



INDUSTRY

HEALTHCARE, TRANSPORTATION

LOCATION

UNITED STATES

KEY CHALLENGES

- IT infrastructure lagged behind business demands
- Manual updates created security risks and inefficiencies
- Rising hardware costs pressured budgets

SOLUTION

A hyperconverged infrastructure solution with VMware vSAN™ delivers storage virtualization, while VMware vSphere® 6.7 provides compute virtualization. Together, they bring unified management to support Angel MedFlight's life-saving services.

BUSINESS RESULTS

- Performance for exchanging critical patient and aviation data improved by more than 50 percent
- Cost effective for small firm and IT team to operate with enterprise capabilities
- Scalable infrastructure supports a 30 percent growth in flights
- Better patient experiences and more lives saved

Angel MedFlight Makes Every Moment Count with Hyperconverged Infrastructure

Based in Scottsdale, Arizona, Angel MedFlight is a leader in patient advocacy and clinical care standards in the air ambulance industry. The company has flown missions in more than 52 countries, helping patients quickly and safely get the specialized medical care they need.

Angel MedFlight relies on 24/7/365 support from its call center and support staff of experienced healthcare, transportation, logistics, and IT professionals, underpinned by a highly secure and modernized IT infrastructure. Clinical staff on board the company's Learjet 35 aircraft, equipped like a hospital intensive care unit, rely on iPads to receive and review patient information in advance of a flight.

A custom medical record charting app, developed and maintained by Angel MedFlight, connects to Salesforce and Amazon Web Services, and back to the company's data center to help support staff and clinicians coordinate patient care before, during, and after a bedside-to-bedside patient transfer. Given the critical nature of caring for patients while flying around the world at 40,000 feet, uninterrupted performance of the IT infrastructure is a must.

The challenge

Angel MedFlight has doubled its staff in the past seven years to help save more lives while enhancing its patient advocacy and insurance coordination services. As the company developed its five-year growth plan, it determined its existing data center infrastructure was insufficient to support the company's goals.

Higher costs to maintain and refresh data center hardware threatened Angel MedFlight's plans to operate cost effectively. At the same time, cumbersome, manual processes slowed IT responsiveness to increasingly complex business demands as the company expanded. Highly manual technology lifecycle management also created exposure to security threats.

Angel MedFlight spotted opportunities to grow its business and transport more patients, but was constrained by crew duty time limits mandated by the Federal Aviation Administration (FAA). Because each transport required three hours of post-flight medical charting, Angel MedFlight clinicians were limited in the number of patients they could serve each day. The IT team sought to address this challenge with technologies to make business processes more efficient, including an online app to reduce charting time, enabling crews to care for more patients within duty

time limits. To support its plans, Angel MedFlight needed a high-performance IT infrastructure that could more securely and flexibly accelerate the company's high-flying aspirations.

The solution

Angel MedFlight selected a VMware hyperconverged infrastructure (HCI) solution after considering competitive alternatives from Nutanix and HPE SimpliVity. Found by Angel MedFlight to offer better pricing and overall value, VMware vSAN 6.7 natively integrates with VMware vSphere 6.7 to accelerate infrastructure performance, optimize resource efficiency, and maximize scalability.

The modern, HTML5-based user interface in vSphere 6.7 offers an intuitive, single pane of glass for managing the virtualized infrastructure, eliminating the need to train staff on specialized storage interfaces. The solution helps protect Angel MedFlight's patient data both at rest and in-flight with the first native software-based, FIPS 140-2 validated HCI encryption, in line with stringent U.S. federal government standards.

With fully functional integration to the web client in the newest versions of vSphere, VMware vSphere Update Manager™ enables centralized, automated patch and version management for vSphere and offers support for VMware ESXi™ hosts, virtual machines, and virtual appliances. It has become one of the Angel MedFlight IT team's favorite features since upgrading directly from vSphere 5.5 to vSphere 6.7.

"I probably had a 20 to 25 percent workload reduction just by using vSphere Update Manager because I can stage everything and just let it run, checking only occasionally just to make sure everything is on track or remediate if anything arises. It's much faster than applying patches with ISOs or USB flash drives. I no longer have to work through three nights to get it all done," says Ian Conner, senior system administrator at Angel MedFlight.

Business results and benefits

Within IT and across the organization, staff notes 50 percent or better performance improvements with the new infrastructure. Backups that previously took hours for the IT team to complete are now done in less than an hour, freeing IT time for other priority initiatives. "The VMware solution enables our small IT team to function at a higher level. We can perform like a large enterprise from a technology standpoint, with the best resources," says Paul Green, CIO of Angel MedFlight.

"Our employees use shared drives, and now transferring large medical files is much faster. That's critical. When you only have a two-hour window to compile important documents so a patient can be flown for a life-saving organ transplant, every moment counts," says Green. The company's unique capabilities for rapid patient transports, backed by its upgraded technology infrastructure, are driving an unprecedented growth trajectory.

Due to Angel MedFlight's enhanced IT infrastructure, the company's teams can do even more work in advance with medical facilities sending off and receiving patients. The medical charting app and iPad put vital information at a clinician's fingertips on board the air ambulance, often enabling clinicians to complete some preoperative procedures while in flight, saving valuable time for a surgery team waiting at a receiving hospital.

"I'm proud to be part of a team making our technology faster and better. Every day, our work has a positive impact on our patients and their families," says Green. "From flying a child who suffered a traumatic brain injury while vacationing abroad to transporting a retiree from a rural community for an organ transplant, we are ready to help. Angel MedFlight's IT environment allows our teams to respond quickly, dispatching an aircraft within a few hours for life-saving transports."

“With our hyperconverged VMware infrastructure, we have a long-term platform for success. There’s no better platform for flexibility and scalability.”

PAUL GREEN
CIO
ANGEL MEDFLIGHT

VMWARE FOOTPRINT

- VMware vSphere 6.7
- VMware vSAN 6.7

PLATFORM

HPE servers

“When technology enables our operations team to coordinate flight logistics faster, helps our clinicians on the plane work with patients more efficiently, and streamlines the insurance process for our patient advocates, we can deliver even higher levels of patient care. It helps us save more lives and stand out from other air medical transport services,” says Green.

The VMware solutions also put the IT organization in a strong position to support Angel MedFlight’s new business initiatives and growth. “With our hyperconverged VMware infrastructure, we have a long-term platform for success. There’s no better platform for flexibility and scalability,” Green says. “The solution is robust, and we can add servers or data storage on the fly to grow with our business.”

Looking ahead

Angel MedFlight’s upcoming initiatives include promoting a digital workspace with VMware Workspace ONE® and virtualizing some older aviation applications that only run in a Microsoft Windows environment. “Removing the dependency of a physical desktop for key applications and giving our flight coordinators access to important information from anywhere, on any device, will further enhance our team’s readiness and effectiveness, and advance Angel MedFlight’s mission,” says Conner.