

Integrating thousands of siloed, edge-based systems with rugged HCI solution

DELLTechnologies

"We increase our innovative competitiveness by building our Rhodium platform on maritime-certified HCI solutions from Dell Technologies OEM Solutions. That's because we reduce development and maintenance time as well as risk."

Stefan de Bruin

Product Manager, RH Marine

Situation Analysis

Drive breakthrough industry modernization with data, insights and automation

Large ships are essentially cities that must operate their own private clouds, without any dependence on internet connectivity. Beneath the surface of sleek ship exteriors, thousands of edge-based applications run every mechanical system from navigational controls, engines and HVAC units to radar and weather monitors.

Traditional, edge-based ship systems operate on their own proprietary hardware platforms that communicate with each other through dedicated interfaces. For over 150 years, RH Marine has delivered these complex, manually integrated systems to more than 15 countries' militaries and private mega yacht manufacturers. Because proprietary silos limit the use of ships' data, RH Marine engaged Dell Technologies OEM Solutions to help deliver a standardized, fully integrated electrical and automation edge system for ships called Rhodium.

RH Marine chose to partner with Dell Technologies OEM Solutions because it:

- Offers solutions for high-performance and real-time insights at the edge.
- Delivers a rugged, highly available HCI that's integrated with VMware and certified to meet specific maritime regulations.
- Provides expertise to comply with specific customer requirements.

Because Dell Technologies offers proven experience in delivering secure, agile and scalable edge solutions, RH Marine also gives marine and military customers peace of mind in adopting innovative onboard systems and driving operational transformations with systems built with Dell Technologies OEM Solutions.

Design Partnership

A partner with fully certified, shipshape systems

RH Marine builds a custom Rhodium solution on rugged PowerEdge XR appliances. The modular, fully integrated platform runs virtualized software stacks on one or more enclosed PowerEdge servers, which each provide scalable processing and storage performance.

All of Rhodium's PowerEdge XR appliances are ruggedized and certified for edge-based marine environments. They also provide the following critical security capabilities:

- Cryptographically signed firmware
- Secure boot
- Secure erase
- Silicon root of trust

RH Marine depends on Dell Technologies OEM Solutions to:

- Partner in delivering best-in-class solutions to maritime and military customers.
- Manage maritime hardware certification processes.
- Provide edge and data center expertise to overcome issues such as the decoupling of hardware and software in traditional systems and configuring vSAN environments to simplify and accelerate lifecycle management.
- Procure HCI solutions and expedite manufacturing cycles.

Outcome

Real-time insights and automation that save time — and possibly lives

By partnering with Dell Technologies OEM Solutions, RH Marine:

- Minimizes the physical space required for onboard systems.
- Halves the power requirements of onboard systems.
- Facilitates the ingestion and analysis of data from thousands of data points at the edge, including IoT sensors to deliver real-time insights such as equipment status alerts, system visualizations and live video feeds.
- Accelerates the development of AI-enabled ship controls at the edge, including autonomous navigation.
- Cuts onboard application complexity, speeds up customer deployments and simplifies the lifecycle management of onboard edge applications.
- Streamlines ship maintenance and data sharing with dock operators.
- Increases onboard security at the edge with chip-level security and centralized system controls and insights.
- Improves Rhodium's scalability, flexibility and longevity because staff can easily deploy new VMs, HCI chassis, servers and server components as needed.
- Enables the release of new Rhodium platform capabilities annually instead of every five years when physical systems are upgraded.
- Bundles VMware licenses with Rhodium, which simplifies customer billing.
- Gains options for future revenue-generating services such as offering customers Dell ProSupport services.

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