



CASE STUDY

Thanks to Inmarsat Fleet F77, the Hong Kong-based Wallem Group has seamlessly integrated shipboard and office systems to boost the efficiency of its ship management operations



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Inmarsat embarked on a comprehensive programme of maritime field evaluations (MFEs) throughout 2002 and 2003. This took Fleet F77, F55 and F33 terminals beyond the testing bench, integrating the units into demanding operational environments and providing valuable experience and feedback. Building on this success, Inmarsat decided to take the process one stage further with a series of market development projects (MDPs) in 2004.

Piers Cunningham, head of maritime market management at Inmarsat, explained: “The purpose of the MDPs was to provide further feedback from operators to highlight the many advantages of Fleet, particularly in geographic markets currently underdeveloped regarding data usage. Specifically, we opted to use the projects to develop, enhance and promote applications over Fleet’s unique MPDS channel, and therefore demonstrate how MPDS can provide

tangible operational and financial advantages to vessel operators.”

Highlighting the true value of the MDP initiative, Inmarsat received over 30 applications for five available projects. In parallel with the commercial transition to F77 for the sister vessel Genmar Progress, the 1991-built ‘Aframax’ tanker Genmar Princess was selected as the Fleet F77 MDP candidate.

Accountable service

The Liberian-flagged Genmar Princess is a 96,765 dwt vessel measuring 232m long, with a beam of 42m and capacity for almost 675,000 barrels of oil. Previously equipped with Inmarsat A, the tanker is operated on behalf of its owners, General Maritime Corporation, by Wallem Shipmanagement, part of the Wallem Group.

Established in 1903 as a ship broking company, the Hong Kong-based

Wallem Group has become one of world’s most diversified shipping groups, with activities encompassing ship owning, ship and cargo broking, ship agency services, and software development, as well as shipmanagement. Wallem Shipmanagement fully manages more than 130 vessels of all types. In addition, the company provides manning services to a further 70 vessels.

Patrick Slesinger is director and chief information officer of Wallem Services, and is responsible for IT and communications throughout the Wallem Group. A past chairman of the Intertanko IT Committee, Slesinger is also responsible for the creation of DevCo, Wallem’s Philippines-based software development centre.

“Our management philosophy is to leverage the benefits of [new] information technology wherever appropriate, and we need to constantly review and update our

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procedures and processes to achieve this,” explained Slesinger.

“Our dedicated and loyal sea staff are supported by highly experienced professionals ashore - more than 5,600 people work on Wallem-managed ships and in our offices around the world. We believe in teamwork and strive to ensure that the decision-making processes that require information and ideas to be exchanged between ship and shore are properly supported by the systems we deliver to shipmanagement.”

Ian Parkes, group information systems manager of Wallem Services, added: “We’ve already seen the IT revolution ashore, as well as the growth and importance of the Internet. Now these trends are being replayed at sea.”

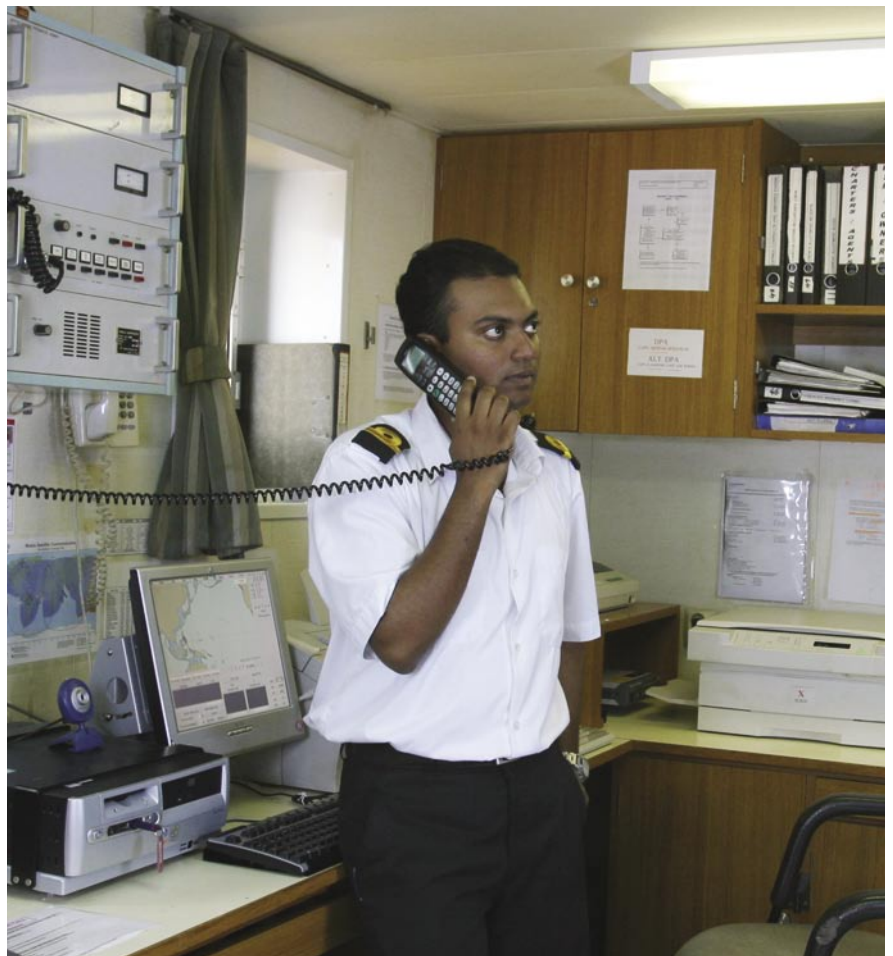
Fleet F77

Inmarsat Fleet F77 is a successor to the Inmarsat A and B services that offers the vital connectivity required to integrate bluewater ship operations with shore management offices. In addition to voice and fax, Fleet F77 provides both Mobile ISDN and the unique Mobile Packet Data service (MPDS) on a virtual global basis.

Offering data transfer speeds of up to 128kbps, Fleet F77’s ISDN channel enables large volumes of data to be transferred cost-effectively and quickly, making it suitable for the transfer of digital image files or applications that require greater bandwidth, such as videoconferencing.

The Fleet MPDS channel, which is fully compliant with Internet Protocol (IP), charges on the volume of data transferred, not for the time spent online. This means that MPDS provides always-on connectivity, making it a highly cost-effective service for a broad range of applications, particularly e-mail and web browsing.

In addition, Inmarsat Fleet F77 meets the latest distress and safety requirements as specified by the International Maritime Organization (IMO) in resolution A.888 for voice pre-emption and prioritization within



the Global Maritime Distress and Safety System (GMDSS).

Simple upgrade

In addition to Fleet’s extensive functionality, Wallem was aware of the positive feedback from the Fleet MFEs as well as increasing user uptake of Fleet F77 - over 2,000 terminals are now in service. This prompted the decision to immediately replace the Genmar Princess’ analogue Inmarsat A with the digital Fleet F77, rather than operate the units in parallel for a period. The replacement was completed during a scheduled drydocking in June 2004. This minimized any disruption to the operation of the ship and ensured a smooth transfer from Inmarsat A to Fleet F77.

Installation was straightforward and carried out by engineers from Florida-based Mackay Marine. On the first day, the Inmarsat A antenna and below deck unit were removed and replaced by the more compact Nera Saturn F77.

An Inmarsat Crew Phone package and new PC hardware were also installed while existing Rydex rmx2 e-mail accounts for Inmarsat A were transferred to Fleet F77 and new ones created. Over the next two days the Fleet F77 equipment was made operational, tested and integrated with the ship’s systems. This was carried out simultaneously with application training and handover.

“We opted to immediately replace the aging Inmarsat A. Carrying out the upgrade during the drydocking went very smoothly, and we even used the same antenna mounting which avoided any hot-works onboard. Communications were fully operational again on the second day. All-in-all an extremely satisfying result,” concluded Parkes.

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Explaining why Nera SatCom provided both the terminal and system support for this project, Ottar Bjåstad, the Norwegian manufacturer’s maritime business manager, said: “The merchant marine market has been key for Nera and our distribution network for many years. It continues to be an important sector, as Nera are the market leading supplier with an average market share of over 40% for our Inmarsat B and F77 products.”

“Participating in the MDP project was therefore vital for Nera to ensure that our Fleet F77 satisfies the needs of our customers and also to gain feedback for adjustments and future updates, such as 128kbps Fleet F77.”

MPDS-enabled

Wallem Shipmanagement employs a comprehensive range of IT and software solutions for its various operational, back office, financial and human resources needs both on

shore and at sea - each Wallem vessel is like a branch office.

In this respect Wallem increasingly uses browser-based ‘thin client’ systems and applications. Fleet F77 MPDS is particularly suitable for office and Internet applications, most of which send or receive data with periods of inactivity while the user assimilates the information on-screen or inputs data.

“We have a track record of exploiting technology to increase the efficiency of our operations and ensure the quality of our customer service,” highlighted Patrick Slesinger. “The big challenge has always been how to link these solutions to vessels at sea. Because it provides the quality, reliability and speed of a 128kbps Mobile ISDN service and the flexibility of MPDS, Fleet F77 is an elegant solution to that problem.”

One of the tools used by Wallem is the Total Procurement System (TPS), which was developed by the

Group’s DevCo division. “TPS provide a complete ship and shore based solution to support the procurement process right the way through from the original item selection for the requisition onboard, through the shore-based quotation process and order tracking right back to the notice of that item being received onboard.” explained Slesinger.

The MDP allowed DevCo to test optimization features already built-in to TPS. “TPS can operate with either local or centralized database structures, depending on a simple configuration setting. Once the vessel can economically access shore-based databases in real time, keeping the procurement process up-to-date with real-time information becomes much more straightforward. So once electronic update is commercially viable, with TPS we will have a better solution, more control and a greater competitive advantage,” added Parkes.

“The potential for on-going savings on routine communications provides a strong incentive to consider upgrading to Fleet F77”



Direct comparison

Nadeem Khan, Inmarsat's applications and business solutions manager, oversaw the installation and testing of the selected systems, as well as providing training for the project onboard the Genmar Princess, which took place over a six-week period during June/July 2004.

Commenting on some of the packages adopted for this MDP, Khan said: "Wallem already used Rydex rmx2 e-mail and messaging software for its e-mail traffic over Inmarsat A. This gave us a direct comparison with Fleet F77, as Rydex rmx2 has the capability to work across all Fleet platforms and includes algorithms built-in for optimized MPDS use."

Monitoring packages, such as Inmarsat's free IP Consultant and Cost Comparison Tool as well as Rydex's Data Replicator, are available to help users choose between the Mobile ISDN and MPDS channels

and determine what option best suits their needs

DevCo decided to use the MDP as an opportunity to test its own solution called Packet Counter. This tracks data usage and provides ship-owners with an itemized report with segmented charges by individual users or groups. Packet Counter can also track applications' bandwidth, allowing users to evaluate their requirements.

"The MDP trial demonstrated that developing more MPDS applications is not only technically feasible, but with Packet Counter they can be delivered on a commercially practical basis – where the true costs of operating each application onboard can be identified and incorporated into the business case," said Slesinger.

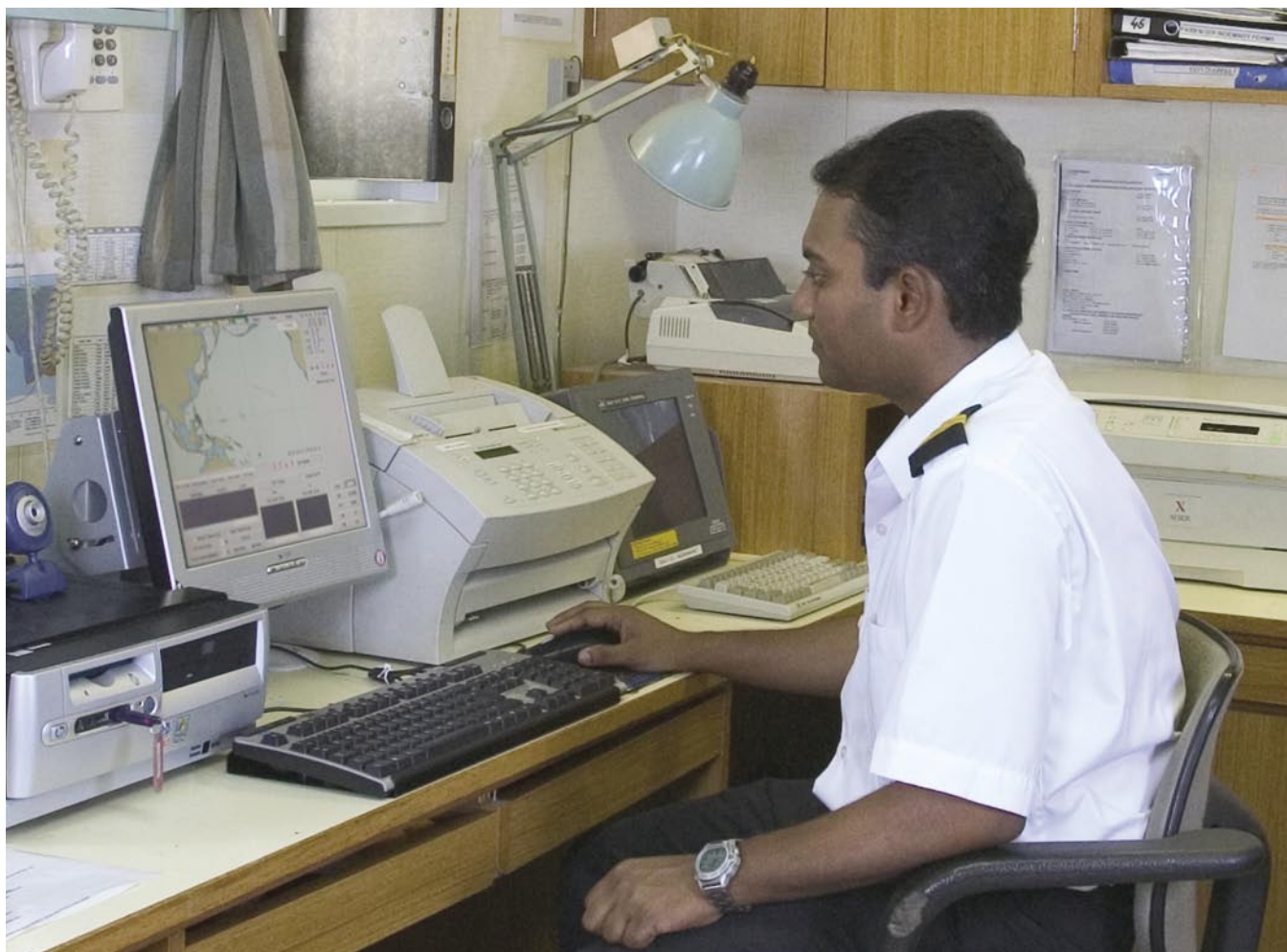
Ian Parkes added: "In practical terms we immediately saw the advantage of the least cost routing built into the

F77 configuration. Taking a snapshot over a three-day period, 13 out of 22 e-mails were sent over MPDS. This means that we were making savings on over half of our e-mails without people onboard having to do anything. The potential for on-going savings on routine communications provides a strong incentive to consider upgrading to Fleet F77."

StratosNet, a free e-mail and Internet connectivity solution with integrated data compression, was also used during the project. The package fully supports MPDS and File Transfer Protocol (FTP), compressing data by at least 4:1 for e-mail transactions, and at least 2:1 for web browsing. During the project, effective data speeds in excess of 350kbps were regularly experienced with StratosNet and MPDS.

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Instant messaging

Sometimes an e-mail may not be the most effective form of communication, particularly if it is just a short message where superfluous information such as headers or the e-mail 'handshake' can add both time and cost.

To demonstrate alternatives, Inmarsat installed Instant Business Network (IBN), the secure real time messaging portal from Mediachase. According to Nadeem Khan, IBN allows personnel on the ship to communicate simultaneously in a quick and cost effective manner with staff who are in different offices ashore or travelling.

Inmarsat also commissioned Mediachase to develop a portal to show the concept of controlled web access whereby the crew log in with their particular identity and level of access and are automatically given exactly what URLs they need.

“This can be easily customized for particular requirements, such as regional websites for regulatory information, notices to mariners and weather, as well as news and entertainment,” said Khan. “The master of the Genmar Princess was impressed by the immediacy of IBN and its simplicity of use,” added Ian Parkes.

Improved operations

On the operations side, the trial evaluated the performance of key safety and insurance activities, such as more detailed, full-colour weather reports. “We provided the Genmar Princess with the Real Time Updating (RTU) system from C-MAP. The bridge team found it very useful as they were operating in the Gulf of Mexico during hurricane season,” said Nadeem Khan.

The crew also employed Fleet F77 MPDS to receive transmissions of chart updates and procedures

manuals, as well sending abstracts of vessel operational information such as engine performance data, fuel states, and cargo updates.

MPDS also improves operational security. During the project, security was reinforced through a ZoneAlarm firewall and a McAfee anti-virus package. “Virus update checks can be done quickly and with minimal cost using MPDS, while any required update files can be easily downloaded over ISDN. This avoids the expense and delay of posting a CD,” highlighted Khan.

Crew communications

Outside of operational requirements, the crew of the Genmar Princess used Fleet F77 MPDS to download electronic crew newspapers from NewsLink. Crew e-mail accounts were also established using Stratos' virtual crew calling cards, which remove any administration headaches.

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Nadeem Khan highlighted how crew can enjoy e-mail savings with MPDS, allowing them to be in touch more often, saying: “Using Rydex rmx2 over MPDS we found that message costs could be reduced by up to 90%.”

Additionally, Inmarsat provided an SMS over IP package to work with MPDS, as well as credits to let the crew test the functionality themselves. “With this system you can set up multiple user accounts if needed. Offline it acts as an SMS gateway, storing messages from family and friends so seafarers can read them offline. When they go online again it downloads any new messages,” explained Khan. “It proved to be very popular with our crew members,” said Ian Parkes, “particularly those from countries where SMS is already heavily used.”

The vessel’s crew also experienced the Fleet’s voice function through the Inmarsat Universal Crew Calling phone and dialer solution together with Super Quiet Time discounted calling hours.

According to Parkes, reliable and cost-effective crew-calling solutions are an increasingly important issue. “To continue to attract the best crew, shipmanagement has to be alert to people’s expectations and crew-calling is an obvious factor that is being taken into account,” he said.

“We value our crew’s opinions and received good feedback on their experiences with Fleet F77,” continued Parkes. “Even those who still prefer to use fax are satisfied, as Fleet F77 offers the choice of Group 3 and 4 fax. Also, the Group is moving towards e-fax for greater savings, more efficiency and easier management. Fleet MPDS supports this.

“The second officer was impressed to have Internet access onboard for the first time. He was able to use the videoconferencing facility to see his family in India while he was at sea. In this situation the immediacy of the communication was for personal peace-of-mind, but the application in



managing incidents onboard, whether technical or medical was apparent.”

Teamwork delivers

The MDP programme is a co-operative effort between Inmarsat, its distribution partners, terminal manufacturers, service providers and applications developers, as well as the owners, managers and crew of the vessels involved.

Ian Parkes underlined this when he said: “We certainly benefited from participating in the Inmarsat MDPs. Although we had a tight timescale to install and integrate the equipment, thanks to Inmarsat, Stratos, Nera and Mackay our schedule was met.”

Leigh Puddester, Stratos’ chief marketing officer added: “Stratos has the knowledge and expertise to work with customers like Wallem to facilitate seamless integration between Inmarsat’s satellite services and proprietary applications for optimized links between ships and offices. It’s this team approach that is the key to success.”

Convincing case

Inmarsat’s Piers Cunningham said: “Inmarsat Fleet F77 has lower tariffs compared to Inmarsat A and B. Additionally, Inmarsat A to Fleet upgrade initiatives act as a further incentive. Some Inmarsat B operators may not have considered switching to Fleet F77, but with it they get flexibility of ISDN together with the business, operational functionality and cost-benefits of MPDS.”

Patrick Slesinger added: “The pricing model of MPDS, where users are charged for the amount of information sent and received rather than the time they are connected, makes it possible to take return on investment issues, and differential pricing models into account.”

Ian Parkes concluded: “During the project we found Fleet F77 fast to install and easy to use. Coupled with savings on data transfer costs of up to 50-70 per cent over Inmarsat A, Fleet F77 makes good business sense.”



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