Wired Ocean: WHAT, HOW and WHY?

Wired Ocean editor's notes

What is Wired Ocean?
Wired Ocean is a sophisticated marine broadband system, designed to deliver shore-to-ship data via a vessel's satellite TV antenna. By using Ku-band broadcast satellites Wired Ocean is able to boost the performance, and dramatically reduce the usage costs, of maritime mobile satellite services. It's ideal for high volume applications such as internet browsing, downloading email with attachments, obtaining electronic manuals and weather and navigation data for bridge and critical systems. It's also well suited for crew internet needs such as email, news, sport and web browsing.

How does Wired Ocean work?
Using capacity on Ku-band broadcast satellites Wired Ocean sends data to vessels via the ship's satellite television antenna. These satellites have much greater 'bandwidth' than mobile satellite systems, thus allowing faster transmission speeds and lower usage costs. Data from the vessel is sent via the ship's satcoms or cellular terminal. Because vessels using Wired Ocean are typically receiving much more information than they are sending, the majority of the ship's broadband communications is at Wired Ocean's economical prices and superior speed.

The online experience for a Wired Ocean user is effectively the same as that of a broadband user on shore. Browsing, emailing etc are done using standard computer programmes with no additional software needed. Behind the scenes, however, the Wired Ocean System is providing sophisticated data management. Here's a step by step...

1. You enter a web address, access a database or email system, etc. The data request is sent from the computer through the S-Box (Satellite Broadband Server – the heart of Wired Ocean onboard), which optimizes the data request for efficient transmission, and then transmits it via the satcom or cellular system on board to Wired Ocean's network operations hub.
2. Wired Ocean's network operations hub retrieves the requested data from the internet and applies optimization techniques to the data before transmitting it through the selected satellite.
3. The data is received by the S-Box via the ship's satellite TV antenna. The S-Box ensures that the data is correctly received and delivers it to the requesting computer.

The S-Box caches previously accessed webpages and future requests for this data will be served directly from the cache within the S-Box, meaning that they do not become part of billable volume.

When outside Wired Ocean's coverage (currently European and Scandinavian waters), the S-Box falls back to using the vessel's satcoms to receive data sent to the vessel as well as to send data from the vessel. Using the satcoms equipment in this mode still makes use of the various performance enhancement systems to compress, accelerate and cache data.

Why use Wired Ocean?

The main driver for using Wired Ocean is the low cost per megabyte for shore-to-ship data. Effectively, this means reduced costs for increased volumes of data. Wired Ocean's services are priced by the megabyte and available on a monthly subscription basis with 200, 600 or 2,000 megabytes of monthly usage included in the subscription. Monthly subscriptions start at about US$300. The cost of a megabyte is typically between 2.5% and 5% of the cost of using Inmarsat Fleet and between 6% and 12% of the cost of using FleetBroadband, the closest equivalent mobile satellite services. So the payback on installing a Wired Ocean S-Box is measured in months.

With always-on 512kbps downlinks, Wired Ocean's services are much faster than mobile satellite services. That's over 200 times faster than Iridium, 50 times faster than Globalstar, almost 10 times faster than Inmarsat Fleet and almost twice as fast as Inmarsat FB250. Wired Ocean is also almost 10 times faster than the GPRS cellular service. To complement this outright speed Wired Ocean has also incorporated state of the art performance enhancement systems at its network operations hub and in the S-Box to minimise latency (processing lag or time delay), remove unnecessary handshaking and to compress transferred data.

Ends

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