

Case Study

Azure Cloud Services Enable a Nonprofit Health System to Modernize its Digital Infrastructure, Enhance Operational Effectiveness, and Deliver High-Quality Patient Care



Customer Overview

Customer:

A not-for-profit health system dedicated to caring for people

Profile:

The health system advances medicine through education, innovation, and research through 30,000 associates, 6,000 affiliated physicians, 10 hospitals, ambulatory care centers, and urgent care centers.

Industry:

Healthcare

Services:

Microsoft Azure Services

Business Need

The nonprofit's online ecosystem consisted of three websites crafted by different web developers to deliver the ideal experience for patients, caregivers, students, and healthcare professionals. As the health system grew, many challenges surfaced within its cobbled infrastructure, like website management, data handling, and seamless integration with third-party apps.

- Inefficiencies ingesting data from the patient health record platform, Cerner Health, for downstream analyses and reporting—necessitating the cumbersome process of exporting large data sets to Microsoft Azure.
- Suboptimal performance of ETL (Extract, Transform, Load) pipelines due to the distributed client base and intricate datasets.
- Difficulties managing the external member portal setup and providing adequate support for platform issues.
- Redundant legacy cardiology imaging archives stored on NAS drives, incurring unnecessary costs without serving clinical objectives.
- The nonprofit had to combat the need for improved tools and search, poor performance vis-à-vis competitor websites, internal stakeholder issues, and lack of proper communication.
- While committed to patient-centered excellence, innovation, and accessible care, the organization grappled with taxing technology-related hurdles.
- The current infrastructure struggled to scale efficiently with growing data and user demands, leading to potential service disruptions and degraded performance.
- Antiquated systems were also more vulnerable to security breaches and data loss, posing significant risks to sensitive patient information.
- Managing and maintaining outdated infrastructure and redundant systems would continue to incur high operational costs, diverting resources from patient care and innovation.

The nonprofit aimed to modernize its infrastructure, enhance website performance, and centralize its multi-site concept under one cohesive platform. It needed a competent and experienced cloud-managed services partner who could provide a plan and a solution to resolve emerging issues and bring the three existing websites into a single domain, simplifying and standardizing user experiences while improving discoverability, reducing friction, and enabling action.

Given Synoptek's pool of Azure and Sitecore-certified resources, deep experience developing and managing Sitecore applications, and a dedicated managed infrastructure team proficient in Azure, the nonprofit began the engagement to enhance its online presence and user experience.

Solution and Approach

The partnership began with a three-month discovery to facilitate knowledge transfer and lay the groundwork for the digital transformation journey. This included a complete analysis of the existing setup, including a detailed documentation review and extensive consultation with the development team to identify the root causes of the problems. We devised a comprehensive action plan and maintained clear and consistent communication throughout the process to ensure alignment and transparency.

Post discovery, we conducted detailed research to support the Sitecore Experience Platform, craft a content strategy, and curate a migration plan to support the required functionality. We provided subject matter expertise of the Sitecore platform, state-of-the-art software engineering practices and standards, dependable delivery, business models, dedicated resources, program management, and expert Azure support to manage and upgrade the existing Sitecore platform.

Azure Cloud Services

- Mapped out a custom-built solution to make necessary adjustments to the health system's software.
- Utilized Sitecore's .NET-based CMS and integrated Azure Marketplace templates for environment setup and Active Directory integration.
- Developed three websites to address the organizational challenge of managing multiple decentralized sites across different platforms by consolidating them onto the Sitecore platform.
- Conducted rigorous testing and refinement and deployed the solution with robust training and 24/7 technical assistance via Microsoft Teams, ensuring timely issue resolution, proactive optimization, and a smooth transition.
- Customized search functionality allowing patients to get accurate information about doctors/providers through the "Find A Doctor" module.
- Leveraged a third-party application to enable real-time updates on available services and wait times at urgent care locations.

Azure Backup Services

- Set up an Azure backup for Azure SQL and a disaster recovery (DR) system for the Sitecore production environment.
- Established a disaster recovery plan with an RTO of 2-4 hours and an RPO of 24 hours with hot-warm recovery, where data is synchronized to the secondary region with native sync features or third-party tools.
- Enabled AKS cluster version upgrade and worked on Azure AzCopy command to transfer large volumes of data from file share to archive storage account.
- Implemented new infrastructure for new applications and configured active geo-replication to withstand regional data center failure.
- Enabled app service cloning and worked on database requests for different kinds of configurations and access.

Maintenance and Support Services

- Set up essential monitoring to support the existing team as they install and configure application components and carry out data migration.
- Built and added an MD Search Functionality icon and search bar to allow users to find a provider.
- Provided proactive and reactive support for the Azure environment, including account auditing, technical advice, credentials management, cost auditing, application administration, and website optimization.
- Enabled application insights monitoring on ASP.NET for Azure App Services hosted applications.
- Regularly created resources like VMs, storage accounts, AKS clusters, data bricks, and data factories as the customer requires.
- Configured application insights for different services like web apps and container instances.

Security Services

- Implemented advanced data security, vulnerability assessment, and threat protection on SQL servers.
- Conducted security operations monitoring around the new Azure environment.
- Applied server security patches, server-side software updates, and enabled IDS alert and log monitoring.
- Developed and configured a vulnerability management solution for Sitecore components.
- Monitored the public website for threats, effective incident response, issue remediation, root cause analysis, and log and data collection.

Business Benefits

The impact of Synoptek's custom-built solution was profound, driving tangible business outcomes and transforming the health system's digital landscape. With centralized data management, streamlined operations, and comprehensive application management through Azure cloud services, the nonprofit can:

- Get detailed insights into how it can improve the current environment and architect it for longer-term stability and growth.
- Enable ongoing management of the Sitecore website to detect and resolve issues in time – without impacting user experience.
- Get around-the-clock support for all time zones to identify performance bottlenecks and minimize downtime.
- Ensure timely and dependable releases of upgrades, patches, and bug fixes while enabling effective security reviews and compliance.
- Improve performance tuning and stability via preventive and proactive 24/7, SLA-driven software maintenance.
- Save on storage expenses by moving to the Azure cloud and increase sustainability.
- Provide reliable member portal experiences via ongoing management and periodic feature enhancements.
- Make necessary pipeline changes, leading to easier management and better customer experience.
- Enjoy multi-site environments within a single instance while leveraging Sitecore's robust authoring capabilities and security features.
- Significantly boost operational efficiency resulting in reduced costs and improved resource utilization.

Testimonials



I want to extend my appreciation for the awesome work the Synoptek team did in setting up the AZ copy. Not only were they informative, but also very patient. The amount of time we can save due to this is still unimaginable to me. I'm so grateful to have their support.

– Sr. IT Analyst

About Synoptek

Synoptek delivers accelerated business results through advisory-led, transformative full-life-cycle systems integration and managed services. We partner with organizations worldwide to help them navigate the ever-changing business and technology landscape, build solid foundations for their business, and achieve their business goals.