



The customer summary

Customer name

Kaleida Health

Industry

Healthcare

Location

Buffalo, New York

Number of employees

11,000

Advancing Healthcare Innovation and Saving Millions

Kaleida Health modernizes its data centers with Cisco technologies



Challenges

- Modernize an aging data center infrastructure
- Support 11,000 users, 30,000 endpoints, and 150 physical sites
- Increase technology-driven healthcare innovation



Solutions

- Hyperconverged infrastructure with cloud-based management
- Software-defined network



Anticipated results

- Reduce technology and licensing costs by millions of dollars each year
- Improve infrastructure monitoring, management, automation, and security
- Push IT to the forefront of healthcare innovation and optimization

Challenge: Establish one of the most modern data center environments in healthcare

Thomas Hull faced a daunting task in 2019 when he became senior vice president and interim CIO of Kaleida Health, the largest healthcare provider in Western New York. Not only did he have 11,000 users, 30,000 endpoints, and 150 physical sites to support, but he was also tasked with driving technology and healthcare innovation throughout the entire Kaleida health system, which serves more than one million sick or injured patients each year. And a mishmash of aging infrastructure technologies, some of which had been in place for more than a decade, were not up to the task.

“There were a lot of opportunities for improvement,” Hull recalls. “Ninety percent of the infrastructure, from compute and storage to networking and virtualization, was at or reaching end-of-life. It wasn’t capable of supporting emerging workloads. And there were too many potential points of failure.”

As his first order of business, Hull initiated a sweeping data center modernization effort that is, in his estimation, the biggest and most ambitious in the U.S. healthcare industry.

“I’ve been involved in several modernization projects, but this is very rare,” Hull says. “The scope is larger than anything I’ve seen in the industry, and it’s as modern as you can get in healthcare today.”

Most health systems are operating under technological constraints, he explains. With Kaleida leaders wanting to push the boundaries of healthcare innovation – leveraging IoT, AI/ML, virtual reality, wearables, and other next-gen technologies – Hull sought to remove such constraints.

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Sr. Vice President and Interim CIO

“If you don’t have the right foundation, you can’t support the next big thing,” he says. “We wanted a highly virtual, software-defined infrastructure that gives us hardware flexibility and management consistency.”

That foundation is currently being built with Cisco® HyperFlex™ hyperconverged infrastructure, Cisco Unified Computing System™ (Cisco UCS®), and Cisco Application Centric Infrastructure (Cisco ACI™).

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Hardware flexibility, management consistency

The new infrastructure will span two active/active data centers that provide full redundancy, automatic failover, and hardware flexibility. Kaleida will use Cisco HyperFlex for its virtual desktop infrastructure (VDI), Cisco UCS servers for electronic medical records (EMR) and other core applications, NetApp for storage, and Commvault for backup and restore. All of the compute, storage, and backup systems will be managed with Cisco Intersight™ and aligned with a Cisco ACI network.

“Cisco Intersight will bring together the monitoring and management of our compute and storage infrastructure,” Hull says, “and we’ll integrate it with ServiceNow for inventory and asset management.”

Technology integration and consolidation will enable Kaleida to dramatically simplify its IT operations, decommission at least nine monitoring and management tools, and save millions of dollars each year as a result.

Kaleida expects to save even more by adopting the new open source, KVM-based Cisco Intersight Workload Engine (IWE).

“Right now we have three hypervisors, and whether it’s cost, complexity, or constraints, they all have issues,” Hull says. “We’re tremendously excited about the new Cisco hypervisor. We’ll put it in our core infrastructure, get rid of the others, and save \$5-10 million a year in licensing costs alone.”



Software-defined network, robust security

In addition to overhauling its compute and storage infrastructure, Kaleida will leverage Cisco Nexus® 9000 Series switches and Cisco ACI, the world's leading software-defined networking solution, to align and automate its two data centers.

“Cisco ACI will enable us to nimbly support a broad mix of users, applications, devices, and partners,” says Hull, “and it will also help us with HIPAA compliance, security, backup, and disaster recovery.”

Segmentation will be used to isolate and protect 35 corporate entities and subsidiaries as well as external partners and guests. A common policy model will improve Kaleida's security posture and access control. And Cisco Secure Workload (formerly Tetration) will help establish a zero-trust environment.

“Cybersecurity will be greatly enhanced with Cisco Secure Workload,” Hull says. “We'll be able to manage and contain access to any server, application, or piece of data. And we'll be able to map our applications and see all network traffic in real-time, which will streamline monitoring and troubleshooting.”

From backroom operations to frontline innovation

In addition to building one of the most modern data center environments in the U.S. healthcare industry, Kaleida is creating an innovation center where new healthcare technologies and use cases can be tested. From mobile robots

that facilitate virtual visits between physicians, patients, and family members to clinical diagnostics using microscopy telemedicine – both of which will leverage Cisco Webex® – Kaleida plans to be a leader in technology-driven healthcare innovation.

“There's so much opportunity, and we're just getting started,” Hull says. “The ability to take foundational technologies and apply them to advanced healthcare use cases is very powerful.”

And it is raising the profile of IT throughout the Kaleida health system.

“We're moving from the backroom to the frontlines,” says Hull. “The future of healthcare innovation and operational efficiency will all go through IT. We need to lead, and we can only do it with Cisco.”

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