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# Ship & Offshore

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# HEMPEL

# Wi-Fi access as a crew solution for onboard networks

**COMMUNICATIONS** Onboard broadband satellite services and PC networks facilitate crew communications nowadays. Many shipping companies have upgraded their technology but not their communications management practices, however. Wi-Fi access can remove an administrative burden from the ship manager and provide the crew with more privacy, writes Gregor Ross, sales and marketing director at Globecom Maritime.

There was a time when sending a message home from on board a ship was an awkward, sometimes distressing and costly process for the seafarer.

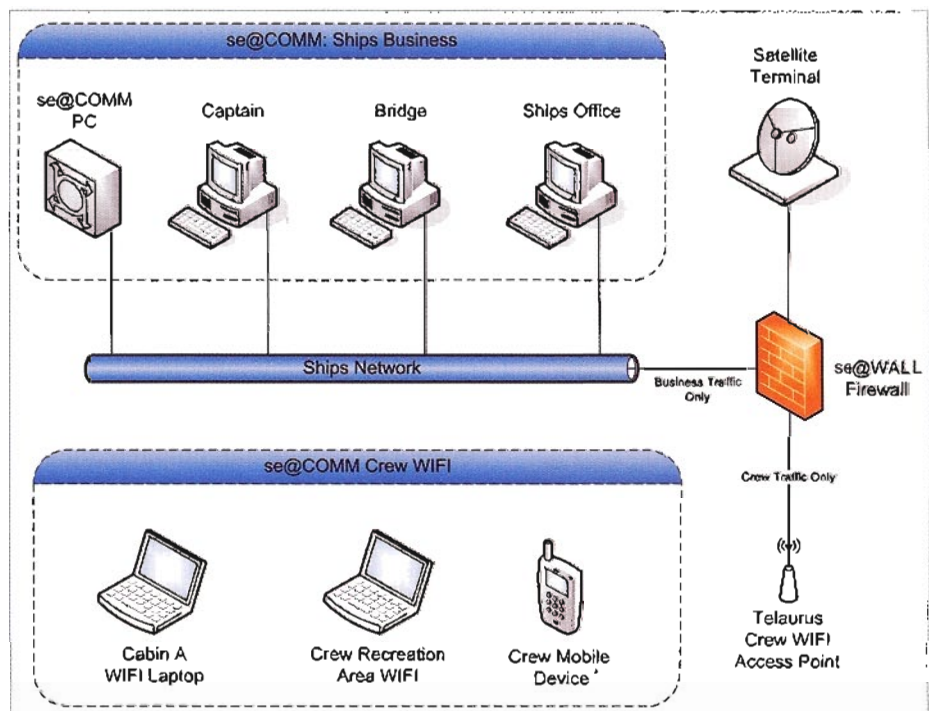
The seafarer would write out his message and hand it to the radio officer (RO), who would transcribe the message and send it ashore using the ship's radio equipment. The message would then be filed in the radio log, where any subsequent RO could read it, and a copy of the message delivered to the master that same day. The RO would work out the cost of the message, add a handling charge and the total amount would be deducted from the seafarer's wages at month's end.

Even today, many shipping companies follow almost exactly the same old procedure. They may have a modern network on board, a broadband terminal for crew use, but often there will still be an officer physically accounting for the time spent connected and cost incurred. Many companies have upgraded their technology but not their management practices.

For the seafarer, the issues of access, privacy and cost remain. For the master and ship manager, administration, control and security are still a burden. As the demand for "crew connectivity" increases, these issues need to be considered when designing onboard networks and deciding how those networks interface with the shore.

The first problem from the crew's point of view is access to the phone or computers to make calls or send e-mail. They often have to ask permission, and the ship manager may not like crew accessing the ship's equipment because of the risk of virus infection or disputes if something goes wrong with the network or PC. In addition, there may often only be one phone or kiosk-style computer available.

The second major problem from the crew's point of view is privacy. Calls can often be overheard, and if a crew member sends e-mails or personal messages on the ship's equipment or uses an account provided by the vessel, private e-mails can be read by others.



se@WIFI network diagram

From the ship management's point of view, satellite communications are an expensive and limited resource and should primarily be used for ship's business. Safety communications are normally "pre-emptive" to ensure their priority, but if the equipment is tied up when the agent is trying to call, the impact can be costly.

Because of these issues, the approach taken by some owners and managers is to deny the crew access to the ship's equipment except in emergencies. Thankfully, that model is fast disappearing under pressure from welfare bodies and in light of the ratification of the Maritime Labour Convention. At the other end of the spectrum would be a typical VSAT installation to which the owner gives the crew virtually unlimited access at the company's expense.

The middle ground is probably the most common model: The owner has a broadband installation to which the crew has

access but for which they must pay, usually with pre-paid calling cards or credit cards. This simplifies the administration problem for the master because he can sell pre-paid PINs and phone cards on board the ship.

While this model might be better for the ship in some ways, it is not a great improvement for the seafarers. They are still using ship's equipment, so the problems of access and privacy remain. Some independent service providers (ISPs), including Globecom Maritime, allow crews to purchase calling cards directly, removing the administration for the ship. Depending on the service provider, some crew e-mail is also completely private.

The growth in demand for ship-to-shore connections has created a new secondary market in crew communications but also has an unintended side effect. The airtime providers are encouraging ISPs and distri-

bution partners to sell owners and managers bigger and bigger packages, which bundle more airtime at more attractive prices. This creates the opportunity for the owner to re-sell services to the crew, and though this might look attractive, it is in some ways a step backwards. It keeps the ship's business and crew communications together and puts the shipowner and manager back in the position of having to administer the accounts and even pricing crew calling services and selling them to the crew as well as distributing calling cards to the ships.

While the demand is increasing, there is a limit to the time and money available for crew to spend on personal communications. A shipowner signing up for a large monthly commitment on the basis of the crew's paying for most of the usage could be left with a very costly solution after a crew change.

#### Advantages of Wi-Fi networks

The latest development is the provision of onboard Wi-Fi networks specifically for crew usage. It has huge advantages in terms of access because the crew can use it on their own smartphones or laptops, which also solves the privacy issue. The other significant advantage is that the Wi-Fi can be completely firewalled from the ship's business network. This removes the danger of virus infection and also solves the issue of administration for the bridge and senior officers.

For shipping companies, the additional investment is very low – the communication equipment, the communication server and a network on board are usually already present. The Wi-Fi network still uses the same communication server as the ship's business but is separate from its network.

Even though the owner is giving the crew access and privacy, that access can be controlled via the communication server and its associated firewall, so that streaming video or access to unauthorised sites can be prohibited.

On larger VSAT installations, Globecom Maritime also uses traffic management software to ensure that any onboard network can be prioritised for connection via the communications server. If ship's business needs to take priority, the two systems still operate but the crew bandwidth can be temporarily scaled back.

In combination with the crew's direct purchase of calling cards from the supplier, the intervention from the shipping company becomes minimal, with completely separate accounts administration and billing.

#### Outlook

Globecom Maritime is currently rolling out more than a hundred Wi-Fi installa-

tions to German-controlled vessels. Early customers include Thomas Schulte, Bockstiegel, NSC and Briese Schifffahrt.

The installation is rather inexpensive – it can be performed by the crew – with the router and repeaters the only hardware required. E-mails sent over the Globecom se@COMM system can be as low as USD 0.03 per message, and the evidence so far is that services like this have a very positive impact on crew retention.

Onboard communications networks are here to stay, but it is clear that they are still evolving. Wi-Fi has the potential to solve the problems of access and technology by making the crew network a private, safe and separate system.

As this evolution continues, service providers will increasingly adopt a different ap-

proach to shipboard networks. By treating the crew and the ship as separate entities, services can be directly provided to the crew and any administrative burden removed from the ship manager.

At the same time, better network design can provide the crew with easy access and full privacy at a very realistic cost while protecting the shipowner's investment in IT and communications equipment.

Most seafarers may soon be able to use software similar to PayPal to pay for access through a single portal and receive potentially unlimited access to e-mail and Voice over IP services on their own equipment at a time and place that suits them. Maritime communications will then have truly evolved into something close to the access taken for granted ashore.

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