

→ **Marianne Schulte**
FleetBroadband case study




→ **Quick facts**

The vessel

Name: Marianne Schulte
Gross registered tonnage: 26,718
Length: 210 metres
Type of vessel: Container
Route: Europe - Caribbean
Ownership: Bernhard Schulte Group
Previous satcoms: Inmarsat B

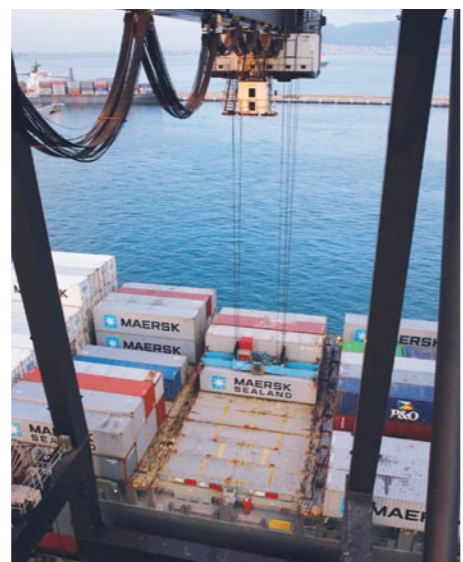
MFE partners

Manufacturer: Thrane & Thrane
Distribution partner: Stratos Global
Service provider: One Net

Bridging the gap

FleetBroadband seamlessly assumes a key operational role

→ In 2007, Inmarsat launched FleetBroadband, the first maritime communications service to provide cost-effective broadband data and voice, simultaneously, through a compact antenna on a global basis. Fully compatible with internet protocol (IP), it also supports the core ISDN data and voice capabilities of our existing maritime services.



Meeting customer expectations

Inmarsat always works to high technical standards. Before launching FleetBroadband, we tested it under operational conditions to ensure the service fully met market expectations.

Since launch, we have been collaborating with our global partners to run a series of Maritime Field Evaluations (MFEs) on numerous vessels from different regions, in all the major maritime markets. These MFEs enable us to study how professional mariners use FleetBroadband in their everyday lives at sea. We also look at how the service performs with a variety of third-party applications. This case study is a summary of the MFE conducted onboard the merchant vessel Marianne Schulte owned by the Bernhard Schulte Group.

At work on the shipping lanes of the world

The Bernhard Schulte Group (BSG) is a ship owner and ship management company based in Germany. Founded in 1883, it now operates worldwide, owning more than 90 vessels and managing more than 650. It employs about 17,000 mariners, as well as 1,000 people ashore. The Marianne Schulte is one of 40 container vessels owned and operated by BSG.

Over the last 50 years, the rise of containerisation as the standard means of transporting goods by sea has revolutionised the merchant shipping sector. It is estimated that globally about 90 per cent of non-bulk, international cargo is now carried in containers onboard transport ships, which are rarely idle and work to strict timetables. They can never afford to be out of contact or unable to receive instructions from their shore offices, even in mid-ocean, because any delay to a voyage or in-port turnaround can impact revenue.

The Marianne Schulte is typical of this type of vessel, carrying containerised cargo between the Caribbean and Europe. Each return voyage takes about 35 days, and she can carry up to 2,600 containers, including 'Reefers' for refrigerated food and other perishable produce. The vessel's schedule will sometimes change at short notice, so reliable and flexible communications from mid-ocean are essential.

→ **About FleetBroadband**

Inmarsat's flagship maritime service offers a genuine broadband internet protocol (IP) data capability, backed by the power of the Inmarsat-4 (I-4) satellites. For the first time with FleetBroadband, users can make voice calls while simultaneously maintaining one or more data connections.



→ **Standard IP**

For email, internet and intranet access via a secure VPN connection, at speeds up to 432kbps over a shared channel.

→ **Streaming IP**

Guaranteed data rates on demand up to 256kbps. Choose the data rate on a case by case basis, depending on your application.

→ **Voice**

Make voice calls at the same time as accessing your data applications. Voicemail is also available. Group 3 fax is supported via the voice channel.

→ **ISDN**

Supports ISDN at 64kbps for your legacy applications.

→ **SMS**

Send and receive text messages – up to 160 characters.

Upgrading to FleetBroadband

Telaccount Overseas Ltd, supervised the installation of FleetBroadband on the Marianne Schulte. The configuration was standard with a Thrane & Thrane SAILOR® 500 FleetBroadband terminal above deck, and a Thrane & Thrane below-deck unit (BDU) and voice handset in the ship's office. The BDU was connected to the ship's PC, which provided the platform for FleetBroadband LaunchPad, allowing the user to control and configure the system.

Good to go

After a short period of operational training, Captain Mohan and the crew of the Marianne Schulte began using FleetBroadband for voice, email and web communications. "We are a busy vessel that carries valuable cargo, so we need to stay in touch with our shore office in Shanghai every day," says Captain Mohan. "From the beginning we had no problem using FleetBroadband for key operational tasks, because the system is simple to use and reliable. The voice channel is very clear and data transfer is much faster than over Inmarsat B."

The Captain relies on email for core operational tasks such as ordering stores, filing reports with his shore office and sending ISPS (International Ship and Port facility Security) and ENOAD forms ahead to destination ports. The Marianne Schulte's installation comes with AmosConnect software from Inmarsat distribution partner Stratos, which is optimised for FleetBroadband.

"The main commercial advantage of FleetBroadband is that it is much faster than the system we had before, so it saves us a lot of time."

Captain Mohan, Marianne Schulte

The Stratos Dashboard is a web-based interface. It gives the Bernhard Schulte Group full visibility of the airtime usage and the capability to configure the system through a convenient web portal.

"The Stratos Dashboard has been designed for FleetBroadband and other Inmarsat services. It can be used for provisioning and monitoring from the shore side, including limiting credit risk by adjusting the credit-control and high-volume monitoring functions. The vessel's Captain can also use Stratos Dashboard to monitor usage in near-real-time throughout the voyage."

Michiel Meijer, Maritime Marketing Manager of Stratos

Stratos channel partner, One Net Ltd, assisted the Bernhard Schulte Group with many aspects of the Marianne Schulte evaluation, providing training on the Stratos Dashboard and AmosConnect.



About Stratos Dashboard

Stratos Dashboard is designed to remotely manage FleetBroadband communications. For example, customers can set traffic usage alerts, manage firewall settings, limit credit risk by adjusting credit-control functions and change voicemail options.

About AmosConnect

AmosConnect is recognised as the maritime email standard, seamlessly integrating vessel and office applications deployed on more than 10,000 vessels worldwide. It is optimised for ship-to-shore communications over FleetBroadband, so messages are sent in the fastest and most cost-effective format, using specialised satellite protocols and compression to make the most efficient use of bandwidth.



Remote support helps to keep costs low and solve IT problems fast

Inmarsat provided technical support to Captain Mohan and the crew of the Marianne Schulte throughout the MFE. Usually this was given over the phone, by email, or via a videoconference set up over a Streaming IP connection. However, on occasions, London-based engineers undertook remote maintenance, accessing and operating the ship's PC remotely through the FleetBroadband connection to make changes to its software.

"It was almost like someone was physically onboard doing the work, and throughout the process I was able to talk to the engineer simultaneously on the voice channel."

Captain Mohan,
Marianne Schulte

On one occasion, the operating system of the suite of applications on the vessel's PC became corrupt, causing it to malfunction. In normal circumstances, the crew would either have had to fix the problem themselves or wait until they reached the next port for an IT engineer to come onboard, which could have resulted in expensive delays to the voyage. However, due to the severity and urgency of the incident, in this instance Inmarsat's technical staff in London, were able to use a Virtual Network Computing (VNC) program in London to access the PC and fix the problem within a couple of hours.

This kind of remote maintenance has long been technically possible, but without the superior connectivity, speed and simultaneous voice capability of FleetBroadband, remotely diagnosing a complex IT challenge like this would have been nearly impossible.

Several factors make remote maintenance much more viable over FleetBroadband:

- Higher bandwidth means that large volumes of data are exchanged more quickly between the VNC program and the onboard PC
- The option of on-demand Streaming IP ensures guaranteed bandwidth and a reliable connection throughout the remote-maintenance operation, if required for certain time-sensitive applications
- FleetBroadband is based on IP (internet protocol) and so is fully compatible with all standard PCs and networks, providing seamless and instant connectivity
- FleetBroadband supports multiple IP connections, so other data and voice channels can remain in use while remote maintenance is undertaken

Shipping companies can use FleetBroadband in this way to connect from shore to ship for a wide range of remote tasks, including software configuration and upgrades, monitoring of engine and onboard systems and video surveillance.

How FleetBroadband was used on the Marianne Schulte

Always in touch

Captain Mohan and his crew need to be able to contact their management office in Shanghai as easily and quickly as if they were onshore. They also need to be contactable at any time to receive new instructions. FleetBroadband's always-available data service delivers up to the minute information and allows the onboard applications to send/receive information at any time – with the Standard IP service delivering broadband speeds and a simultaneous high quality voice and data capability that supports multiple calls and data connections.

"The voice channel of FleetBroadband is mainly used when I need to contact the office to speak to the superintendent or the general manager," says Captain Mohan. "I also use it to speak to the agent at the next port. Voice over FleetBroadband is a significant improvement over earlier systems and is very clear both ways."

"It was an opportunity for us to weigh the pros and cons of a new technology and to see how we could make it work for our fleet and our crew. We were very satisfied with the performance because we managed to run all of our office applications from the vessel over FleetBroadband."

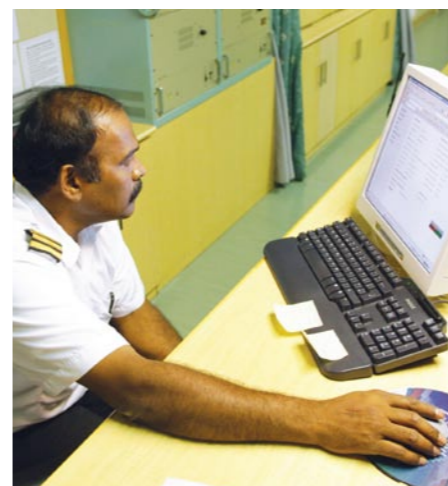
Adonis Violaris,
Group Marketing and Communications Manager
of Bernhard Schulte Ship management and Director
of Telaccount Overseas Ltd

Maintaining crew morale

All captains know that when crew members are happy, morale is high and they work more efficiently. One of the proven ways to keep up morale is to ensure that crew have regular access to a satellite phone so they can call family and friends while at sea. Before FleetBroadband was installed, the crew of the Marianne Schulte had little access to the ship's phone. However, during the trial they were able to make calls over Inmarsat. "Their morale is very good as a result," says Captain Mohan. "Now we have FleetBroadband permanently, there will be no problem setting up a crew calling system so they can use their own prepay cards. I'd also like to give the crew access to a communal PC, which they can use for web browsing and webmail."

Smarter procurement

Like any other large ocean-going vessel, the Marianne Schulte needs to regularly take fresh food, stores and equipment on board. "FleetBroadband is very good for the supply of stores. I can fill out the requisition and email the attachment to my office for the items to be sanctioned and sent on, so they are ready to load as soon as we arrive in port. This means there is no delay, and no chance of us having to sail again before an important item has been delivered," says Captain Mohan.



"The performance of FleetBroadband during the trial period was excellent and I am delighted we have been able to keep it permanently."

Captain Mohan,
Marianne Schulte

Data on demand

Access to up-to-date and accurate meteorological information is important on a long voyage, because it enables Captain Mohan to plot a new course to avoid bad weather. This can save time and fuel, and minimise the possibility of damage to the vessel and its cargo. FleetBroadband gives Captain Mohan instant access to the latest weather reports via the web, with average page-loading times that compare favourably with terrestrial broadband. He can also use it for chart updates and to access customs and coastguard websites to download forms.

A 'perfect fit' for the container sector

During the Marianne Schulte MFE, FleetBroadband showed itself to be tailor-made for intensive operational use onboard a busy container vessel. It also demonstrated how it can help maintain crew morale by providing a vital link to family and friends.

FleetBroadband's simultaneous voice and data capability added a new dimension to the vessel's communications, while its ability to provide a data link for remote maintenance enabled major software problems to be fixed quickly and cost-effectively during a voyage. In a sector that demands fast, reliable communications with shore at all times, Inmarsat's latest maritime service has already proved its worth.

"Currently the FleetBroadband terminal onboard the Marianne Schulte is on commercial terms under specially restricted cost control rules using the flexibility of Stratos Dashboard and it's meeting all the customer's requirements. It is a fact that currently the vessel is transmitting higher data volumes than before at the same spending levels."

Michalis Hadjistyllianou,
Director of One Net



How to buy FleetBroadband

FleetBroadband is available through Inmarsat's worldwide network of partners. Contact your existing Inmarsat service provider or visit our website to find the right partner for your company.

inmarsat.com/fleetbroadband

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