



## Healing across the oceans

Mercy Ships relies on Dell Technologies hyperconverged infrastructure to empower caregivers to heal people.



Using the same hyperconverged technology in its onboard and onshore data centers, Mercy Ships brings modern healthcare to resource-poor areas, delivers medical training and achieves ever-improving patient outcomes. At the same time, the organization simplifies IT management to achieve greater agility and efficiency.

## Transformations



Achieves better patient outcomes faster.



Empowers local caregivers, even after Mercy Ships vessels move on.

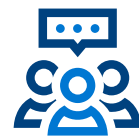


Streamlines IT management across onboard and onshore data centers.

## Outcomes



Drives continuous care improvements through innovative medical technology.



Facilitates realistic virtual medical training.



Allows real-time data sharing in consultations with experts anywhere.



Speeds up decisions and critical steps in patient care.

Mercy Ships, a global nonprofit organization, aims to bring hope and healing to the billions of people who lack access to adequate healthcare. The organization delivers surgery, medical care and caregiver training through ships equipped with state-of-the-art surgical and IT equipment.

Mercy Ships works closely with Dell Technologies to explore and deploy innovative technologies that can help it deliver its life-changing services. Across its vessels and International Support Center (ISC) in Garden Valley, Texas, the organization keeps technology consistent to make IT more manageable. Dave Shwadlenak, vice president of information systems at Mercy Ships, says, “Dell Technologies has become our partner of choice. They’re almost an extension of Mercy Ships in how they take ownership of and pride in our success.”

## Transcending physical boundaries to deliver healthcare

Mercy Ships has a unique advantage compared to similar organizations. “The magic of Mercy Ships is that we can bring state-of-the-art medical technology to countries where it is not readily available,” Shwadlenak explains. “Dell Technologies is key to making this possible.” The organization repurposes the ships’ IT equipment to boost the service capabilities of onshore operations like the Hospital Out-Patient Extension (HOPE) Center in Conakry, Guinea, where patients can recover after their onboard surgeries.

On the Global Mercy, the newest vessel, the most critical technology is Dell VxRail hyperconverged infrastructure (HCI), backed by Dell PowerScale data storage and Dell PowerProtect appliances and software for data protection. Jonathan Dyson, director of enterprise infrastructure at Mercy Ships, explains, “On a VxRail hyperconverged foundation, we can build a consistent hybrid cloud environment that encompasses our data centers at the edge and in the ISC, phasing in leading-edge technology as connectivity allows.”

VxRail supports a diverse set of mission-critical application workloads, including a surgical training facility, laboratory systems, a crew clinic, galley services, HR, finance and a K–12 school for the care team’s and crew members’ children. Mercy Ships will replicate the same data center environment on another vessel, the Africa Mercy. “With assistance from Dell Technologies, we can align our operations on HCI,” Shwadlenak comments. “That helps us streamline the tasks of onboard IT managers and staff more efficiently.”

## Edge technology enables consistent, coherent operation across the fleet

Almost immediately after implementing its HCI edge solution, Mercy Ships was able to replace many slow paper-based processes. “With compute and storage on board, we automated and accelerated many processes,” says Dyson. “We now keep surgery schedules updated in real time, handle more surgeries and treat more patients.”

Mercy Ships HR needs to manage planned volunteer turnover of almost 300% per year and track between 1,500–3,000 people on board the vessels along with their skills and schedules. With VxRail at the edge generating real-time insights, this effort has become vastly more manageable. Shwadlenak describes, “With edge to core to cloud computing, we have automated scheduling, skills records and past volunteer roles with real-time global updates. We can assign medical and operational staff more effectively and faster. Our 16 national offices and the onboard hospitals can gather and share information in a central database to help us manage talent for the best care outcomes.”

## Fueling long-term caregiver empowerment

Taking advantage of technology on the ships, local doctors, surgeons and nurses learn in a simulated clinic with an intensive care unit, where they practice on realistic automated mannequins. As these medical practitioners grow their skills, Mercy Ships records training videos and develops a



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curriculum for a comprehensive surgical training program. Shwadlenak comments, “By delivering training on our vessels, we can develop medical capacities for the benefit of local residents. Doctors and nurses can serve patients after our ships leave, augmenting their training remotely by using edge technology to connect to the cloud.”

Remote consultations and assistance from medical specialists anywhere can augment the skills of care teams on the ships with specialized expertise and medical innovation. “We have set the stage for remotely managed surgeries and other achievements we would not have thought possible even a few years ago,” Shwadlenak adds.

## Elevating care outcomes

Onboard medical teams work electronically and no longer use paper records in partial duplication of digital tools, which gives them more time for patients. “VxRail makes it possible to share data with doctors around the world and immediately get their expert opinions,” Shwadlenak explains. “Ship-based caregivers can exchange information and be aware of what’s going on with patients. It also allows us to implement crash alarms and other measures that are common in first-world hospitals but that we didn’t have on board until now.”

Medical care on Mercy Ships continues to advance. Shwadlenak says, “As a few seconds can make a big difference for patients’ treatments and recoveries, VxRail allows us to continuously improve the speed and quality of the care experience for patients, doctors and nurses.”

For Mercy Ships, Dell VxRail will help advance onboard data centers into the future. Dyson concludes, “We can now act on many possibilities that didn’t even exist before; for example, implementing a new HR information system and electronic medical records on all our ships, with data readily available and shareable.”



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