

C-MAP's weather data service

C-MAP has just commercially launched its weather data service, providing ships with the best possible real time weather information to help navigation

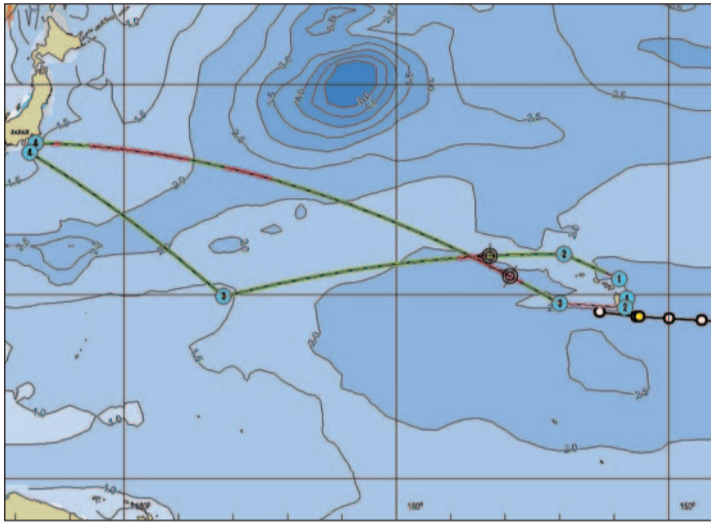
C-MAP has set itself a mission to provide ships with the best possible weather data, to be used both in real time navigation and route planning, where all the decisions can be made onboard the ship rather than dictated on shore.

The user selects exactly what they want, so it can be displayed in the most useful possible way, normally on the screen they use to navigate with.

The company has appointed Bjørn Åge Hjøllø, a professional meteorologist with 12 years experience at the Norwegian Meteorological Institute, to head up its new Marine Forecast Centre in Bergen. The Marine Forecast Centre

opened in November 2004.

Using the weather data in the simplest possible way, the seafarer inputs the chosen route and speed; the system assesses the weather at every point along the route, taking into account when the vessel is



The simplest possible way to display weather. Taking into account all weather information (e.g. air pressure shown), the display shows green where the chosen route should be safe of dangerous weather, and red where there are concerns

expected to be there, and shows a traffic light system of green, red or purple depending on the likelihood of difficult weather, or the ship being close to a cyclone.

"If it's green you're OK. If it's red be careful. If it's purple - then you're close to the cyclone," says Mr Hjøllø. "You don't have to go to details in the weather, you just know what you need to know."

By enabling this route to be checked against the weather, the seafarer can see how weather will affect his planned route, and no new system is needed on the bridge. In case of heavy weather, detailed inspections of all weather parame-

ters are possible.

User tailored alarms can be seen both in overlay, in time series and along the route.

A special overlay showing cyclone warning issued by WMO (World Meteorological Organization) can be activated.

"I think we are the only one who can have cyclone warning system as layers on the chart," says Mr Hjøllø.

"The world meteorological organisation issues tropical cyclone warning as text warning - several times a day - but not properly formatted to read directly into some kind of program. They are written as text."

C-MAP has a system to turn the cyclone



Download data for a square of 20 x 20 degrees around the ship's position

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warnings into xml files so they can be automatically downloaded.

Ice information is available. C-MAP will shortly be adding real time satellite information about wave height, wind speed and direction and ice edge, from the European Space Agency.

"Even today most marine weather forecasts are distributed in traditional ways,

giving the navigators on board a hard time to see how weather actually will influence on actual or alternative routes," he says.

C-MAP uses weather models from the European centre for medium range weather forecast, which are not free of charge. Data is supplied in 6-hour resolution, with forecasts of 10 days ahead.

The quality of the European centre data

is "somewhat better than the UK Meteorological Office," says Mr Hjøllø. You can have free data from the NOAA in the US. But we prefer to buy this data to achieve better score over sea areas and in the tropics."

The data is much more useful "by making available weather models that objectively have the best score, and combine

this with an integrated presentation as overlay on the electronic chart," he says.

C-MAP thinks that seafarers could use this software more in open ocean, while the ships are more likely to stick to the pre-defined route when close to the shore.

Seafarers have controls so they can turn their weather information on and off, so it's not a distraction if they need to focus on navigation.

There is another C-MAP tool, OceanView, which is designed for shipping companies to use in the office, so they can see what the ships are doing overlaid on electronic charts with weather information.

Download

The amount of data which needs to be downloaded onto ships can vary - depending on the cost of the connection and the amount of data the ship needs.

Users at sea can specify exactly what they want to download and when, which range of data and which area.

The data can be transmitted as direct download (eg if the ship is logged into the internet by MPDS) or e-mail attachment.

The weather is divided up into "windows" of 360 x 180 (global), 80 x 80 or 20 x 20 degrees longitude / latitude, and users can BAAH: subscribe to which window they want to download. The download window is not fixed geographically, and can follow the ship around the world.

Lower cost information is available covering 3 x 3 degrees, for example for ferries on short routes.

All of the data for the North Sea, between UK and Norway, can be downloaded in one 20 x 20 square.

Downloading the data takes about 2 minutes over a 9.6 kbps GSM phone, Mr Hjøllø says.

For one 20 x 20 square, with data for every 50km, downloading wind (speed and direction), wave (height, direction and period), using the world's best available weather data, the file sizes range for 17 kb for one day (24 hour forecast) at 12 hour resolution, to 161kb, for 10 days forecast at 6 hour resolution.

The actual data gives separate weather data for every 50 x 50 km, or it can be reduced to 150 x 150 km mid ocean, reducing the amount of data being sent by 90 per cent.

Seawave

France Telecom adds to SkyFile

France Telecom Mobile Satellite Communications has made several additions to its shipboard SkyFile e-mail software, as well as efforts to give shipping companies confidence running applications over Inmarsat Fleet MPDS

FRANCE TELECOM Mobile Satellite Communications is rolling out a range of new features for its free SkyFile shipboard e-mail software, to help make e-mailing at sea easier and more practical.

New developments include a bi-directional fax feature that enables the mobile user to receive faxes from any correspondent on shore directly to his mailbox, and vice versa.

There is a web mail interface, enabling the user, or any authorized member of the company, to access, check and control messages in his mailbox from any computer connected to the internet.

SkyFile has an online credit and invoicing system that enables crew and passengers to use SkyFile for their personal e-mail needs, simplifying the rebilling and administrative process for the company.

There are improvements to the data compression, with data compressed up to 90 per cent before being sent from ship to shore.

France Telecom growth

Altogether, France Telecom reports an 18 per cent growth in traffic for maritime

Iridium and Inmarsat minutes in 2004 compared to 2003, "which we believe make us the fastest growing land earth station operator in the maritime industry," says Ghani Behloul, maritime marketing director.

Its traffic over Inmarsat Fleet has more than tripled in 2004 and the company claims a market share of 20 per cent across the 3 services (33, 55, 77), he says.

The traffic over its SkyFile system grew 80 per cent in 2004, with the number of subscribers increasing from 2600 in 2003 to 4000 in 2004.

France Telecom Mobile Satellite Communications won the Inmarsat F33 challenge, rewarding the company that has sold the most Fleet 33 equipment in Q1 2005.

The traffic across all its range of crew calling prepaid cards, Scratch&Phone, tripled in 2004, due to extension of crew happy hour time (\$1 per minute) to the whole weekend and up to 12 hours on weekdays.

Software over MPDS

France Telecom is making efforts to find

ways to help software work over Inmarsat Fleet MPDS, which allows shipboard and shore side software to communicate in real time.

"Because of the satellite latency (around 800 milliseconds), on-shore applications working well over the terrestrial network (with around 100ms latency) will have to be tweaked and adapted to be correctly used over satellite," says Mr Behloul.

"We just hired a new IP product manager from Equant, with strong experience in developing application and network connectivity over terrestrial networks. He admitted how important it was to take into consideration the specific satellite latency in developing new applications", he says.

"His first reflex was to list the different applications and IP protocols such as Voice over IP (VOIP) or FTP, that would need to be adapted to work well over satellite. This is a good start to build up reliable applications," he says.

Differences between the satcom equipment used and the type of service have to be taken into account before adapting and running any on shore applications.

"We discovered with the Vizconde de Eza Fleet 55 trial case in 2003 that the IT company on shore had to use ISDN (with VPN) rather than MPDS to properly run their remote engine monitoring application based on Citrix," he says.

"The advantage of ISDN as opposed to MPDS is that you have a dedicated and guaranteed circuit (64k or 128k) that you can use, with a latency slightly better than MPDS."

"On the market there are applications using and compatible with MPDS, however due to the product features (shared bandwidth, potential low throughput, higher latency) it's reserved for low data transfer applications such as e-mail, light web browsing, light file transfer, light Supervisory Control and Data Acquisition applications (SCADA)."

Restricting MPDS

One of the reasons inhibiting take-up of MPDS is that shipping companies have received large bills from seafarers surfing the web and downloading large files with it, without being aware of the costs; shipping companies find it difficult to control the usage, so they ask for MPDS to be switched off completely.

"Too many customers are not using MPDS even though they could benefit from doing so," Mr Behloul says. "Many fear that it will result in high and unwanted bills which can arise if they don't have any means of control. That's why we are offering a range of products designed to make using, controlling

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and monitoring the MPDS channel much easier."

France Telecom has set up a "MPDS click-on page" that can be used from a mobile or any computer connected to internet, restricting the usage of the channel to specific IP and DNS addresses. Because it acts like a firewall, it avoids having to do the set up on the network on board or remotely.

France Telecom is also offering an online tool, "Traffic Monitoring System" that allow managers to set up a call cut after a specific credit amount of traffic has been reached.

This system also allows the manager to set up and receive an e-mail alert as soon as a specific threshold has been reached.

More recently the company developed the Scratch&Web prepaid card to allow crew and passengers to access their web-mail account and surf the internet using the MPDS channel.

France Telecom is also able to set up

systems for shipboard applications using a virtual private network, an area where IT managers have reported problems (see Digital Ship April 2005).

"Providing a fixed IP address to an IT manager to build up a VPN, is for us as normal an operation as opening a dedicated short access code to route calls from mobile to any specific number in the world," Mr Behloul says.

Fixing shipboard e-mail problems

France Telecom believes that since it provides both the shipboard e-mail software and airtime, it is easier for shipping companies to fix any support problems - they only have one phone number for both airtime and shipboard software, so they can't get bounced between two different support departments at different companies.

"By providing customers with both shipboard e-mail software and airtime,

our goal is to make life easier for the users on board and the manager on shore," Mr Behloul says.

"If a problem occurs, by having the responsibility and the control on both parts of the system (e-mail and LES), we are then able to act very quickly to solve it."

There are horror stories of shipping companies which have had their own or a third party shipboard e-mail software wrongly set up, not automatically cutting the connection at the end of an e-mail transmission.

That could lead to very long duration calls, ending sometimes in exorbitant and unwanted bills as the customer can receive the bill up to 2 months after the traffic has been passed, only when the bill would have been processed by a third party intermediary.

France Telecom is quick to assert that these problems have only arisen with shipping companies not using SkyFile for

their ship shore e-mail.

It has an automatic system to send out e-mail alerts when calls pass a specific threshold.

"In order to avoid this kind of issue when the e-mail solution chosen is not SkyFile, we have developed the Traffic Info System enabling the customer to obtain a traffic report with one day's interval," says Mr Behloul.

"We have also developed a long call duration e-mail alert as soon as a traffic threshold limit has been passed."

France Telecom can also give shipping companies a daily report of their satcoms traffic.

"Last week we launched an enhanced version of the Traffic Info System (TIS V3), which includes new features such as the amount of traffic in value (\$ or □) passed by a specific equipment or specific vessels and the possibility to receive everyday the traffic report directly to various e-mail addresses," he says.

DS

Send US Coastguard data from ship - DNV Navigator

DNV NAVIGATOR has developed a software tool enabling ships to send electronic crew manifests to the US Customs and Border Protection (CBP) department in the required XML format, with minimum spend of ship shore communications.

From June 6 2005, shipping companies are required to submit the crew manifests

electronically in a specified xml format, before any port call.

Whilst most shipping companies will probably prefer to send the manifests from shore, with the DNV software they can send it from ship.

Most of the information (crew list, passenger list, cargo and other) can be filled out automatically by the DNV software;

the user only needs to check it is correct before submitting it to the US government.

The US Ballast Water reporting form can also be sent electronically as a Microsoft word file attachment.

DNV Navigator has other activities going on around the world. In Singapore it recently completed an electronic port clearance system with the Singapore Mar-

itime and Ports Authority (MPA).

The system can generate all necessary documentation for electronic port clearance for arrival and departure from Singapore, and has been tested onboard a container vessel calling regularly at Singapore.

In Norway, it has worked with port authorities in Norway to develop a sys-

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United States Coast Guard National Vessel Movement Center Electronic Notice of Arrival / Departure	
Details Arrival-Departure CrewList PassengerList Cargo Other	
Report Details	
Arrival or Departure:	<input type="radio"/> Arrival <input checked="" type="radio"/> Departure
Type of message:	<input checked="" type="radio"/> Initial <input type="radio"/> Update
Voyage Type:	Foreign to US
Voyage Type:	13
Reporting Party	
Name:	Dion, Alfredo
Email:	email@mail.com
Vessel Details	
Name:	Nordic Sonorita
Flag:	NORWAY
IMO Number:	1234567
Call Sign:	LARPV
Owner:	Owner
Operator:	Operator Name
Charterer:	Charterer Name
Classification Society:	Det Norske Veritas
Location	
Location:	<input checked="" type="radio"/> At Sea <input type="radio"/> Port
Description:	Location Description
Create XML Message: This application will generate an XML Message to be sent to the USCG.	
File will be saved as:	Electronic Sonorita.xml
Create XML File	

DNV Navigator software – automatically fills out your paperwork and delivers it

tem under the European project Safe-SeaNet in order to meet the future European requirements.

"We believe that the new regime of electronic port clearance is a good example where we can help making your life easier by reducing the amount and time of paperwork and thereby also reduce risk of losing time and money in operation of your vessels," says managing director Ove M. Sivertsen Strømsholm.

E-government

Anybody with the faintest idea of technology understands that so much of the paperwork ships have to complete and demonstrate is completely inefficient - it is not particularly difficult with today's technology to generate a system where it could all be done automatically.

"Who is going to be the first IMO member to take the risk and move to an e-based system whereby the ship need produce nothing more than its registration card (which could be a chipped credit card) to an inspector to demonstrate compliance with all regulatory requirements - including dynamic factors such as abiding with TSS [traffic separation scheme] restrictions, the PSC inspector could download data direct from the voyage data stored on the flag state's mirror server onboard, the VDR?" asks maritime regulatory technology expert Steve Harding.

About DNV Navigator

DNV Navigator won the "Innovation in Ship Operations" Seatrade award 2005.

DNV Navigator was developed as a personal mission by Mr Sivertsen to make shipping company's paperwork easier, as a private company "VTM Products."

VTM Products first exhibited at SMM in 2002, producing CD-ROMs of port information, with all the necessary forms that need filling in for 700 ports around the world, which could also

print out pilot cards.

The forms can automatically be filled in, taking data from a Lotus Notes database running on the ship; if a port authority doesn't accept electronic data, it can be faxed.

The original idea was to give seafarers information about all the ship-to-shore reporting they need to make, and get cleared in and out of ports easily, then complete the forms for them.

VTM provided information about requirements for navigation, security and ballast water reporting to port authorities. It contains checklists for each port and report forms required by port state authorities in over 130 countries.

VTM Products was quietly acquired by DNV in 2003, with the company subsequently renamed DNV Maritime Partner and relaunched in Norshipping 2003 as DNV Navigator.

The first customer won by DNV was the Asian office of Tschudi & Eitzen Ship-management, ordering one vessel and one online version, with the vessel version to be installed onboard Samco Asia and the online version used in its Singapore office.

The company says that altogether, 27 major shipping companies are using the tool at the moment, most of them using it throughout their fleets.

"By using electronic means and modern data communication we are able to reduce reporting time from hours to minutes," says Captain Stein Taraldsen of IUM Ship-management, quoted in a DNV Maritime Partner press release. "Port clearance goes much smoother now."

"I find this program to be the best of this type that I have seen," said the master of Maersk Georgia, speaking to DNV. "Over the course of the next few weeks, I will be shifting to it exclusively."

DNV Navigator also sends out weekly update e-mails of typically 50 to 100 kb, occasionally up to 190kb, based mostly on Notices to Mariners.

ing details), Pilot Requirements, Port Maps (not for navigational purpose), Terminals, Transit Information.

Information included for each country includes Arrival/Departure Requirements and Reporting, Ballast Water Requirements and Reporting, Forms, General Diagrams, General Information, General Notes, General Transit Information, List of Ports, Waste Requirements and Reporting.

The new tool will also automatically fill in the port-clearance reports with data from the database, which includes ship-specific information on the owner, vessel, crew, certificates, stores, etc.

"By using electronic means and modern data communication we are able to reduce reporting time from hours to minutes... port clearance goes much smoother now"

In particular, the application's database contains information about requirements related to navigation, security and ballast water and reporting to port authorities. It also contains checklists specific for each port and report forms required by port state authorities in 120 countries.

Information available for every port includes anchorage, Arrival/Departure Requirements, Charts Applicable, Checklist, General Information, Navigation (sail-

An optional extra is a tool for vessel security, giving information about updated security rules, to manage the necessary communication, keep records of security activities. It includes information about port state requirements, flag requirements, ISPS, SOLAS and relevant addresses.

An add-on tool is DNV passage planner, to help make detailed plans for passage between ports.

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