six nines
Cloud Responsibly™

MIGRATING AND DEPLOYING HEALTHCARE DEVOPS ON AWS

MW — MICROSOFT WORKLOADS

CC — CLOUD CIO™

DO — DevOps

OVERVIEW

Intelligent Medical Objects (IMO) is a provider of medical terminology content and services supporting clinical workflows in healthcare organizations. Used by more than 4,500 hospitals and 500,000 physicians daily, IMO's Clinical Interface Terminology (CIT) forms the foundation for healthcare enterprise needs including effective management of Electronic Health Record (EHR) problem lists, accurate documentation, and the mapping of over 2.4 million clinician-friendly terms across 24 different code systems. Based in Rosemont, Illinois, IMO's growing global footprint includes the U.S., Canada, and the UK.

CHALLENGES

IMO wanted to move away from its existing infrastructure to a modern cloud solution. IMO services and data were hosted in their on-premises data centers and leveraged multiple vendors for various functions. This led to an overly complex environment with silos of disparate data for staff to navigate.

IMO's priorities were enhanced DevOps capabilities, improved customer service, reliability, and downtime. They wanted a strategic cloud migration to help with quicker DevOps cycles and product iterations, bringing all of the tools and data into a single platform, and to lower infrastructure costs. Amazon Web Services (AWS) allows IMO to bring products and services to market faster.

> "IMO plays an important role in the health informatics space. Health care data is not stagnant -- the data dynamic is constantly changing and transforming. To meet our challenges, IMO moved to AWS to more efficiently innovate in healthcare IT."
>
> - Dr. Andrew Kanter, Chief Medical Officer, IMO

SOLUTION

IMO used Cloud CIO™, a managed cost optimization service implementation by Six Nines, who introduced the AWS Well-Architected program to IMO. IMO engaged Six Nines to develop a HIPAA-compliant cloud migration assessment and two-year, all-in Windows migration plan to move IMO to the cloud using AWS. The initial plan was to use only IMO personnel for the migration, but IMO management asked Six Nines for a plan to accelerate the project.

Six Nines quickly revised the project to use Six Nines' personnel for on-site project management, and to determine AWS architecture, governance, and security. The IMO migration to AWS was completed by the end of 2019. The acceleration of the IMO migration became more important than ever imagined as the COVID-19 pandemic unfolded. The healthcare ecosystem relies on IMO and they were able to deliver updates to the exploding complexities of managing the care delivered to COVID-19 patients, globally.

The core of the IMO AWS infrastructure is Amazon Elastic Compute Cloud (Amazon EC2) instances in an Amazon Virtual Private Cloud (Amazon VPC). IMO utilizes Advanced Networking features, the Amazon Elastic File System (Amazon EFS), and the Amazon Relational Database Service (Amazon RDS). Storage includes the Amazon Simple Storage Service (Amazon S3), the AWS Storage Gateway and other AWS storage solutions. Applications such as Amazon Kinesis, Amazon ElastiCache, Amazon DynamoDB, Amazon Sagemaker, and Amazon Route 53 provide tools to aid in completing work efficiently and developing artificial intelligence and machine learning models. IMO also used Amazon Workspaces to more easily support their remote workforce.

RESULTS

OPERATIONAL EFFICIENCY

Moving to AWS provided IMO with quick data access, governance, and security. Previously, IMO data was housed on many sources—moving to AWS put all data in the same platform leading to less complexity and quicker access.

COST MANAGEMENT

Before moving to AWS, IMO had limited line of sight into costs across all the systems where data was stored and had difficulty determining costs for specific IT groups. Using Six Nines' Cloud CIO™ to monitor and report on AWS service consumption, an IMO manager can easily see the total budget, amount spent against target, costs per group, and projections for subsequent months.

PRODUCTIVITY

Prior to AWS integration, Enterprise IT was tasked with capacity planning and provisioning for the IMO product development team. Now development teams have what they need immediately and the flexibility to deploy more quickly and repeatedly with shorter turnaround times. Using Amazon's infrastructure as code (IaC) solutions, IMO can express the desired infrastructure and be ready to work in minutes via AWS automation.

DEVOPS AUTOMATION AND NEW PRODUCTS

Infrastructure automation: Moving to AWS provided unified tool access and allowed IMO to take advantage of elastic resources to enable them to pivot more quickly than in the past. During 2020, IMO used artificial intelligence and machine learning tools available in AWS for data analytics for product enhancements and other innovation.

New product development: "Creating the new IMO Precision Normalize product and COVID datasets on AWS was a critical IMO priority. AWS allowed us to quickly create COVID-related terminology, datasets, and products needed by hospitals and healthcare providers during the COVID-19 pandemic"

- Scott Singer, Senior Software Engineering Manager, IMO

aws partner network

Premier

Consulting Partner

DevOps Competency

Microsoft Workloads Competency

Solution Provider

WHY SIX NINES?

Six Nines IT is an AWS Partner Network (APN) Premier Consulting Partner and AWS Solution Provider specializing in helping businesses migrate to the cloud responsibly. A member of the APN since its inception, Six Nines has successfully migrated hundreds of customers across all industries to the cloud and offers an unparalleled combination of speed, agility, experience, and proprietary solutions to deliver accelerated solutions and a rapid time-to-value. The Oakland-based company combines old-school, on-premises IT roots together with deep expertise and a laser focus on all things AWS – including a core concentration on High Performance Computing, AI/ML, AWS Microsoft Workload Competency and AWS DevOps Competency – to deliver solutions that are individually tailored to meet customers' needs throughout the cloud lifecycle.

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