capacity and thus were only suitable for very high users, such as cruise ships. Terminal costs were much higher than Inmarsat (\$60,000-\$100,000+ compared to \$20,000 or less for Inmarsat Fleet terminals), and the terminals themselves were very

¹ Inmarsat 2GHz application to FCC, September 2005

² Digital Ship magazine, June/July 2005, p17

³ Inmarsat 2005Q1 analyst call, May 2005

large, but even at relatively high monthly transponder lease rates of up to \$10,000, it was significantly more efficient for cruise ships to use VSAT, and most large cruise ships moved the bulk of their traffic off Inmarsat about a decade ago.

However, in the last couple of years, new shared access VSAT solutions, such as Connexion and Telenor's Wavecall service, have been launched, taking advantage of specifically configured maritime Ku-band coverage (in the case of Connexion) or (for other systems) land-based Ku-band coverage which has regional maritime coverage in (for example) the Caribbean and Mediterranean seas. The shared nature of the access connection, together with the move to smaller Ku-band terminals, has created a new much lower price point of around \$2500-\$3000 per month, bundling both the transponder capacity and terminal lease into a single monthly charge with very large or even unlimited usage permitted (although it is worth noting that voice traffic typically costs extra, except for a limited allowance of 100 minutes per month on Connexion).

Inmarsat's remaining (non-military) maritime market consists predominantly of around 26,000 ocean-going cargo vessels (a number which has not changed substantially in recent years), whose data usage is rather more limited than a typical cruise ship (note that revenues from the much larger number of vessels equipped with Inmarsat-C are relatively low). According to recent statements from Rydex (a subsidiary of Inmarsat)⁴, the typical vessel sends 7.7Mbytes of data per month and receives 18.2Mbytes per month, costing \$300-\$700 per month. However, this average number masks a wide range of usage, as indicated by a survey conducted by World Link at a maritime industry conference in early 2005, where average usage ranged from 1-5 Mbytes per vessel per month for around half of the respondents, up to over 50 Mbytes per vessel per month for 14% of respondents⁵.

Connexion recently signed a ground-breaking agreement to equip up to 90 merchant ships for Teekay Shipping, demonstrating that mobile VSAT is now beginning to make an impact on the Inmarsat's core maritime market. With data spending for Inmarsat users increasing at more than 15% per year, a significant proportion of Inmarsat maritime users are likely to find VSAT becoming the most economic solution within the next ten years, especially once the certainty of the largely flat rate pricing offered by VSAT is taken into account.

⁴ Digital Ship magazine, August 2005, p8

⁵ See http://www.wlnet.com/index.jsp?&A=85&B=221&C=224&NEWS=new_news11.htm

Inmarsat's problem is that current constraints in its distribution arrangements do not allow for price discrimination based on individual usage, and so the marginal price of incremental minutes does not decrease for higher users, as one would normally see, for example, in cellular pricing (where much larger bundles of minutes are offered to higher spending customers). Though these constraints may be somewhat reduced when Fleet Broadband (the next generation offering on Inmarsat's I4 satellites) comes to market in about 2007, there is a potential window of opportunity for VSAT competitors to obtain a foothold in the market over the next two years, while many Inmarsat A and B users are considering migration to Inmarsat's current Fleet services. Without flexibility in Inmarsat's pricing structures, it would be necessary to sacrifice significant revenue from moderate usage customers, who would not find it economical to switch to VSAT, in order to retain Inmarsat's highest usage customers.

Although maritime revenues are most important for Inmarsat, the pricing constraints caused by Connexion are even more problematic for Inmarsat's next generation aeronautical data services (Swift Broadband). While use of GSM phones on board aircraft may not cause pricing problems, since they will be charged per minute, Connexion's flat rate data service (priced at \$30 per flight) presents considerable difficulties for Inmarsat. At current Inmarsat aeronautical pricing levels, \$30 would buy somewhat less than 1Mbyte of data usage, implying that price reductions of more than an order of magnitude would be required to permit a competitive data offering over Swift Broadband. Given that the prices for land and maritime BGAN services are likely to be somewhat higher than this (recently reduced Regional BGAN prices are still around \$7 per Mbyte in most countries), and Inmarsat's aeronautical services have traditionally attracted a premium price, Inmarsat may face considerable difficulties in fielding a competitive aeronautical data service.

In summary, the introduction of new flat rate shared access VSAT services presents a significant problem for Inmarsat in the maritime and aeronautical markets, not least because of Inmarsat's inherent difficulties in adapting its pricing structures to meet this challenge. Inmarsat must consider how it can optimize pricing in these markets, even before the new Fleet Broadband and Swift Broadband products are launched in 2007, in order to prevent VSAT establishing a reputation as a competitive solution for intensive data users and taking away Inmarsat's most valuable customers.

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