

Digitalization in the Maritime Industry

Successful Trials Pave Way For Danelec and TeamViewer Powered Maritime IoT



Danelec

INTERORIENT
SHIPMANAGEMENT

Cyprus headquartered Interorient Shipmanagement, Danish operational technology specialist Danelec Marine and mainstream IT remote access provider TeamViewer have completed extensive trials of a new low-cost, simplified vessel remote connection solution.

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Christos Ioannidis,
Interorient’s Head of Navigation and Electronics

Initial Situation

A key challenge for the Cyprus headquartered Interorient Shipmanagement is standardizing and reducing the cost of remote access and control on its managed vessels.

No stranger to maritime digitalization, Interorient uses analytical technologies to assist its teams in diagnosing potential issues and has deployed several new digital solutions in recent years, such as a paperless safety management module, which facilitates control and review of HSEQ, and electronic oil record books. Further initiatives have centered on crew welfare, including a new fleet personnel system where certificates, training and future vessel assignments can be monitored as well as an anonymous reporting app and a transparent Crew E-Appraisal system. Work so far has optimized operations and working conditions, but Christos Ioannidis, Interorient’s Head of Navigation and Electronics, is looking to the future. “We continue with initiatives for digitalization and look forward to reducing more of the existing manual and paper processes,” he explains. Reducing the technicalities and cost of achieving reliable vessel remote access are an important part of Christos’ plans and at the end of 2020, Interorient was part of a sea trials program of a new standardized solution developed jointly by Danelec Marine and TeamViewer.



Success Criteria

The system uses Danelec's Vessel Remote Server (VRS) – a low-cost, simple to deploy plug and play module that enables secure connectivity to a Voyage Data Recorder (VDR) – and an adapted version of TeamViewer's remote support software. The trials focused on a very specific set of applications, with the ability to conduct Voyage Data Recorder (VDR) Remote Management via TeamViewer a key success criterion that was passed with flying colors. Interiorient used the system to conduct pre- Annual Performance Tests (APT) of the VDR systems on board, a process which would normally require an engineer to visit. It's a reflection of the simplicity of the system that Christos could complete the tests the day the new system went live on his ships.

"Vessel schedules can be very tight and any time we are able to save is important for the ship owner or ship manager, so the pre-APT tool is very useful," explains Christos. "VRS and TeamViewer together enable monitoring and testing of VDR sensors and inputs, which reduces time and costs."

Further success criteria met during the trials included remote checking of Alarm Status, which gave Interiorient a health indication of the vessel at any time, remote trouble shooting and on-demand VDR data download which supports incident response and reporting. The system was also used to perform an Installation Performance Test (IPT) on a newly installed VDR. This reduced the time and cost burden of achieving a Certificate of Compliance as it negated the need for an engineer to visit the ship and test the sensors whilst underway.



Platform Development

The TeamViewer remote desktop solution is used by millions of business and home users to work remotely, but it wasn't until the introduction of a TeamViewer version specifically designed for embedded devices that its commercial potential could be realized for maritime users. "Together with Danelec, we built a special version of the TeamViewer IoT agent, that perfectly embeds into the Operating System of the VRS and launches on demand," said Patrick Giezen, IoT Solutions Excellence Manager at TeamViewer.

As an alternative to building a custom Virtual Private Network (VPN), the VRS and TeamViewer combination is much easier to deploy and requires little to no on-going management. Uniquely, it provides central management of remote access for all vessels in a fleet. "With the VRS and TeamViewer's ability to gather and analyses data from sensors, we can consolidate the data coming from the vessel as well as the cargo or important subsystems like pumps, boilers and communication equipment. With our unique solution we enable remote management of any connected system on any vessel in the fleet centrally from shore."

The system is also inherently cyber secure from external threats, according to Patrick, who said: "We don't require any inbound ports to be exposed. We create an outbound UDP tunnel, that is fully end-to-end encrypted with no Man-in-the-Middle."

Looking Forward

Remote access to the VDR as demonstrated with Interorient is a focused use-case for the VRS and TeamViewer combination, but it can be seen as a significant step in opening maritime IoT and vessel digitalization to a wider market of ship owners and managers, as well as technology manufacturers.

The standardized nature of the technology keeps costs low in comparison to customized networks and the 'ready-baked' TeamViewer interface reduces complexity while delivering security. "Combining the convenience and security aspects of TeamViewer with the VRS gives fleet managers new opportunities for remote actions or root cause analysis capabilities from shore," said Patrick.

"I am very pleased to see how Danelec is progressing towards digitalization and access to bridge equipment via their VDRs and the VRS, and I am looking forward to seeing future developments in remote monitoring and data processing," said Christos. A full commercial solution based on the VRS, and TeamViewer integration is expected by the end of 2021.

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Patrick Giezen,
IoT Solutions Excellence Manager at TeamViewer



About Danelec Marine

Danelec Marine develops technologies to optimize the safety, cost and performance of marine operations. Based outside of Copenhagen, Denmark, the company is a leading manufacturer of Voyage Data Recorders (VDR), Electronic Chart Display & Information Systems (ECDIS) and ship-2-shore data solutions, with products installed on more than 6,000 vessels worldwide. Danelec Marine is committed to providing the most effective product and services that help customers in the marine industry to meet changing regulations and to operate more efficiently through the application of data collected on board and accessed in the cloud.

www.danelec-marine.com

About Interorient

Interorient Ship management was founded in 1979 and today prides it self as being one of the leaders in quality ship management in the shipping industry with a long and successful history. The company maintains the highest degree of operational and safety integrity and places great emphasis on its employees, its human capital, and enjoys a high degree of employee retention and loyalty.

www.interorientshipmanagement.com

About TeamViewer

As a leading global technology company, TeamViewer offers a secure remote connectivity platform to access, control, manage, monitor, and support any device — across platforms — from anywhere.

With more than 600,000 customers, TeamViewer is free for private, non-commercial use and has been installed on more than 2.5 billion devices. TeamViewer continuously innovates in the fields of Remote Connectivity, Augmented Reality, Internet of Things, and Digital Customer Engagement, enabling companies from all industries to digitally transform their business-critical processes through seamless connectivity.

Founded in 2005, and headquartered in Göppingen, Germany, TeamViewer is a publicly held company with approximately 1,400 global employees. TeamViewer AG (TMV) is listed at Frankfurt Stock Exchange and belongs to the MDAX.

Contact

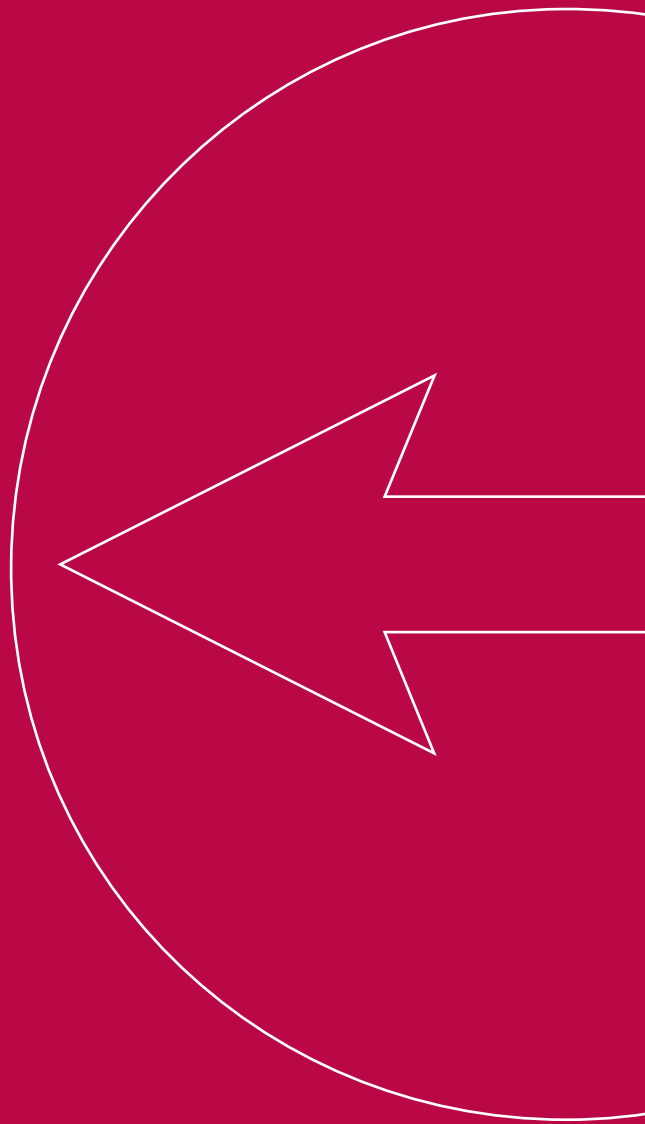
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