

## Unlimited Scalability, Strong Security and Simplified Management in a Single System

Austin Radiological Association (ARA) is the largest outpatient imaging services provider in central Texas. The firm stores almost 1 million digital studies annually for regional hospitals and medical organizations. The increasing fidelity and resolution of medical images has driven rapid growth in file sizes. ARA was quickly running out of storage capacity, and the organization realized that relying on traditional hardware was no longer sustainable. Nasuni offered a solution with unlimited scalability, simplified management and built-in protection that met ARA's compliance standards.

### Drivers

- 37TB of new data added annually, straining capacity
- Lengthy migrations were draining IT time and impacting business
- Rapidly increasing storage and protection costs

### Requirements

- Provide unlimited, on-demand capacity
- Predictable cost structure without sales negotiations
- Simpler management and fewer painful migrations
- Strong security to meet compliance standards

### Nasuni Solution

- A unified, infinitely scalable global file system
- On-demand capacity expansion with predictable costs
- Built-in data protection with end-to-end encryption
- Eliminated the need for \$1.2M capacity upgrade



ARA employs more than 90 radiologists and handles the vast majority of imaging studies in central Texas. The practice works with most if not all of the hospitals and medical organizations in the region and adds more than 900,000 radiological exams to its archive each year. These images have been growing not just in volume but in size: MRIs, CT scans, and mammograms have all increased in fidelity and resolution. For example, a newer three-dimensional mammography image is 20 times larger than its 2D predecessor. This massive growth, combined with strict medical and legal retention policies, meant that ARA could no longer afford to rely on traditional storage hardware. "We were projected to be at 1.5 PB of mammography images by the year 2020," said ARA's CIO, R. Todd Thomas. "When we started looking at what our next storage architecture would be, it didn't make sense for us to continue to capitalize equipment."



## Capacity Headaches and Extended Migrations

The high cost and limited capacity of that hardware were only part of the problem. Despite its best efforts at capacity planning and trending, ARA's storage growth curves were simply not predictable, and if storage ballooned unexpectedly, IT was stuck. The group would have to call its storage vendor, get a quote, present that to a committee, and then sit through a 90-day waiting period, all while the existing hardware approached capacity. "Meanwhile, I'm at home, at night, hoping this doesn't happen so we can have business running the next day," says ARA Cloud Engineer Terrence Jones.

Migrating files from one array to another was taking up so much IT time that ARA was forced to start planning its next storage upgrade while its current one was still in process. One 150 TB migration took 10 months to complete. Initially, ARA deployed scale-out storage as a solution. This had several advantages relative to traditional enclosures, but consumed too much floor space in the data center and strained the cooling system, leading to unexpected costs. Plus, the solution was only temporary. Once that hardware reached the end of its life, ARA would have had to make another \$1-million-plus purchase.



## Performance, Security and Compliance

After exploring several cloud-based solutions, ARA evaluated Nasuni. The ARA team worked closely with Nasuni Professional Services to customize the solution so that it was tuned to the organization's particular needs. For instance, radiologists need to be able to access large images stored in the cloud without significant delay. Nasuni caches frequently accessed files in local storage, so most images are available at local speeds. But even for images that had to be retrieved from the cloud, the performance met end user standards. "We were able to retrieve our images from the cloud at speeds that were comparable to what we see in a data center today," says Jones.

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Since ARA has to adhere to Health Insurance Portability and Accountability Act (HIPAA) regulations and strict compliance standards, there was some reluctance to move data to the cloud. But the ARA team was familiar with Microsoft Azure and recognized the data protection benefits of having its files replicated in multiple data centers across the central United States. Nasuni's security approach also allayed ARA's fears about cloud security. With Nasuni, all data is encrypted with customer-controlled keys before leaving the organization's security perimeter. Files remain encrypted at rest in the cloud, and since the crypto keys are customer controlled, neither Nasuni nor Azure can access that data. "That was major for us," says Jones. "Our compliance officer was very happy."

## The Nasuni Solution

Once ARA made the decision to store and secure its files with Nasuni, the implementation was simple and painless. "We were able to throw it into production in an hour or two and our radiologists didn't really notice a change," says Jones.

ARA now has an infinitely scalable solution for storing, protecting and accessing its growing volume of medical files. All data is protected in the geo-redundant cloud, and since there is no limit to capacity, the IT team no longer has to deal with painful migrations that took six months to a year to complete.

ARA had noticed far too many software solutions and services that demanded too much IT time, and the organization made it a policy to search for systems that worked for them, not against them. The Nasuni Management Console simplifies the work of overseeing a growing storage infrastructure. When ARA does want to expand capacity, the IT group does not have to manage negotiations between its storage vendor and internal committees and boards, as they did before. Now IT just notifies Nasuni, and capacity grows with a few mouse clicks. "We place the order and it's done," says Jones. "That [allows] me to worry about other projects in the infrastructure and makes our IT department and our IT infrastructure much better."

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—R. Todd Thomas, CIO

## Cost-Effective, Predictable Expansions

ARA has already moved 60 TB worth of files to its secure cloud-based storage volume. "If that was traditional storage, that would have been two or three more nodes that we'd have to deploy," says Jones. The organization will be adding more advanced tomography imaging devices to its clinics, which will cause files to grow even faster. Even with scale-out storage, the resulting switch and migration would lead to significant downtime. End users would be disconnected. But now ARA will be able to expand capacity with no impact on its radiologists.

With this kind of growth, the company would eventually have to purchase a new scale-out storage array, but the unlimited capacity of Nasuni eliminates the need for that \$1.2M to \$1.3M investment. Thanks to Nasuni, ARA has a growth-ready storage plan and knows its annual storage spend in advance. The company intends to continue moving more of its medical files to the cloud through Nasuni. "It's much more cost-effective for us to do. It's a lot easier for us to manage. Migrations become a thing of the past," says Thomas. "The Nasuni platform was perfect for this particular project."