The case for cloud storage as a service at Partners

Partners HealthCare needed storage that was secure, compliant with health regs and readily accessible to researchers. Read why it took a cloud-storage-as-a-service approach.

Partners HealthCare relies on its enterprise research infrastructure and services group, or ERIS, to provide an essential service: storing, securing and enabling access to the data files that researchers need to do their work.

To do that, ERIS stood up a large network providing up to 50 TB of storage, so the research departments could consolidate their network drives, while also managing access to those files based on a permission system.

But researchers were contending with growing demands to better secure data and track access, said Brent Richter, director of ERIS at the nonprofit Boston-based healthcare system. Federal regulations and state laws, as well as standards and requirements imposed by the companies and institutions working with Partners, required increasing amounts of access controls, auditing capabilities and security layers.

That put pressure on ERIS to devise a system that could better meet those heightened healthcare privacy and security requirements.

"We were thinking about how do we get audit controls, full backup and high availability built into a file storage system that can be used at the endpoint and that still carries the nested permissions that can be shared across the workgroups within our firewall," he explained.

Hybrid cloud storage as a service

At the time, ERIS was devising security plans based on the various requirements established by the different contracts and research projects, filling out paperwork to document those plans and performing time-intensive audits.

It was then that ERIS explored ClearSky Data. The cloud-storage-as-a-service provider was already being used by another IT unit within Partners for block storage; ERIS decided six months ago to pilot the ClearSky Data platform.
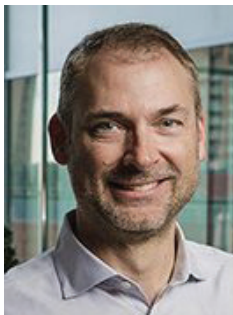
"They're delivering a network service in our data center that's relatively small; it has very fast storage inside of it that provides that cache, or staging area, for files that our users are mapping to their endpoints," Richter explained.

From there, automation and software systems from ClearSky Data take those files and move them to its local data center, which is in Boston. "It replicates the data there, and it also keeps the

Brent Richter
Director of ERIS at Partners HealthCare

server in our data center light. [ClearSky Data] has all the files on it, but not all the data in the files on it; it keeps what our users need when they're using it."

Essentially, ClearSky Data delivers on-demand primary storage, off-site backup and disaster recovery as a single service, he said.

All this, however, is invisible to the end users, he added. The researchers accessing data stored on the ClearSky Data platform, as well as the one built by ERIS, do not notice the differences in the technologies as they go about their usual work.

ClearSky benefits for Partners

ERIS' decision to move to ClearSky Data's fully managed service delivered several specific benefits, Richter said.

He said the new approach reduced the system's on-premises storage footprint, while accelerating a hybrid cloud strategy. It delivered high performance, as well as more automated security and privacy controls. And it offered more data protection and disaster recovery capabilities, as well as more agility and elasticity.

Richter said buying the capabilities also helped ERIS to stay focused on its mission of delivering the technologies that enable the researchers.

"We could design and engineer something ourselves, but at the end of the day, we're service providers. We want to provide our service with all the needed security so our users would just be able to leverage it, so they wouldn't have to figure out whether it met the requirements on this contract or another," Richter said.

He noted, too, that the decision to go with a hybrid cloud storage-as-a-service approach allowed ERIS to focus on activities that differentiate the Partners research community, such as supporting its data science efforts.

"It allows us to focus on our mission, which is providing IT products and services that enable discovery and research," he added.

Pros and cons of IaaS platform

Partners' storage-as-a-service strategy fits into the broader IaaS market, which has traditionally been broken into two parts: compute and storage, said Naveen Chhabra, a senior analyst serving infrastructure and operations professionals at Forrester Research Inc.

In that light, ClearSky Data is one of many providers offering not just cloud storage, but the other infrastructure layers -- and, indeed, the whole ecosystem -- needed by enterprise IT departments, with AWS, IBM and Google being among the biggest vendors in the space, Chhabra said.

As for the cloud-storage-as-a-service approach adopted by Partners, Chhabra said it can offer enterprise IT departments flexibility, scalability and faster time to market -- the benefits that traditionally come with cloud. Additionally, it can help enterprise IT move more of their workloads to the cloud.

There are potential drawbacks in a hybrid cloud storage-as-a-service setup, however, Chhabra said. Applying and enforcing access management policies in an environment where there are both on-premises and IaaS platforms can be challenging for IT, especially as deployment size grows. And while implementation of cloud-storage-as-a-service platforms, as well as IaaS in general, isn't particularly challenging from a technology standpoint, the movement of applications on the new platform may not be as seamless or frictionless as promoted.

"The storage may not be as easily consumable by on-prem applications. [For example,] if you have an application running on-prem and it tries to consume the storage, there could be an integration challenge because of different standards," he said.

IaaS may also be more expensive than keeping everything on premises, he said, adding that the higher costs aren't usually significant enough to outweigh the benefits. "It may be fractionally costlier, and the customer may care about it, but not that much," he said.

Competitive advantage

ERIS' pilot phase with ClearSky Data involves standing up a Linux-based file service, as well as a Windows-based file service.

Because ERIS uses a chargeback system, Richter said the research groups his team serves can opt to use the older internal system -- slightly less expensive -- or they can opt to use ClearSky Data's infrastructure.

"For those groups that have these contracts with much higher data and security controls than our system can provide, they now have an option that fulfills that need," Richter said.

That itself provides Partners a boost in the competitive research market, he added.

"For our internal customers who have these contracts, they then won't have to spend a month auditing their own systems to comply with an external auditor that these companies bring as part of the sponsored research before you even get the contract," Richter said. "A lot of these departments are audited to make sure they have a base level [of security and compliance], which is quite high. So, if you have that in place already, that gives you a competitive advantage."

> [Cloud storage as a service] allows us to focus on our mission, which is providing IT products and services that enable discovery and research.
>
> **Brent Richter**
> *Director of ERIS at Partners HealthCare*