continued from page 6

says. "New systems mean retraining programmes may be required."

"We have thought of ideas such as a button which turns the display back to a standardised layout, making things clear and simple when under pressure."

On the chart issue, CIRM represents the chart display system manufacturers in their discussions with the electronic chart providers, in making sure the encryption keys work and the updating systems are easy to use. It provides feedback to the International Hydrographic Office (IHO) about electronic chart systems.

CIRM's view on the issue of whether raster charts should be allowed when official vector charts have not been produced, the subject of a bitter row between the British and Norwegian Hydrographic Offices, is that the flag state of the vessel, should make the decision. ECDIS equipment will display both types of chart.

Other issues CIRM gets involved in is reported problems with shipboard equipment interfering with GPS, as in a case last year when a non-maritime approved shipboard TV antenna was found to interfere with the GPS on a vessel on the Great Lakes.

There are concerns about regulatory pressures in Europe to reduce the amount of lead in solder for environmental reasons. Some CIRM members are concerned that this may weaken the strength of the solder -it may be fine for normal domestic use but not in the arduous environment of a ship.

Role of CIRM

CIRM's headquarters are a few hundred metres from IMO headquarters in central London. IMO is a big focus of its activity, where it is involved in drafting many of the technical standards. "Without us - the national delegates don't necessarily understand the Watts and dBs," says Mr Rambaut.

"At any IMO subcommittee meeting you find CIRM members. There isn't an IMO performance standard for radio-communications and navigation equipment that doesn't have our influence. That has been our real forte."

The secretariat's remit is to lobby for manufacturers interests at IMO, but aims to maintain its influence through making itself available in providing technical advice.

Sharing information among members is a prime function of CIRM. It holds an annual meeting for members, to exchange technical knowledge. Members have access to an extensive website www.cirm.org where they can download IMO, ITU and other papers and information.

The website is able to give members advice about expected future regulatory requirements for new products or changes which affect existing products, giving them maximum time to make adjustments to their production. It helps with interpretation of IMO legislation.

CIRM is involved with many other organisations, including the Nautical Institute, generating a feedback mechanism between Master Mariners and electronic manufacturers and it attends meetings of the International Chamber of Shipping (ICS).

It has a close liaison with the International Association of Lighthouse Authorities (IALA), the US Coastguard and the US Radio Technical Commission for Maritime Services (RTCM). It works with many flag states and class societies.

Annual Technical Meeting

This years' meeting was held in Cyprus over three days in late April. The agenda covered areas such as the IMO Maritime Safety Committee (MSC) and COMSAR meetings, with subjects relating to maritime electronics, or issues that need to be addressed by working groups.

Delegates split up into different groups to discuss specific issues such as integrated ship displays, radar, electronic charts and radio-communications. "Opportunity to network is a key feature of this event," says Mr Rambaut "We want our members to have the chance to exchange ideas in a relaxed atmosphere".

CIRM appoints "rapporteurs" for different subject areas. Rapporteurs are manufacturing members who have the role of reporting to the technical meeting about activities in their specialist area.

Previous meetings have been held in Oslo, Camogli (Italy), Singapore and Shanghai. DS

Calling ships from landlines

AST Connections has some innovative ideas to enable shipowners to call their ships from landlines, avoiding the heavy mark-ups which public telecom operators levy to satellite phone calls

AST CONNECTIONS, part of Applied Satellite Technology, has a range of calling solutions to make it easier to call ships from landlines, without giving the terrestrial phone operator an opportunity to whack on a hefty surcharge and simplifying the billing process.

In the UK, it has set up a premium rate call number for Inmarsat calls. The caller simply dials the premium rate call number, followed by the number of the vessel.

The shipowner pays £1.50 per minute ($2.75 per minute) for the call, through their normal phone bill. AST collects money for the premium rate call from the phone company, and uses this to pay for the satellite. This is cheaper than phoning the ship directly from a land line.

This is a simple system allowing anyone to call a vessel at lower cost than just dialling it from a land line, with no pre-registration required, no invoicing from the shipping company, and with the caller paying the full cost.

Another option is for AST to assign a national rate or local phone number to any satellite terminal, which is only revealed to parties which the shipping company wants to be able to call the vessel.

Anyone wishing to contact the vessel simply dials the number, paying for the local rate call, while the shipping company incurs the cost of the satellite segment of the call.

Currently anyone can call the ship without authorization, making it impossible to control costs or prevent unwanted calls, although AST Connections is considering implementing a PIN code system to restrict access.

A further option is for the shipping company to install a call router at its offices, so that all its employees can call satellite terminals at reduced rates compared to a terrestrial communications provider. Calls can only be made from registered phone lines.

On the Triton

AST recently held a meeting in London dedicated to bringing together some of the dealers that it works with around the world.

The event was held onboard a survey ship "Triton" owned by AST's parent company, Gardline Group.

Triton is the world's largest motor powered trimaran, and its most recent mission was on behalf of the UK Ministry of Defence and the US Department of Defence to search out storms in order to test the handling characteristics.

Gardline also runs a surveying business, updating the UK Hydrographic office chart data around the world, as well as conducting geophysical surveys for the offshore industry. It has a fleet of 8 vessels and employs over 250 people.

About AST

Applied Satellite Technology (AST) was founded in 1992 by Gregory Darling and is part of the privately owned Gardline Group.

It is currently one of the largest UK marine suppliers of satellite equipment and has spawned a range of spin-off companies marketing new products including e-mail compression software and digital television onboard cruise liners.

One of the advantages of working in a

number of different related business areas is that AST can offer a package to suit most clients, and can also include airtime as part of the deal. It also manufactures many of its products in-house, and thus has the expertise to provide custom solutions.

Mr Darling believes that his background as the owner of a shipping company should give customers confidence when buying satellite products from AST.

"Although it's not a guarantee that everything will go according to plan," he says, "At least you can be sure that we understand what's important to a shipowner and where the priorities are."

OceanMedia TV

Another AST company, OceanMedia, has a system to store 4200 hours of TV programming on a computer hard drive, so seafarers can watch it at sea.

The system can even record several channels at once while the ship is in port, quickly generating many days of programming without seafarers having to watch the same thing twice, although they might spend more time than they would wish on the obscure channels.

Its BigBlue storage and replay system uses a small 90cm antenna and between 6 and 30 140 hour hard disk recorders to store 840 to 4200 hours of programming while in port (for example storing 40 channels at once for 21 hours) which can then be replayed during the voyage.

OceanMedia was launched in 2003 to provide satellite TV and entertainment solutions onboard vessels. The company was previously known as the SAT TV division of AST, and has manufactured a range of marine satellite television systems for over ten years.

Its antennas and hardware are manufactured in-house, and for the past five years it has been selling programming as well, including channels such as BBC World and BBC Prime.

OceanMedia has developed its own shipboard TV antenna. Its standard product is a 90cm antenna, the 901i, which is simple to use and maintain, with as many components engineered in-house as possible, as few interconnects as possible and fully automatic software control, the company says.

According to OceanMedia, the 901i is virtually immune to ships radar, has more gain than other equivalent sized antennas and requires no input from the ships GPS and compass, allowing it to operate independently. The company claims it is the first marine TV antenna designed for commercial vessels.

The OceanMedia video on demand (VOD) system can supply movies to a large number of outlets via existing telephone cables, with a billing front end.

OceanMedia also offers a movie service for ferry operators that delivers 4 channels with 3 movies on each channel of current films monthly via hard disk. The movies are replayed on a 24 hour rolling format, making it more cost effective than VOD systems since it does not operate in real time.

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Chargeable internet solutions allow customers onboard access via a local area network or wireless 'hotspot'. The Oceanlink Internet server provides a firewall and online security and has been in use in the hotel market in Europe for a number of years.

Email and secure communications

AST's ZAP email compression software is available via a free download from the website, and optimizes email transmission over satellite links.

It offers all the standard features including duplex transmission, message delivery confirmation, filters on size of message to prevent large messages being sent automatically, high compression ratios and restart from point of interruption so that data is never sent twice.

AST can also offer airtime deals, with a rate of $0.50 per kilobyte for usage charged by the amount of data sent and received, with a cap on spending of $130 per month, giving known fixed costs. Alternatively, Zap now offers a direct link to the Iridium Gateway (RUDICS) at a rate of $1.30 per minute.

Another division of AST, Satellite Systems Distribution (SSD), offers a commercial secure voice and data encryption service through its Securecom 3000 product. This works with GSM and terrestrial telephones as well as satellite services.

Fitting GPS to UK fishing

AST recently concluded a major contract to fit satellite GPS tracking devices to the UK`s Fishing Fleet.

It involves fitting tamper-detecting tracking and position reporting devices to vessels over 15 metres in length in line with European Commission Regulations, and was awarded to AST after an EU open procurement exercise.

The GPS device, or Vessel Monitoring System (VMS), to be used was developed by AST and is based on a Thrane and Thrane Inmarsat mini-C antenna.

Approximately 750 installations will take place at ports throughout the UK, using trained local engineers, with the first installations having begun in November 2004.

Iridium

Iridium, talking at the meeting on the *Triton*, announced that its satellites would be operational at least until 2014 without the need for any additional launches.

The projection is based on the latest data which shows that the satellites are lasting on average longer than originally forecast, with some problems having been fixed by updating onboard software.

Revenue grew by 26% compared to the first quarter of last year, with data use up by 50% and subscribers up by 19%. The company also reported that its costs were covered by the current traffic, with the network operating at around 20% capacity.

Several new product launches are planned over the next year to capitalize on the demand for low cost, low bandwidth voice and data communications. These include a short burst data (SBD) only modem manufactured on a hardware board, the 9600, designed for a range of applications such as asset-tracking and supply chain management, available late in 2005.

The company is also releasing a fax service, of particular interest to Asian markets where there is a continuing demand for the sending of handwritten messages using for example Chinese characters. This will be available Q4 2005. DS

Websites

www.satcomms.com
www.oceanmedia.tv
www.satellite-distribution.com
www.astconnections.com
www.zap-email.com
www.iridium.com
www.gardline.com

iORA installs US Navy shipboard information system

www.iora.com

iOra, which produces tools to replicate data onboard ships, has rolled out its technology on the US Navy's Distance Support portal, across its whole fleet.

Shipboard personnel can always have the most up to date equipment manuals, safety information, technical support, training instructions and other critical data.

When the manuals and information is updated on databases on shore, it is automatically updated on the ship; but the iOra system only sends the specific information which is updated, rather than resending the whole documents.

Adrian Weeks, CEO, iOra

"The Distance Support portal serves as a central source for information-sharing, a fleet-wide procedural documentation store, as well as a video conferencing center," says Captain John Reichl, director, Distance Support, US Navy.

"With thousands of personnel deployed worldwide at any given time, large volumes of accurate, up-to-date information must be available at all times in order to maintain operational excellence and safety.

The tool replaces the US Navy's previous system, sending out update data by CD, which often took weeks to reach the ship, and could not send all the available information. Using the iOra software the information is available every day.

Now US Navy ships have the entire Navy intranet available to them at all times, updated every day.

The US Navy has several different information systems - for the whole fleet, for different classes of ship, and for specific vessels.

The project follows similar ship and shore installations iOra has made for Alaska Tanker and Shell.

iOra developed its technology for companies which wanted their salespeople and staff around the world to have up to date information on their laptops and mobile computers.

It gets involved with companies which install the Microsoft SharePoint system, designed to help all the people in a company work together and share information. IOra enables them to have the latest information wherever they are.

Browsing web onboard

iOra has also developed what it terms as a "web virtualization" tool - which enables seafarers to browse websites onboard ship.

They are not actually browsing the website - the iOra software can scoop up the entire website and send it to the ship, and send updates, when the website is updated.

Any data which is typed into the website can be sent back to shore using iOra, so only the minimum data is exchanged.

This tool would be ideal for filling out forms onboard, such as port clearance forms or oil company questionnaires, where the questionnaire can be filled in over the internet.

The ship fills out the form on the shipboard computer in exactly the same way as it could be done on shore; only the minimum amount of data is sent back to shore (i.e. the contents of the form) and the port authority doesn't know any different.

"We were looking for ways to deploy that on ships," says Adrian Weekes, CEO of iOra.

"You could provide a HR portal, or the BBC football results, and put that website on a server on the ship."

Technology

Data can regularly be compressed down to 1 to 2.5 per cent of its original size.

The compression is much cleverer than standard file compression software (eg .jpg, .zip) because it can scan whole documents.

For example, if the logo on every slide of a powerpoint file is changed, the iOra software on shore will only send the new logo, and the instructions telling the shipboard software how to update the file.

iOra has also included a system to send data from ship back to shore, for example to ask experts questions.

The satellite data transfer system with iOra has been designed to work well with the latency (time delays) for sending data to and from the satellite. DS

"With thousands of personnel deployed worldwide at any given time, large volumes of accurate, up-to-date information must be available at all times in order to maintain operational excellence and safety."

Managing shipboard computers from shore

www.seawave.com

US company Seawave has a system to solve what is emerging as shipping company IT managers' biggest problem - fixing problems on shipboard from shore, without spending a fortune on satcom.

Shore IT managers can log into the shipboard computers, connecting by Inmarsat Fleet MPDS.

Lawrence Zevon, techical product manager with Seawave, says that supporting software over MPDS is working reliably.

However he advises that MPDS should only be used for more basic support operations, such as remotely viewing log files, seeing what software is installed on the vessel, small incremental updates and installing small patches.

"Anything beyond that is typically reserved for ISDN or GPRS," he says.

Using the SeaWave tools, the office can initiate a virtual private network connection over ISDN, MPDS, GPRS or Iridium. Users can select a first, second and third choice of connection medium.

"Iridium might be selected for command line access; MPDS, Inmarsat or GPRS are typically used for other forms of remote management such as remote desktop applications," says Mr Zevon.

A request to connect to the vessel is sent out using an Iridium text message by an authorised user on shore. This is received by the shipboard computer, which then prompts the ship to connect by the preferred method and establish the session.

No additional hardware or software is

required; the system is self contained within the Seawave integrator box.

"The benefit of not having to dispatch personnel or rely on someone on board the ship not trained in managing onboard systems is a boon to our customers. They see significant cost savings as a result of reduced system downtime, travel and pulling people away from their day-to-day responsibilities on board the vessel," he says.

Rather than provide its software on a CD-ROM, Seawave supplies its e-mail and ship shore communications software pre-installed on a special computer, in its own box, also containing a GPS and GSM antenna if needed.

Users can plug a normal PC into the box, as well as their telephone, Inmarsat and Iridium antennas.

If they are running any ship management applications, for example purchasing and maintenance or databases, these can be installed on the shipboard PC, plugged into the box.

Users can remotely access the PC from shore via Seawave, so they can use it to solve any problems with the PC and automatically transfer files, or set up file management jobs.

Seawave can automatically update the address book of the shipboard PC; this address book can also act as the "white list" of approved senders onboard, so the ship does not have to pay to download any unwanted e-mail.

By having control of the communications medium used for the ship shore e-mails, and routing all e-mails through SeaWave's server on shore, the company can do a lot more than companies which only offer shipboard e-mail software, in making sure all data is sent by the least expensive route.

For example, if there is 100 kb waiting to go from ship to shore and 1.5 mb waiting to go from shore to ship. With systems that only do least cost routing on the ship, the shipboard system only knows about the 100 kb, so it might pick MPDS. But Seawave would also know about the 1.5 mb, and so pick ISDN.

Seafarers can set up their own crew billing accounts, without needing any scratch-cards or any money being paid upfront by the shipping company, if they have their own credit cards.

Seafarers or passengers can fill out the details on a special form, and set up their own account.

Remote support - by e-mail

www.mythicsoft.com

UK company Mythicsoft has an interesting approach to the problem of IT managers doing support of shipboard computers - they can do it by e-mail.

Using a special piece of software, IT managers can move files around the shipboard computer and run commands at the DOS prompt, for example to copy and execute an install script.

It could be used for example to remotely an install a software upgrade on all the PCs on the ship.

Single user licenses to the RemoteCommand software are just $49.95.

Commands are created and can be sent to the ship using its normal e-mail system. It doesn't matter if there is a delay before the e-mail is sent (for example with ships which send / receive e-mail once a day).

The company has a demo on its website which indicates how the system would work to change files on a remote computer. See http://www.mythicsoft.com/Page.aspx?type=rmtcmd&page=flashdemo DS

Norshipping preview

NORSHIPPING, attracting around 10,000 people, is one of the world's largest maritime trade shows. It is being held in Oslo, Norway, in June 7-10 this year.

Digital Ship is running its own conferences at Norshipping, about satellite communications, managing the risk of control systems and ship navigation technology.

Here is our preview of some of the interesting and new maritime information technology which will be on display.

Transas

Transas will show its entire range of electronic chart display systems, bridge equipment, shipboard weather tools, electronic chart distribution and ship simulators.

Transas' Navi Monitor

It will launch a collaboration with voyage data recorder (VDR) manufacturer Rutter Technology, presenting Rutter's VDR and simplified VDR system.

It will also show its Navi-Monitor ports surveilliance system, which builds on its vessel traffic systems. Also its AIS and ship security alert system.

Transas will celebrate its 15th anniversary at Norshipping and will hold a party.

Satamatics

Satamatics will launch a new ship security alert terminal using SAT 201.

The Sat 201 offers the "same level of programmability and reliability as the SAT 101 but in a more compact and economical package," the company says.

All of the equipment is housed in one unit, which should make the system easier to hide onboard a ship.

Totem Plus

Totem Plus will demonstrate its voyage data recorder / simplified voyage data recorder, which stores all the data in a format easy for shipping companies to access, for one year.

Shipping companies can send queries to the shipboard data by e-mail.

The system has a built in monitor, enabling easy access to the data, so it can be replayed onboard the ship.

Totem Plus will exhibit its a new Integrated Engine Monitoring Alarm and Control System (IMACS) for managing shipboard engines and machinery, including a ship stability analyzer for use both in port and at sea.

The company has developed an low cost AIS-based vessel traffic system, which port authorities can use to monitor traffic going into and out of their ports.

Datatrac

Datatrac will exhibit its shipboard applications for collecting data. This includes Securitrac, to record data required under ISPS code, including proof that security rounds have been completed; Assetrac, which collects data in engine rooms; Infotrac, which takes written data directly into a spreadsheet; and surveytrac, which automatically generates surveyor reports for clients.

SENER

Spanish shipbuilding software company SENER wil present its new shipbuilding software "FORAN Version 60."

The entire system has been reprogrammed.

The software has been thoroughly upgraded, with new tools for defining internal hull structure, a new modules for cable and equipment layout, more components in sketches and drawing tools, generation of 2d drawings from a 3D model, tools for mechnical design.

It has new modelling and 3D model functionality, tools to generate FORAN documents which work in Windows,

It has a module for damage probability calculations using latest class society rules, a tool for pipe bending radious control.

It has advanced import / export functions and formats, and improvements in tools to form hull forms, corrugated bulkheads.

"This is, by far, the biggest advance ever in shipbuilding CAD/CAM," the company claims.

SAM Electronics / Lyngsø

A Lyngso Marine 2200 Series automated integrated control system which will be shown at Norshipping.

SAM Electronics and its Danish subsidiary Lyngsø Marine will demonstrate their latest advances in ship automation technology, which has been fitted on 8,000 vessels worldwide.

It will exhibit a new operator workstation for monitoring and control of all ship's machinery, including alarm, propulsion and cargo administration.

The units have 17 and 19 inch screens and have software designed to ensure speedier acquisition, processing and dis-

Global

The Lyngso Marine 2200 Series automated integrated control system

play of data while also extending and simplifying all main operational functions.

The software has improved support facilities for installation and maintenance, and self diagnostics.

Erik Styhr Petersen, Lyngsø Marine's Manager of Special Projects, will discuss integration, control and safety issues as part of the joint Digital Ship-Lloyd's Register conference, *Managing the risks of ship control, monitoring and alarm systems.*

AMOT

AMOT, which develops electronic systems to monitor bearing wear on ships, will show its XTS-W system and associated TomaHawk 8635A programmable logic controller.

The system can detect weaer of main, big end and cross head bearings on large diesel marine engines, so they can be replaced before steel on steel contact occurs.

AMOT is "the most cost-effective solution to provide operators the maximum time for controlled engine shutdown and ship manoeuvres and allowing the most effective planned maintenance," the company says.

Shipping companies can find out about rate of change of bearing wear, so they can predict when the bearings will need to be replaced.

The controller has 120 input / output points and a 4 line 80 character display. It can be used with engines, turbines, compressors, generators and other equipment hazardous area applications.

Conrac

Ship flat screen displays manufacturer CONRAC will show an enormous 37 inch display, which it believes could be used in the future for radar and electronic chart display.

The screen was developed as a television screen for the consumer market. As a consumer product it can be mass produced, so is less expensive.

CONRAC points out that having a large screen enables more information to be put on one display, so seafarers do not have to collate information from several different screens.

Conrac will also display smaller flat screens up to 23 inches, as well as its flat screen TV sets which can be used for ship lounges and cabins.

How an enormous 37 inch Conrac display could be used on a bridge

Nera SatLink

Nera will exhibit its SatLink Marine service, which allows ships to download data always on at speeds up to 8 mpbs, using DVB-RCS, with a 1.25m antenna.

The service is much cheaper than Inmarsat and VSAT services, but the data is receive only, and the service does not work globally, only under a limited satellite footprint (eg covering North West Europe).

Dirkzwager

Royal Dirkzwager will present its ship security alert too, developed together with Radio Holland. It uses Radio Holland's shipboard hardware (Inmarsat -C, D+, or Iridium) and the Royal Dirkzwager alert monitoring service.

It will also exhibit its web based registration system for ship visitors, to help ports and ships comply with ISPS. People who want to visit vessels can announce their intended visit on the online system.

The system passes the request onto the designated ship agent, who can decide if the visit should be approved. If approved, the visitor will be given a special code, which gives them access at the terminal gate.

Caprock

Caprock will exhibit its shipboard wi-fi service, designed to work with its global maritime VSAT communications service.

This means that maritime personnel will be able to communicate via satellite from anywhere on the vessel.

Staff who work on several different vessels will be able to access the network on all of them using the same laptop computer, if they are all Caprock users.

Kongsberg

Kongsberg Maritime will announce new product lines and developments in sub-system integration, as part of its Vessel Management Solution (VMS). This enables all sub-systems to be controlled from multi-role consoles using the same user-interface.

This includes automation and cargo handling integrated solutions, and integrated bridge and dynamic positioning systems that utilise common technology to form a ship-wide network.

Kongsberg believes that the existence of countless electronic systems onboard can contribute to human error, resulting in accidents, and sees its common user interface, with common components, system architecture and consoles, as one of several ways of simplifying operation for users.

ShipServ

Electronic purchasing management company ShipServ will demonstrate its new ordering quotation management software tool, with an Outlook-style dashboard and Microsoft Smart Client technology. The software helps users to organize their transactions, grouping / filtering by various criteria.

ShipServ also has a catalogue management tool, which shipping companies can use to customize the catalogues that seafarers can purchase from. They can automatically upload catalogues from suppliers; they can put in supplies available under contract with the supplier; they can include data specific to that vessel.

In cases where the same part has different part numbers (for example, one with an original equipment manufacturer, one with a third party supplier), the software can map these together.

ShipServ claims that shipping companies can reduce order cycle time by almost 30 per cent through using the system. DS

Invast