



Syapse

Using machine data and Sumo Logic to keep Syapse’s groundbreaking oncology care platform running smoothly

Overview

Company

- Syapse

Industry

- Healthcare

Headquarters

- San Francisco, California

Size

- 160 employees

Use Case

- Monitoring and Troubleshooting
- Security and Compliance

Business Challenge

Syapse’s innovative precision medicine solution requires ingesting enormous volumes of disparate information from numerous sources. Loading, organizing, and relating all of this raw data is regularly subject to complications such as interruptions, errors, and discrepancies. These issues often required manual resolution, which routinely distracted software development and operations staff from their primary tasks. As a HIPPA compliant and HITRUST certified company, Syapse needed to have standardized processes and audit capabilities to protect patient data.

Solution

The company deployed Sumo Logic’s cloud-native machine data management and analytics platform to continually monitor all information ingestion activities. When problems arose, the operations team was immediately notified so that they could take corrective action and thereby safeguard vital data integrity.

Results

It’s now far easier to recognize and repair obstacles when loading the raw data that powers the Syapse Oncology solution. Using Sumo Logic has also helped the company to establish the infrastructure and procedures that will be essential ingredients in earning the crucial HITRUST (Health Information Trust Alliance) certification. Syapse is also now well-positioned for its upcoming product re-architecture initiatives.

Syapse’s mission is to enable healthcare providers to deliver the best care to every cancer patient through precision medicine. The company realizes this vision by assembling a diverse array of data that enables healthcare providers to make targeted treatment decisions using a person’s oncology diagnosis, disease stage, and other clinical and biological data points. Syapse assembles the raw data from multiple sources, applies proprietary logic and algorithms, and then delivers structured, user-friendly insights to clinicians at the point of care so they can make patient-specific

treatment decisions. Syapse also enables its network of leading health systems to share data with each other to further increase patient access to the best possible care.

From the beginning, Syapse's technical team elected to leverage the extensive offerings provided by Amazon Web Services (AWS). This allowed them to focus on creating Syapse's exclusive product differentiators, rather than engineering general-purpose infrastructure.

Each day, Syapse ingests gigabytes of raw, highly diverse data which further adds to its multi-terabyte library of patient information. To produce a customized treatment plan, the company's solutions must absorb thousands of data points for each individual.

Collecting, collating, and orchestrating all of this information is highly complex, largely because the inputs are spawned by so many different sources. Amassing and managing this data also comes with strict regulations for healthcare data, and has become increasingly important as Syapse attains HITRUST certification.

The Syapse solution began as a relatively specialized application supported by a small team. In the early days, there wasn't enough data volume to mandate employing any type of formal log management infrastructure. However, as the company grew, it soon became apparent that ad-hoc machine data analysis procedures would not scale.

“Considerable time is spent in acquiring, processing and analyzing healthcare data to deliver insights to our customers. Efficiency in managing data starts with the ability to effectively acquire and process data. Sumo Logic allows us to develop and deploy instrumentation, allowing us to identify patterns and trends which in turn helps in proactively improving the performance of data processing and quality of insights delivery to our customers.”

Vinod Subramanian, SVP Cloud Operations

Initially, Syapse considered constructing its own logging infrastructure, but realized it would take three full-time employees to carry out that task. This motivated the company to examine external solutions. Syapse launched its evaluation by assembling a cross-functional team that included representatives from software development, operations, quality assurance, and customer support.

“Attaining HITRUST CSF certification is a key objective for our company. Sumo Logic's extensive dashboards and reporting capabilities play a major role in helping us attain compliance with critical security operations monitoring and communication requirements.”

Nick Steel, Director Cloud Engineering

Syapse studied a group of alternatives, composed of commercial offerings as well as the open source ELK (Elasticsearch, Logstash, and Kibana) stack. However, the team rapidly ruled out this option – as well as any other on-premise applications – after discovering the amount of administrative overhead they would require. This meant that the only viable approach would be a cloud-based product.

The research project lasted for six weeks, with Sumo Logic the eventual winner. Key factors in this decision were Sumo Logic's ease of implementation, scalability, rich dashboards, and low total cost of ownership. Sumo Logic was also willing to enter into a HIPAA Business Associate Agreement with Syapse in order to perform its services.

Once Syapse selected Sumo Logic, the entire rollout lasted an additional six weeks. The endeavor was fast and smooth, in part because a significant percentage of the implementation actually took place during the evaluation: this was yet another factor that indicated Sumo Logic would be a good fit.

Today, Syapse has developed a broad and enthusiastic Sumo Logic user community that numbers nearly 100 people. The most fervent constituents have been the software development and customer support teams. Sumo Logic has made it possible for Syapse to encourage adoption by eliminating manual interaction with multiple operational environments. This helped curb outmoded and inefficient

behaviors such as tailing logs to uncover faults. By capturing critical application and system events in Sumo Logic's durable long term repository, Syapse was also able restrict access to its production environments to a much smaller group of essential operations personnel.

Syapse's patient data ingestion process has been transformed. Prior to implementing Sumo Logic to ingest application and systems logs, the operations team relied on a combination of internally developed scripts, direct database queries, and other indicators to monitor the overall health of the data acquisition and data ingestion components in their platform. All of these metrics are now centralized in Sumo Logic, which has enabled the customer support and operations teams to shrink how long it takes to detect and then resolve problems.

“Syapse processes healthcare data from various sources. Being able to identify issues and errors during data processing, and then surfacing those to internal stakeholders and customers is a prerequisite for timely resolution and improvement of data. Without Sumo Logic, this process would involve manually reviewing logs from multiple sources in our complex, distributed environment.”

Andrew Fisher, Senior Manager Customer Support

Sumo Logic is also invaluable for ancillary administrative tasks, such as routine audits, tracking user activity, discovering unauthorized access, and monitoring compliance. All of these events are surfaced through its alerts and robust search capabilities. In addition, Sumo Logic provides AWS indicators related to CPU, memory, and disk utilization.

Syapse constantly enhances its product offerings, and Sumo Logic's machine data management and analysis capabilities will be integral to these efforts. For example, currently the Syapse

application is monolithic, but it will eventually be transformed into a distributed architecture that will leverage container management technologies such as Kubernetes. Sumo Logic will make it possible to trace application issues regardless of where they may occur in the upcoming fully distributed environment. Sumo Logic will also provide the audit compliance capabilities that are fundamental prerequisites for Syapse's HITRUST certification. Finally, Syapse plans to expand its utilization of alerts, queries, and other analytics that extract meaning from the massive quantities of machine data produced each day.

About Syapse

Syapse is on a mission to deliver the best care for every cancer patient through precision medicine. Their software platform, data sharing network, and industry partnerships enable healthcare providers to bring precision cancer care to every patient who needs it. By bringing together leading healthcare innovators into a unified ecosystem, they are working toward a future in which all cancer patients have access to the best personalized care, regardless of location or income. Their customers — including Intermountain Healthcare, Providence St. Joseph Health, Henry Ford Health System, Aurora Health Care, Catholic Health Initiatives and Dignity Health — manage one million active cancer cases at nearly 300 hospitals in 25 states.

About Sumo Logic

Sumo Logic is the leading cloud-native, machine data analytics platform that delivers continuous intelligence across the entire application lifecycle and stack. More than 1,600 customers around the globe rely on Sumo Logic for the analytics and insights to build, run and secure their modern applications and cloud infrastructures. With Sumo Logic, customers leverage a service model advantage to accelerate their shift to continuous innovation, thereby increasing competitive advantage, business value and growth.

Founded in 2010, Sumo Logic is a privately held company based in Redwood City, CA and is backed by Accel Partners, DFJ, Greylock Partners, IVP, Sapphire Ventures, Sequoia Capital and Sutter Hill Ventures. For more information, visit www.sumologic.com.