The AIS wonder

Shipowners often hate AIS, but the implications of having public information about ships and their destinations are enormous. Barry Parker explores them

DURING A SNOWY MARCH a few years back, I gave a lecture about websites for ports, and the growing role of the maritime internet.

Around that time, at the height of the dotcom era, I pointed to the website at the Port of Bunbury, in NW Australia, as the model of a good "Ship Movements" page, where agents submitted lists of ships due, and port personnel then typed in succinct vessel descriptions.

This important talk was delivered in Malmö, Sweden, reachable on a Boeing 747 from New York's JFK though Schiphol (AMX) with a connecting flight the next morning to Sturup (MMX) on a puddle jumper flying at 16000 feet over the North Sea and the German Bight.

Groggy from the economy class sleeplessness and looking out the window, I wished I could identify the numerous coasters, interspersed with some obviously deep-sea traders, butting through the Bight in those mad March days.

Security of AIS

Fast forward ahead to post dotcom 2004- when the web is very much alive.

Maritime Security concerns, or rather concerns about ISPS compliance, are paramount throughout the industry.

In the US, the Coast Guard has joined the Department of Homeland Security (DHS).

While shipping companies were feverishly installing AIS in time for accelerated deadlines, a Swedish police scanner enthusiast / hobbyist who had cut his teeth decoding Mobiltex, Robert Larsson, based up the coast from Malmo, had already linked an AIS receiver up to a PC (with a digital controller in the middle).

Mr Larsson (www.rl.se) was able to generate lists of vessels in the Kattegat, mainly Stena ferries, and put together a plot showing vessels on the Gota River running through Gothenburg.

Mr Larsson freely admits that his efforts are a work in progress, citing unfinished business as follows:

"The future involves making a graphical interface and actually plot the ships on a chart or map. Perhaps a web interface would be something?
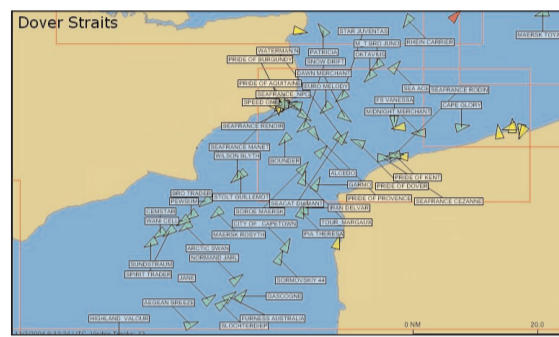
"However, first I have some hardware issues to resolve. I need a clean signal from the radio, and that must be the priority before I refine the software."

Robert Larsson enjoyed last year's Digital Ship article about how a business could be created to broadcast AIS feeds.

DHS Secretary Tom Ridge obviously did not read the article, because AIS was prominently listed among DHS "security" layers in a new report appearing in the week prior to the July 1 ISPS implementation date.

While Secretary Ridge's pamphlet writ-

ers at the DHS were putting the finishing touches on the fact sheet, "Secure Seas-Open Ports", an important web site www.aislive.com, which makes AIS feeds available through web browsers, was get-

real time ship data on AIS Live from Dover

ting ready to launch.

This site, spear-headed by UK based LR Fairplay (http://www.lrfairplay.com), a leading provider of maritime information, and Dutch air and marine traffic control system provider HITT Traffic (www.hitt-traffic.nl), is clearly a groundbreaker. Partners also include Vancouver based Klein Systems (http://www.kleinsystems.ca).

What happens now?

With the coming of AIS Live, a number of new paradigms have been proven, while others are now put on the table to be confirmed or refuted.

In the "confirmed" column, consider the following:
■ AIS Information will be an important cornerstone of publicly available ship movement information.
■ Port Websites will draw information from recognized central databases
■ Vessel movement and location information can be combined contextually with descriptive or historical data fields
In the "maybe" column, add the following:
■ Ship movement displays (Inmarsat or AIS) can successfully attract contextual advertising

AIS Live

AIS Live is clearly in its early stages, aimed at an initial market of ports, almost certainly for internal intranets and perhaps for the external ship movement displays found on various public websites.

In announcing the launch of the new offering, Fairplay's managing director, Richard Silk, talked about: "AISLIVE.COM provides a complete picture of port and vessel activity, greatly assisting planning and safe port operations".

LR Fairplay's Mr. Silk said, "The technology provides port communities and authorities with access to real-time information about vessels in or approaching their port or area," no doubt thinking about ports all over the world.

The feeds are gathered by a small VHF

Radio (tuned to 162 mHZ) with an adaptor to enable the digitize the output and feed it into an always-on computer with a high-speed internet connection.

The local PC feeds the AIS Live repository (where ships locations are fused with descriptive information from the LR-Fairplay database) which, in turn, feeds the web server.

Richard Silk added that the service "…has already attracted a significant number of registered users and we plan to build upon the clear public demand for these services."

To gain access to live AIS feeds, presently available at no cost, I went through a quick registration procedure allowing me to log-on with a username/ password combination that I chose.

Once inside the site, you can select from among two dozen ports, in regional groupings, presently online- mainly around the English Channel and North Sea, but ranging farther afield to Vancouver BC, the Netherlands Antilles, and Shanghai.

From the initial region view, you can zoom in on a particular port, where a navigation quality chart, filled up with coloured icons, appears. The feeds from the AIS (updated every four minutes) are displayed in three colours- green for vessels moving at greater than 0.5 knots, yellow for vessels transmitting but at anchor or moving dead slow, and red if the AIS is not transmitting.

The mouse can be enabled to "zoom" mode, where North Sea South gives way to Dutch Coast and then to German Bight and then to Bremerhaven Approach.

Boundary lines overlaid on the charts show the where further detail is possible. Latitude and longitude are displayed by running the mouse across the screen.

Once on a particular map, the mode can be changed to "show ship information," enabling vessel details to come up when the viewer clicks on a vessel of interest.

Conversely, when "information" mode is checked, clicking one vessel, from a list of those vessels in the display, allowed me to find the location of that particular vessel. The vessel details, from LR Fairplay's Internet Ship Register, are fused with AIS info such as the MMSI number and the Destination.

A button on the screen offers a direct view into the LR Fairplay's Internet Ship Register for that vessel.

In my opinion, the available displays and their innovative linking offer a great insight into how maritime information will be presented in the not too distant future. Once AIS comes to places like Bunbury, the AIS Live logo, linked to a map of vessels in port (further linked to operational info), will be a common feature on hundreds of sites.

Commercial issues

Information is power- any discussions on how maritime information is displayed will bring about numerous questions on whether access to AIS information confers commercial advantages.

Internet history abounds with the lore and legend of "the power of the network", but such power does not exist here, at least not yet.

At the outset, AIS Live presents a number of disparate spokes on a hub. AIS Live will instantly benefit hundreds of port websites through offering an additional aspect to ship movement data and will greatly advance the reach of anyone involved in forensic voyage tracking.

But each port website may still be a disparate spoke, albeit with a fresh tool to display information.

As ship movement data is filled in geographically (say across a broad swath of contiguous ports), and also layered across and fused with other information sources (say a database of vessel fixtures or perhaps vetting reports), then real network power will present itself. The use of AIS Live by ports may catalyze other uses.

Shipbrokers and cargo analysts are regularly faced with the anomalies between physical locations (e.g. the ship is in New Orleans, or bound for New Orleans) and commercial availability (the ship is available to be chartered).

Legions of oil traders, shipbrokers and cargo analysts will not be able to instantly unravel daisy chains surrounding ownership of cargo, nor will they be able to deduce commercial arrangements going
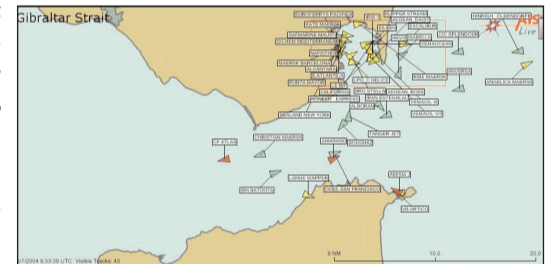
real time ship data on AIS Live from Gibraltar

way beyond fixture reports.

Savvy analysts, perhaps with data robots to sort through data from multiple ports (as www.maritimedata.com attempted to do), may nevertheless glean some unique and valuable insights.

But, before long, as network benefits develop, and Port States enforce proper entries on "cargo aboard" and "destination" fields, value will indeed be derived from mining AIS data, and the exploiting the emerging commercial advantages that go with it.

Revenue model

As the network builds out, the revenue model will be powerful. Initially, the basic service could be a good seller, mainly to ports, the possibility for selling add-ons (for example, enhanced vessel data) may be very lucrative in the future as new customer are exposed to the basic feed.While the AIS Live introduction is an important event, and the site earns a "rave" review, the advertising part of the business model is nevertheless slightly ambiguous.

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