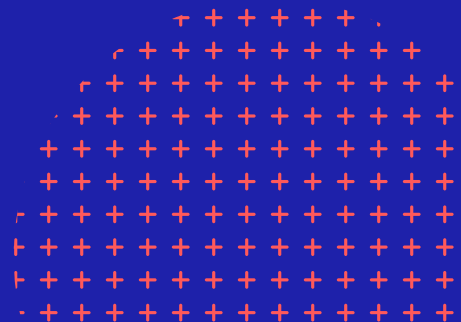




# ***How St. Luke's University Health Network Migrated Epic® to Microsoft Azure***

***Leaders from St. Luke's and Microsoft explore security concerns, lessons learned and the potential for future innovation***

**S**t. Luke's University Health Network started its journey to the cloud in late 2017. Today, 75% of the healthcare organization's data from its application systems resides in the cloud. During the webinar "Lessons Learned in Healthcare Data Center Transformation in the Cloud: EHR, AI & Security," Matthew Woodruff, Lead Enterprise Architect at St. Luke's University Health System, and Sanford (Sam) Coker, Global Black Belt at Microsoft, discussed the health system's cloud migration and explained how it can serve as a roadmap for other organizations looking to balance security and innovation when moving to the cloud.



## Getting comfortable in the cloud

Security is a primary concern when organizations consider migrating applications and data to the cloud. To ensure a smooth and safe transition, St. Luke's took a measured approach. "We started with our public website. It was a great opportunity for us to put some platform services in public cloud and really dip our toe without having any potential impact to patient care," Woodruff said.

In addition, leaders grew to trust the security and connectivity of the cloud during the COVID-19 pandemic. Like many other organizations, St. Luke's sent thousands of staff members home to work remotely and leveraged the cloud to connect these workers to applications and data.

With this security framework in place, overall confidence in the cloud grew. As a result, IT leaders moved the Epic® EHR to the public cloud with Microsoft Azure in late 2021, thereby becoming one of the first large healthcare systems to do so.

## Following the leader to cloud success

Other healthcare organizations are now interested in following suit. Both Woodruff and Coker pointed to a variety of lessons learned that could help in this journey:

**Grow your cloud economics muscle.** When supporting on-premise data centers, St. Luke's was forced into a five-year design strategy. This extended time frame was necessary, as initiatives needed to account for capital depreciation. With the cloud, however, a two-year strategy is more appropriate. St. Luke's now pays for resources used every month, eliminating the need to purchase long-term storage.

**Don't just lift and shift.** When moving to the cloud, IT leaders should assess what applications and data are needed and what is expendable. This also presents leaders with a chance to determine if switching vendors is advisable. "Don't just think of cloud as an opportunity to lift and shift everything," Woodruff advised.

However, moving to the cloud does not necessitate changing all vendors. For example, St. Luke's kept working with its firewall and load balancing vendors, so staff did not need to develop new skill sets to work with new systems.

**Address the software lifecycle.** The lifecycle of various applications must be considered when migrating to the cloud. An organization's cloud provider may not support older code that might have vulnerabilities, in which case IT leaders must ensure that only the most recent versions of applications are being used.

**Concentrate on cost management.** When leveraging the cloud, organizations work under operational spend models. This means that they receive an invoice for the resources consumed each month. "So, it behooves IT leaders to shut down those resources that they don't need," Woodruff said.

Indeed, this change is requiring IT leaders to adopt a new mindset. Coker emphasized that it's important to predict costs rather than getting a bill at the end of the month and then realizing that machines that were charged for are not being used.

**Consider travel times.** When moving to the cloud, it is necessary to address latency, the time that it takes the data packets to traverse the network from one location into the cloud and back. While Epic performed well, Woodruff pointed out, it's important to consider how smaller legacy applications will fare.

**Bring IT staff up to speed.** Investing in training internal staff members can help healthcare organizations efficiently transition to the cloud. "When we migrated our Epic environment to Azure, it was a homegrown team that did it. We had seven people on our technical team that handled moving all 20 of our Epic environments into Azure," Woodruff said.

**Prepare for a hybrid environment.** While applications and data are moving to the cloud, healthcare organizations are most likely to work in a hybrid environment. Because of this, leaders should consider best practices and solutions that can work both on-premise and in the cloud. For instance, Coker recommends using one security solution for both cloud and on-premise applications to provide a unified view across all environments.

## Relishing the post-migration results

Migrating to the cloud can bring many benefits. Perhaps most notably, healthcare organizations can do more to leverage their data when multiple systems reside in the cloud. For example, if an organization has EHR data in the cloud as well as data from nurses' stations and telemetry systems, it can more easily address infectious disease control challenges. The cloud makes it possible to pull data from multiple systems into a dashboard. As a result, it's easy for the right staff member to access the right data at the right time, according to Coker.

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SANFORD (SAM) COKER | Global Black Belt | Microsoft



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**MATTHEW WOODRUFF** | Lead Enterprise Architect | St. Luke's University Health System

Organizations can also quickly respond to software changes in the cloud. For example, after St. Luke's adopted a new remote terminal services application, the application was updated just two months later. Fortunately, since it was operating in the cloud, the health system was able to shift to the new version and experience a 15% performance improvement without adding significant operating costs. If St. Luke's had still been operating under an on-premise model, it would not have been able to replace hundreds of thousands of dollars' worth of hardware so soon afterwards, according to Woodruff.

Moving to the cloud often brings cost savings, which, in turn, can help organizations shift more spending to patient care. “Our senior leaders can take those capital dollars that we might have put into on-prem data centers and they can use it, for example, to find new equipment to help care for our patients,” Woodruff said.

## Laying the groundwork for AI

Besides the other advantages associated with moving to the cloud, the transition also positions organizations to adopt emerging innovations, particularly artificial intelligence (AI).

Once organizations migrate their data to the cloud, they can “point” AI systems at this information to help improve both clinical and operational outcomes, Coker said. St. Luke's, in fact, is now working on a data lake strategy hosted in Azure. “Once you have all that data in one spot, it becomes a lot easier to integrate with services like AI,” Woodruff said.

AI also has the potential to improve both provider and patient experiences. For example, AI can review medical images and then direct radiologists to focus on certain areas of the image, thereby improving workflow. Similarly, AI could also improve the patient experience by pinpointing the information that patients and caregivers truly need from discharge instructions.

“It's going to alleviate workloads on our team. Leveraging AI to do that heavy work at the bottom and freeing our teams to do things that they're much better at, that's where I'm excited to see the future going,” Coker concluded.

To learn more about starting your Epic on Microsoft Azure journey, visit [Epic on Azure – Epic Electronic Health Record Software | Microsoft](#)

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### About Microsoft

Microsoft for Healthcare provides innovative solutions that empower organizations to enhance patient engagement, enable health team collaboration, and improve clinical and operational insights.



### About St. Luke's University Health Network

St. Luke's University Health Network (SLUHN) is a non-profit, regional, fully integrated, nationally recognized network providing services at 15 campuses and more than 300 sites in Lehigh, Northampton, Carbon, Schuylkill, Bucks, Montgomery, Berks, Monroe and Luzerne counties in Pennsylvania and Warren and Hunterdon counties in New Jersey.