

Siemens Healthineers puts cloud at the heart of a global strategy



NetApp® Cloud Volumes ONTAP® is a healthy choice for on premises or public cloud. Flexibility and scalability are just what the doctor ordered.

If 2020 taught us anything, it's that healthcare is global. Solving health challenges requires a coordinated global effort—one in which data plays an important role. Our humanity compels us to ask the difficult questions about these life-altering mysteries, but it's the data that enables us to discover the answers.

Siemens Healthineers® contributes as a leading manufacturer of devices for medical imaging, testing, and diagnostics. More than 50,000 employees and an extended network of partners are dreaming and building these data-dependent devices. The cloud and NetApp are helping them do it better.

Cost optimization with tiered storage architecture

“We will have one provider, one operating model, one unified architecture. It helps us automate, so overall complexity goes down significantly.”

Rohit Agrawal
Global Head of Cloud and Data Center, Siemens Healthineers

Healthy respect for history

Siemens Healthineers has been an innovator in healthcare device manufacturing for more than 120 years. As medical science has pushed for improvements in equipment, the resulting technologies to support them have constantly improved. Siemens Healthineers is committed to precision medicine, transforming care delivery, and improving patient experience, all enabled by digitalizing healthcare.

The IT infrastructure needed for innovation has also made constant leaps. The evolution of the networked data center plays an important role in bringing new imaging and diagnostic devices to market.

In the last 15 years, Rohit Agrawal has seen massive changes in the industry and at Siemens Healthineers. He began his career as an intern; today, he's in charge of cloud and data centers globally.

Out of necessity, Agrawal said, individual business units and geographies at Siemens Healthineers built their own data centers around the world. Today, Agrawal is leading a cloud revolution that emphasizes flexibility and scalability.

Typical data center sprawl

Data volumes were growing drastically, coming from every area of the business—development, production, manufacturing, applications, and data services. This explosive growth made a dispersed approach unsustainable. Legacy investments were aging out at the same time that demand was increasing.

“How can you deliver cutting-edge storage and compute for the infrastructure group and the application teams for our PLM, SCM, R&D, Sales, so they are innovating at the same time?” Agrawal said. “One of the challenges at the same time was to harmonize all those fragmented landscapes from a technology, process, and people perspective.”

The answer was cloud.

Agrawal started incubating cloud technologies for select use cases and geographies in 2015. He eventually formed a cloud center of competency and moved toward centralized operations for all IT functions.

Only 2 years ago, the cloud and on-premises data center teams merged, adopting a cloud-first strategy for the future. Public cloud hyperscalers had only recently matured beyond application development so that they could support enterprise IT infrastructure. Issues around privacy and security were solved. In response, Agrawal created an internal public cloud data center operation to spread the word.

“I think the tipping point came when we were able to extend cloud into our network. It became very easy for users to see it as an extension of our on-premises data center. After that we just exploded, so people started ordering servers and storage. We ramped up quite fast.”

Beating heart of data

Today, Siemens Healthineers operates seven major data centers. NetApp is at the heart of them all, representing about 80% of the installation. The effort to consolidate the on-premises environments and expand cloud services is on an increasingly aggressive timeline, Agrawal said. As the enterprise moves its infrastructure strategy more to the cloud, Microsoft Azure is the preferred hyperscaler.

Recently, end of support for Dell EMC hardware at a data center in Japan created an opportunity to further the cloud storage-first strategy. In 2019, the applications at the Japan data center were moved to the cloud, but the storage file share data remained on premises.

400TB of hybrid cloud storage

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Santhanakannan Ramasamy
IT Strategy and Digitalization Solution Architect, Siemens Healthineers

Santhanakannan Ramasamy, IT Strategy and Digitalization Solution Architect on the cloud team, said performance issues and networking costs rose as users pinged requests from the cloud to the on-premises environment and back again. To migrate the data to Azure, Ramasamy and the team deployed NetApp Cloud Volumes ONTAP high availability for production data.

Approximately 30TB of file share data on premises has moved to Cloud Volumes ONTAP. The team set a policy for tiering the “hot” data to the Azure Blob Cool Storage tier.

“NetApp Cloud Volumes ONTAP provides us flexibility to optimize it over time between hot, warm, and cold kind of data situations, and obviously that impacts cost. That is something that we are not able to do currently on-premises,” Ramasamy said.

“The beauty is you don’t need to have a special skill managing Cloud Volumes ONTAP because you have an existing team who can handle the same stuff in the cloud,” Ramasamy said. “The only differences are in the hardware. We have the same command sets, we have the same features, everything is intact.”

The next type of data to be migrated was application file shares. The team considered cloud-native Azure file sharing or virtual-machine-based file sharing, but the multilayer level permissions and naming conventions complicated share management, Ramasamy said.

The team chose NetApp Cloud Sync for the task, because it allowed a “lift and shift” approach that wouldn’t break existing applications and scripts. An added bonus was the Cloud Sync GUI, which allowed administrators to monitor progress in real time.

“Providing a solution in cloud where they don’t have to make any application changes, we could migrate

them and still have all the capabilities of on-premises integration into our Active Directory and our DNS. It was natural choice for us to move to NetApp Cloud Volumes ONTAP with Cloud Sync.”

Cloud Volumes ONTAP is also serving a DevOps business unit for storing build repositories. Teams in the United States and India regularly exchange 5TB active build datasets in a very slow, inefficient, and expensive process. By consolidating the DevOps NetApp Global File Cache data on Cloud Volumes ONTAP and by leveraging Global File Cache (GFC), the global teams can collaborate on the same dataset and save time and costs. Cloud Volumes ONTAP and GFC are enabling a hybrid cloud collaboration model for the business. GFC helped to consolidate distributed data in central data storage, streamlining IT management and reducing costs. Most importantly, they are boosting business productivity on a global scale.

Worry-free storage

Siemens Healthineers today is fully embracing a hybrid cloud model that uses the enabling technologies NetApp Cloud Volumes ONTAP and Global File Cache. The cloud team is meeting storage space demands for scalability in the cloud with on-premises levels of performance.

“We still have a lot of fragmented storage globally. We have business-managed file shares, we have file shares managed by external providers, and we also have a lot of business data, much of it unused,” Agrawal said.

“We want to now deploy the Cloud Volumes ONTAP solution globally in our Managed Public Cloud Data Center in Azure, so any engineer user can consume storage without worrying about underlying capacity.” Ramasamy said.

Ramasamy also emphasized speed and time to market.

“In the 8 months to a year it would take to build out a data center, we can build up a cloud in just a week if needed, with no change in processes,” he said.

Siemens Healthineers is considering future optimization of the cloud infrastructure environment by using other Spot by NetApp® portfolio offerings, including Spot by NetApp and NetApp Cloud Insights.

A future in the cloud

Agrawal has seen many changes, but the future in the cloud is certain. Cost is a consideration but not primary, he said.

“The business value is in providing a scalable storage to our business users, cost-optimized based on the usage pattern of certain data types,” Agrawal said.

“The startup costs and the depreciation of data center investments aside, moving to the cloud and automating the tiering of data can quickly provide drastic operational cost savings for the storage tier—as much as 50%.”

Ralf Lermen, global enterprise manager of the Siemens partnership for NetApp, said momentum for hybrid cloud at the company will continue as the performance and cost savings reveal opportunities for value. The global reach of NetApp and the global requirements of Siemens Healthineers are a perfect complement to each other.

“We have a long, established relationship with Siemens Healthineers built on trust. And we look forward to further collaboration with them in the future,” Lerman said. “Our approach to our customers is clear: Offer them the flexibility of an on-premises, cloud, or hybrid cloud strategy.”

NetApp products

- NetApp Cloud Volumes ONTAP
- NetApp Cloud Sync
- NetApp Global File Cache
- NetApp AFF
- NetApp FAS



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About NetApp

In a world full of generalists, NetApp is a specialist. We're focused on one thing, helping your business get the most out of your data. NetApp brings the enterprise-grade data services you rely on into the cloud, and the simple flexibility of cloud into the data center. Our industry-leading solutions work across diverse customer environments and the world's biggest public clouds.

As a cloud-led, data-centric software company, only NetApp can help build your unique data fabric, simplify and connect your cloud, and securely deliver the right data, services and applications to the right people—anytime, anywhere. To learn more, visit www.netapp.com



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