

Environmental Protection
Air, Water (& Fish Too)

Making the Connection
Broadband & VSAT

Inland Waterways
A Critical Time

January/February 2009

The MARITIME EXECUTIVE

INTELLECTUAL CAPITAL

EXECUTIVES



Tom Crowley,
Jr.

Chairman,
President & CEO,
**Crowley Maritime
Corporation**

The MARITIME EXECUTIVE

INTELLECTUAL CAPITAL FOR EXECUTIVES

22 | Case Study:

CROWLEY MARITIME

This 117-year-old firm has survived wars, the Great Depression, booms and busts, and the ups and downs of a cyclical industry and emerged stronger than ever.

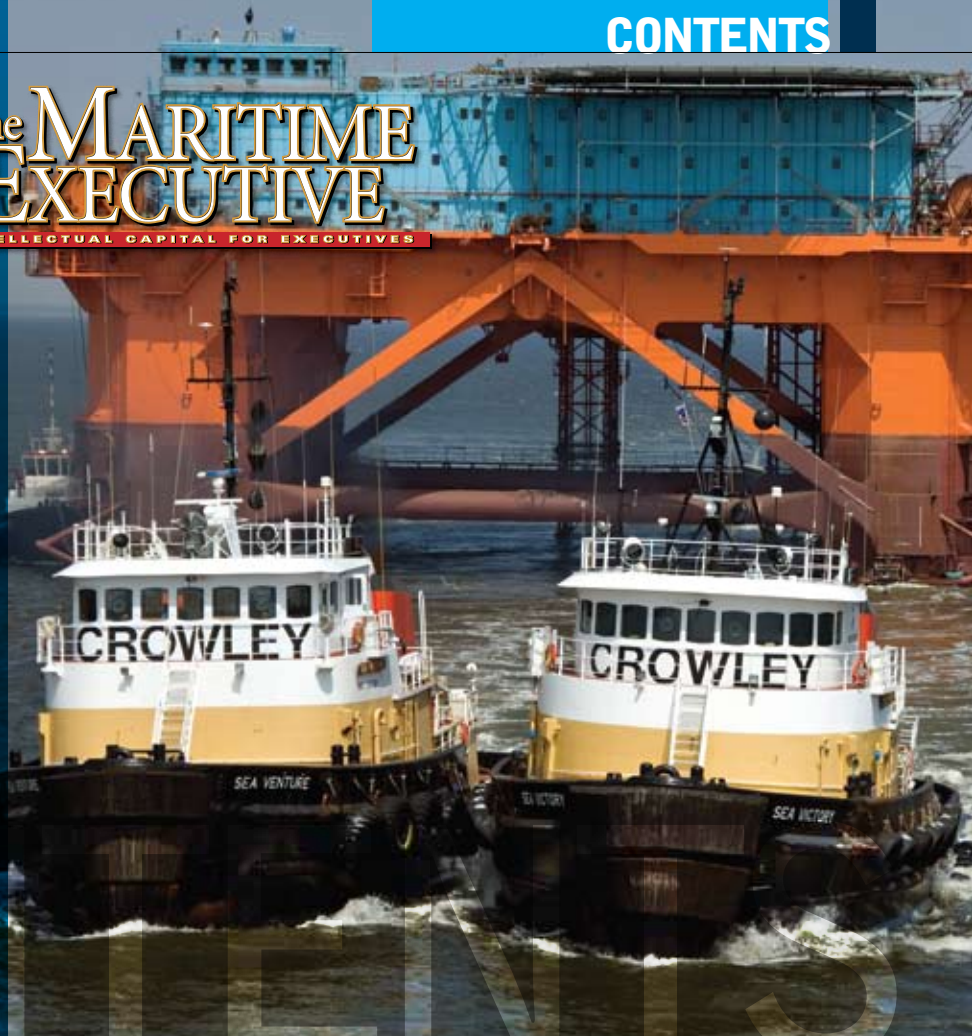
BY TONY MUNOZ

26 | Executive Interview:

TOM CROWLEY, JR.

Chairman, President and CEO

BY TONY MUNOZ



32 Inline by Design

GE's New Inline Six- and Eight-Cylinder Engines Have Many Applications

BY LARRY PEARSON

35 Invasive Species Update: End Game in Sight?

BY JOSEPH KEEFE

39 Making the Connection with Broadband and VSAT

Leisure Liners Hit the ROI Trifecta by Slashing Connectivity Costs, Building New Revenue Streams and Boosting Crew Morale

BY PATRICIA KEEFE

44 Requests for "Ports of Refuge" by Vessels in Distress – Considerations for U.S. Ports

BY NEIL KLEIN

48 Night-Vision Systems Shift Threat Detection to Threat Assessment

BY RANDALL FOSTER AND

PAGE SIPLON

52 Major U.S. Insurance Provider Ready As IMO Bunker Convention Enters Into Force

BY MAREX STAFF

54 "Plan B": Crew Comfort Takes Center Stage

Slowing Economy Finds Owners Retrofitting and Repowering; Interior Renovation May Be Just As Important

BY MAREX STAFF

56 Legal Directory

MarEx Departments

Executive Achievement

8 John Waggoner

Hornblower Marine Services

BY MAREX STAFF

10 Captain Sergey Ponyatovsky

President, INFLOT World Wide Inc.

BY MAREX STAFF

Washington Insider

12 Economic Stimulus and EPA Regulation Provide Opportunities and Challenges

BY LARRY KIERN

MarEx OP-ED

16 Inland Waterways Investment Is Critical to Economic Recovery and Future Growth

BY CORNEL MARTIN

Upgrades & Downgrades

18 Enough Already!

BY JACK O'CONNELL

CS Sovereign is a multi-role DP2 vessel capable of undertaking both cable maintenance and installation projects. Her open deck enables her to deploy a variety of subsea vehicles.



By Patricia Keefe

Making the Connection With Broadband and VSAT

LEISURE LINERS HIT THE ROI TRIFECTA BY SLASHING CONNECTIVITY COSTS, BUILDING NEW REVENUE STREAMS AND BOOSTING CREW MORALE

HARD AS IT MAY BE TO BELIEVE IN 2009, we still have a surprising number of vessels, big and small, wandering the coastlines and crossing the seven seas without adequate, modern communications capabilities. In some cases, you could say these ships are taking the old admonition to “run silent” just a little too literally.

Indeed, according to the May 2008 Maritime VSAT report from COMSYS, a London-based satellite consultancy (http://www.comsys.co.uk/vm1e_mn.htm), the broadband VSAT industry has so far penetrated a mere 10 percent of the potential seagoing market. Meanwhile, “You’ve got these \$100 million ships that have virtually no communications, and virtually no IT, and it makes no kind of sense at all,” exclaims COMSYS’s senior consultant Simon Bull.

Except that there are reasons, of course. Like the heart-stopping cost of what was once the industry standard – narrowband, L-band satellite connectivity. According to Bull, there are stories of people who accidentally let their Inmarsat terminal run for a month and wound up with a huge bill. Match that up to the inherent cheapness of many privately owned shipping companies and, until fairly recently, limited demand for ship-to-shore communications – emergency situations aside – and you get the picture.

But those rationales have steadily eroded over the last decade, particularly over the last five years, thanks to several driving factors:

- » The emergence of cheaper, wider band C and KU-band VSAT technologies, along with smaller, stabilized antennas and software capable of automatically smoothing out latency issues and bridging the gaps between satellite footprints.
- » The arrival on board of technologically tricked-out passengers willing to pay for “always on” access to the

Internet, email and digital voice services. Those revenues are nothing to sneeze at: According to SeaMobile account manager Brent Horwitz, Norwegian Cruise Lines (NCL) went from using very expensive Inmarsat dial-up connectivity as sparingly as possible to turning what was a \$3 million cost center into a \$5 million revenue center by selling VSAT-enabled services to the passengers and crew.

- » The growing difficulty in recruiting and retaining top-of-the-line crew and the ensuing competitive struggle over the available bodies still willing to go to sea.

And typically, once the connectivity is in place, serving the needs of passengers and crew, it begins to dawn on owner/operators that the same service could be used to enhance ship-to-shore communication and services in a number of areas. The end goal in this case is not so much to create revenue as it is to cut time, if not costs, while enabling better, faster decision-making. While difficult to quantify, the ROI here is quite real and can translate into more efficient and cost-effective operations, according to users at NCL and Global Marine Systems.

An important factor in enabling those improvements is the ability to remotely monitor, diagnose, and fix both the ship’s computer equipment and its mechanical operations. The value of executing these repairs remotely, versus having to send trained personnel half way around the globe to effect a fix, can not be overestimated.

Permission to Come A-port?

Lastly is the pressure exerted by a host of regulatory requirements and security issues, ranging from delivery of ship manifests to securing cargo to encrypting confidential business documents. “The way the U.S. is moving and Europe

too, unless you report your manifest ahead of time, they will not let you dock. They might not even let you in coastal waters," warns COMSYS's Bull.

That would be disastrous for perishable or time-sensitive cargoes or a cruise liner full of passengers ready to hit port. With the new regulations regarding the submissions of electronic manifest data to the U.S. Department of Homeland Security, NCL's Vice President of Infrastructure and Operations, Jeff McVay, says VSAT links enable the cruise liner to comply with stringent requirements for submitting this data upon departure and arrival.

However obvious the advantages may seem, the 10 percent adoption rate indicates the industry has a ways to go in getting its story out. It has saturated one market though – and that's the cruise industry. These leisure liners quickly hit the ROI trifecta with broadband VSAT communications, slashing connectivity charges, building new revenue streams by better serving passengers, and boosting crew morale. More recently, they've been expanding their use of those services into shipboard operations and IT support.

Among the pioneering adopters of broadband VSAT was NCL, which has been using broadband VSAT services

High-Speed VSAT Connectivity Onboard a Cruise Ship

Operational Communications

- Connectivity to shore-based operations
- Real-time weather data
- Remote diagnostics
- Vessel management
- Telemedicine

Passenger and Crew Communications

- Mobile phone service
- High-speed Internet access
- Email
- VPN access
- VoIP
- Fax
- Video conferencing

iDIRECT

provided by SeaMobile for 18 years, and iDirect hardware and software since 2003, when it was introduced by MTN in a bid to improve the circuit performance.

The ship runs all its data traffic over a C-band circuit that is up 24/7/365, which McVay notes is the most common type of circuit in use in the cruise industry. Since the company contracts for a specific amount of bandwidth, it has to make sure it can divide that bandwidth to serve multiple uses. This is where IP compression/acceleration devices and adaptive coding and modulation innovations from partner

IS PIRACY ON YOUR HORIZON?

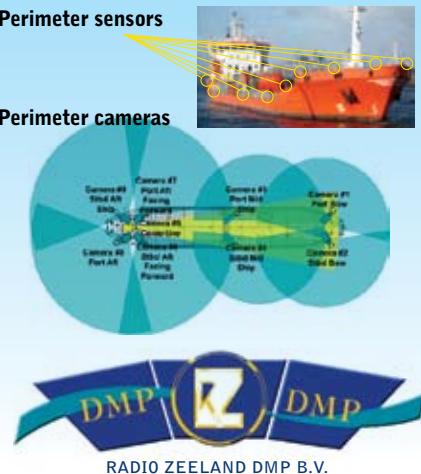
Then don't leave port without your (MEDS™) Maritime Early Detection Systems™

This state of the art solution integrates a perimeter sensor network and sophisticated infrared tracking day/night vision cameras with the onboard radar equipment. The key to success is the customized monitoring installed throughout the ship. Optional remote monitoring at a central location or company headquarters is also available.

- **MEDS™** provides fulltime security and detection of a threat of any nature while alongside a pier, at anchor or far out to sea while under way.
- We can assist your company in avoiding the expense and down time that a potential hijacking can cost.
- With offices and service centers in both the US and Europe **Radio Zeeland DMP** is ready to meet the challenge of today's pirates. Packages are customized to individual ships and companies. Installations are done while the ship remains in service in order to eliminate costly down time.

Perimeter sensors

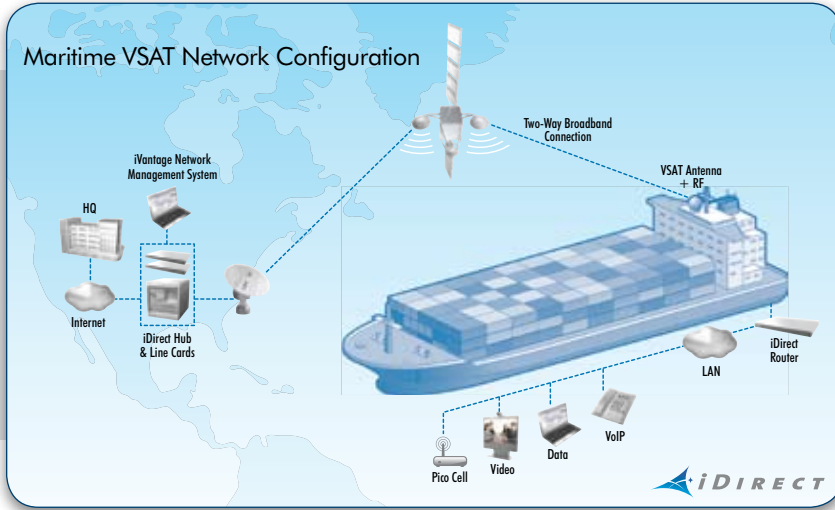
Perimeter cameras



RADIO ZEELAND DMP B.V.

Visit us at the CMA Shipping 2009 conference in Stamford, CT March 23-25.

(954) 463-1416 | www.rzdmpa.com



two services: They can go to a café, log in, pick from a variety of service/time options and bill it to their rooms, or go through the same steps on their own laptops after logging into the service. Cellular service is provided on a non-competing pipe, and it's a revenue-generation service. Wireless access points provide wireless Internet access.

Making Nice With the Crew

While passenger services are typically priced to generate revenue, such is not the case when it comes to the crew, where the focus today is on keeping them happy. The old days of going out to sea for months and effectively cutting off all communication

with family and the outside world is no longer acceptable. Today's crews are computer-savvy and are under huge pressure from family to have some connectivity, says Bull.

"Crew recruitment and retention has been a real problem. The more capable you are, the more likely you are to get a job somewhere else doing something else. Therefore, the ship owners are losing the very people they want to keep, and it's having an impact on the merchant shipping industry. The biggest single area of improvement in terms of quality of life is through communications," says Bull.

iDirect and other suppliers come in, allowing customers to accommodate increasing service demands without having to invest in additional bandwidth.

"To give an example, a 256K circuit, which is one sixth of what you used to have at home with DSL, could run \$8,000 to \$10,000 a month. Where the provider can really help us out is by trying to maximize that bandwidth by squeezing more into the pipe, by accelerating or compressing IT packets," McVay explains.

Passengers on board have access to the Internet through

Rapid Cost-Effective Worldwide Underwater Repair Solutions

IF YOU CAN'T TAKE THE SHIP TO THE DRY DOCK, WHY NOT TAKE THE DRY DOCK TO THE SHIP?

- Permanent underwater weld repairs
- Underwater Aft propeller shaft seal replacement
- Underwater Tunnel thruster repair and extraction
- Underwater Azimuthing thruster repair and extraction
- Underwater Propeller Repairs

OEM and class approved repairs

SubSea Solutions Alliance
www.subseasolutions.com
 Phone: +1-914-826-0045

NORDIC GROUP

NORDIC SHIP CONSULTANTS INC.

- NORDIC MARINE MANAGEMENT, INC.
- NORDIC INTERNATIONAL HOLDINGS, SA
- NORDIC MARINE EQUIPMENT SALES

NORDIC SHIP CONSULTANTS INC.

Marine towage and consulting firm established in 1980

- Merchant Mariner Owners with extensive background in ocean-towing world wide.
- Towing services all around the US Coast, South America, the Atlantic and Pacific Oceans, Europe, the Middle East, and Asia.
- NSCI enjoys a long track-record of successful, reliable service.
- We serve all destinations with a deep knowledge base and valuable time saving service infrastructure.
- Worldwide sale & purchase of commercial & offshore vessels of all types and configurations.
- Management services & operational staff with vast insight and long, "hands on" field-experience.

www.nordicship.com | 954 524 0025

Typical crew connectivity options include Internet cafes, wireless access, low-cost cellular phone services or prepaid phone cards, email access and instant messaging. Video and some audio streaming, however, are banned in many cases because they are bandwidth “hogs” and have the potential to saturate the circuit (consuming all available bandwidth), says McVay.



Jeff McVay,
Vice President, NCL

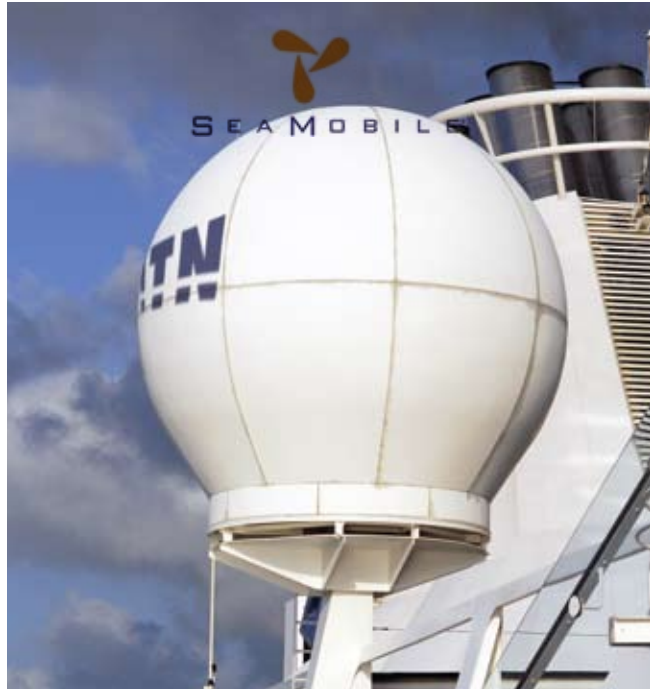
Most of these services are provided to the crew for a nominal fee. According to McVay, since most cruise ships provide the same amenities or close to it, there is a fairly level playing field when it comes to recruiting and retaining crew. Increasing demand for Internet access from the crew has led NCL to adjust its bandwidth allocation to not only provide better performance but also to enhance the crews' Internet café.

“We are sensitive to the performance of the services we provide our crew and we make every effort to make sure that the services are performing as optimally as possible. We also have to remain competitive among the other cruise lines by making sure that our rates are fair and reasonable,” McVay added.

In terms of facilitating better operations – both on the ship and from ship to shore and back – McVay ticked off a number of benefits he attributes to having VSAT's continuous connection:

- » “One very identifiable benefit to having a dedicated circuit is our ability to update our onboard Property Management System with new information from our shoreside reservations system. The circuit allows for the transfer of data within mere minutes from shore to ship.”
- » Greater efficiencies are gained in the timing of ordering parts and planning for the delivery of parts. “The dedicated communications path is a tremendous help in the ordering and delivery of items.”
- » SMS servers on the ship are linked to the central office data center, enabling IT to see, in real time, the status of all servers and workstations. Workstations can receive and confirm security patches, anti-virus and other updates in real time. A remote management capability can troubleshoot any server anywhere on the globe, reducing travel costs and providing much faster and less expensive problem resolution. “It's a tremendous asset. We can control and monitor data flow and traffic in and out of the ship all the way down to Internet content filtering, email, and spam.”
- » “We are able to transmit real-time financial transaction data from ship to shore that we can consolidate shoreside, thus allowing us to have up-to-the-minute financial information regarding onboard revenue and costs. This data is voluminous in nature and could not be achieved without a dedicated VSAT circuit.”

The future for broadband VSAT lies in three areas. First is ever more tweaking of the technology to make it



smaller, more bandwidth efficient and more affordable. This includes creating better ways to squeeze ever more data into the same pipeline and creating newer satellite bands, like KA-band, which promise a significant expansion in bandwidth size.

Second, affordable, bandwidth-efficient video is the next big thing in a technology (satellites) that was created primarily to carry video signals. The key here is two-way video, which will play a significant role in applications like telemedicine, video conferencing, and distance education, says iDirect's CTO Dave Bettinger.

Lastly, there's the coming market expansion into new marine sectors, from the global merchant fleets to tankers, bulkers, ROROs, and cargo ships, etc., where the payoff from cheaper connectivity is more about landing the best crew, cutting costs, saving time, and making more accurate decisions. Another growing market is the yacht and superyacht sector, says Bettinger.

In the meantime, the space to watch is the commercial shipping sector, which is beginning to come to the realization that they have to buy broadband or they will not have a crew. So they are in fact starting to buy, according to Bull. “Once these guys are forced kicking and screaming to put broadband on the vessel, they may come around to proactive engine management. Maybe we'll see this in a year or so – the potential at least is there.

MarEx

Patricia Keefe is a freelance writer, editor and blogger, specializing in all aspects of the high technology industry, including the business of IT and the application of technology for strategic advantage. Formerly Editorial Director for Computerworld newspaper, she has written for a number of publications, including Computerworld, InformationWeek.com, Optimizemag.com and Teradata Magazine.