PROFESSIONAL MARINER

Issue Date: Issue #150, Sept 2011,

Wireless e-mail improving quality of life for mariners

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For mariners at sea, boosting morale can be as simple as getting a message from home. While technology has not always made it possible or affordable, crewmembers now have the capability to keep in touch via their smartphones or laptops — inexpensively and in the privacy of their own cabins.

Advances in wireless networking have made it a reality, taking satellite communication beyond the bridge and moving it into the recesses of ships. Once limited to a ship operator's computer, e-mail can now be sent and received using access points throughout a vessel.

The main advance has been the development of powerful, easy-to-use wireless routers, said Gregor Ross, European marketing director for Telaurus Communications, a satellite services company based in Cedar Knolls, N.J. Telaurus sells a wireless e-mail system that is "plug and play" for ships already using the company's software.

"The ubiquity of wireless on land made us think about how we could provide a similar solution at sea," Ross said. "Thousands of ships already use (our software) and we recognized that with very little outlay, we could use the ship's existing satellite connection to enable Wi-Fi for the crew with very little intervention and a very low cost."

Able Seaman Patrick Mosley checks his e-mail aboard Meagan Ann, one of 14 Donjon Marine tugboats with Wi-Fi capability. Wireless routers allow crewmembers, who may be away from home for long periods, to stay in close touch with their friends and families. (Brian Gauvin photo)

The key is in the advanced routers, which can be attached to a bulkhead and plugged in to the ship's power supply to establish a wireless access point. A ship can have multiple access points, keeping the crew's communications separate from the vessel's business operations.

Range depends somewhat on the layout of a vessel — the more bulkheads, the more interference. In trials and early installations, crewmembers were able to access the network two decks away using a standard laptop.

"Smartphones and PDA devices tend to have a lesser range, but can still be used one deck up," he said.

Telaurus installed the first two systems in 2010 and they have been running successfully ever since, Ross said. More than 3,000 e-mails have been handled per vessel per month.

"We recently upgraded the (access point) hardware for additional range and reliability, and the latest version has been running on a container vessel trading between South America and Europe for three months," he said.

Crewmembers can set up personal e-mail accounts with their own credit cards. E-mails sent using Telaurus'

se@COMM system rarely cost more than 8 cents per message, Ross said. Short Message Service (SMS) text messages cost 25 cents to any destination worldwide.

The system is currently limited to SMS and e-mail, including attachments. Browsing the Internet is not an option at this point due to cost and efficiency concerns, Ross said.

“Our research tells us that crew value e-mail for the direct contact it gives them,” he said. “(Our software) can be configured to allow controlled Web surfing, but we think owners and managers have yet to consider this as important as e-mail services for their sea staff.”

Another system offering ship-wide wireless access is being marketed by Gentay Ltd., a London-based maritime communications company. The system, also “plug and play,” uses a ship’s power cables to provide a link to a satellite communications unit in the bridge. Data flows along the power lines and can be accessed by plugging in a relay unit wherever there is an outlet.

The system, called iPoP – Network Solutions for Vessels, has been tested aboard the 515-foot bulk carrier *Aino Dake* in collaboration with the Wallem Group Ltd. of Hong Kong, a ship management company. Favorable results have led to a second sea trial involving a larger bulk carrier also managed by Wallem.

Martin Nygate, director of Gentay, said the Broadband by Powerline (BPL) technology eliminates the need to install a costly new wired network while providing the capability to handle high volumes of data at high speeds.

While the original concept behind the system was to facilitate low-cost data transfer between any two points on a vessel, Nygate said the benefits extend to more convenient e-mail for a ship’s crew.

“Currently, if a crewmember wants to send an e-mail or conduct a Skype call, he needs to go to a location where there is an access point,” he said. “In some cases the access point will be on the bridge, and in other cases a network cable will facilitate an access point in the communal mess room. Rarely will a company invest in installing access points in the individual cabins of the crewmembers due to the high cost of stringing cables.”

The iPoP system allows a mariner to plug in a wireless unit to establish an access point and create a localized Wi-Fi “cloud.”

“This will allow them to send e-mails, chat and create Skype calls with their friends and family in the comfort and privacy of their own cabins,” Nygate said.

Another advantage of the Gentay system is the ability for a ship operator to add closed-circuit TV cameras without having to install new wiring. The cameras can be used to monitor operations and assist in combating the threat of piracy, Nygate said.

The benefits of wireless e-mail for crewmembers are obvious to Tom Hallock, captain of the 81-foot *Meagan Ann*, a Donjon Marine tugboat based in Newark, N.J. All of the company’s 14 tugs have Wi-Fi capability through remote routers and a land-based provider.

“Anybody can use it anywhere on the vessel for their own personal business,” Hallock said. “You can read your e-mail anywhere on board, and everyone has smartphones now.”

Meagan Ann typically runs on a “two on, two off” schedule — two weeks on the boat, then two weeks off. Hallock said wireless communications can help make those stints away from home seem shorter.

“It’s a big positive keeping in touch with family,” he said.

The technological advances that have made wireless e-mail possible have also brought down the cost of the systems. For operators who are already using Telaurus' se@COMM satellite service, the only cost is the addition of Wi-Fi routers — not more than $150 apiece in most cases.

"The router itself is very light, very simple and can easily be installed by crew," Ross said. "Where the operator is new to Telaurus, we offer various packages including satcomm terminals and full ship-to-shore communications services. In many such cases, the additional cost of providing the crew Wi-Fi is zero."

Nygate said the cost of installing a Gentay master unit on the bridge and establishing access points in the engine room and on two decks would be about $5,600. The cost of adding Wi-Fi in a crewmember's cabin would be an additional $135.

For seafarers who are away from port for days at a time and for operators who want to maintain morale and productivity, the cost is well worth it, Ross said.

"We believe that e-mail connectivity on this level will soon be a must-have for owners who want to attract and retain competent crew," he said.

Mariners are reminded not to use wireless devices in a manner that would cause them to be distracted while on watch.

For more information about wireless e-mail at sea, go to www.gentay.co.uk or www.telaurus.com.