ClearDATA and AWS Help CareCloud Run a HIPAA-Compliant SaaS Platform on the Cloud

The Challenge

For several years, CareCloud hosted many of its key services in physical data centers. However, this strategy prevented the Miami-based company from being as innovative as it wanted to be. "We had a large operations team managing co-located data centers, and we spent a lot of time, money, and energy maintaining our platform," says CareCloud Chief Technology Officer Josh Siegel. "We needed to spend more of our time innovating. Our goal as a company is to offer new applications and user experiences that make physicians' jobs better."

CareCloud also needed higher scalability to keep pace with increases in application activity. "We sometimes see the volume of users increase by 100 times during the day, and we need to be able to meet that demand quickly," says Siegel.

To meet its need for more innovation and scalability, the company decided to migrate its key software-as-a-service (SaaS) platform to the cloud. However, it needed to make sure it would still be able to meet its customers' compliance requirements. "Compliance is not an afterthought when you're dealing with patient data," Siegel says. "We have to engineer for compliance and auditability." Additionally, CareCloud needed to support its DevOps software development model. "We want to streamline as much of the development process as we can, and we knew the cloud could help us do that," says Siegel.

WHY AMAZON WEB SERVICES AND CLEARDATA

CareCloud found that they could better manage large spikes in usage, manage regulatory compliance, and speed innovation by using Amazon Web Services (AWS). CareCloud chose to partner with ClearDATA, an Amazon Web Services (AWS) APN Advanced Consulting Partner and Healthcare Competency Partner. CareCloud runs its primary application platform on the ClearDATA Healthcare Managed Cloud on AWS.

"When we first started, we recognized that AWS would be a great compute platform for flexibility and security," says Matt Ferrari, chief technology officer of ClearDATA. "That's why we made the decision to become partners in the APN program. We knew Amazon's healthcare expertise and breadth of services would help support our mission of making healthcare better."

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Josh Siegel
Chief Technology Officer
CareCloud

About CareCloud

CareCloud (www.carecloud.com) is the leading provider of cloud-based revenue cycle management (RCM), practice management (PM), electronic health record (EHR), and patient engagement solutions for high-performance medical groups. CareCloud helps clients increase profitability, streamline workflow, and improve patient care nationwide. The company currently serves more than 17,500 medical professionals working at 5,000 medical offices and manages more than $4 billion in annualized accounts receivable on its integrated clinical and financial platform. An early leader in cloud computing for healthcare, CareCloud is dedicated to providing its physicians and patients with the highest levels of flexibility, security, and reliability.

ClearDATA provides highly secure, direct access to the AWS API, giving customers full control of their environments, while mitigating risk through ClearDATA's Compliance Dashboard. ClearDATA's security standards, built into the dashboard, are aligned with the controls in the HITRUST Cybersecurity Framework and are designed to exceed minimum HIPAA requirements. As an example, data backups and snapshots are automatically encrypted and stored in Amazon Simple Storage Service (Amazon S3) and archived in Amazon Glacier for as long as required by a customer. ClearDATA also applies DevOps security (DevSecOps) principles to help secure patient health information (PHI).

CareCloud migrated its practice management application platform to the ClearDATA Healthcare Managed Cloud on AWS. The migration took four hours to complete, followed by several days of fine-tuning the database interface. CareCloud reported a noticeable performance improvement as soon as the migration was complete. CareCloud runs the platform on Amazon Elastic Compute Cloud (Amazon EC2) instances. "This is a compute-heavy domain, because we do a lot of real-time data processing," says Siegel. "We have tens of thousands of simultaneous users on our applications, so having distributed, highly available, powerful compute nodes is essential." CareCloud is also using Amazon Kinesis Streams for real-time streaming data updates, Amazon Relational Database Service (Amazon RDS) for its primary database, and Amazon S3 and Amazon Glacier for healthcare document storage.

Additionally, CareCloud uses the ClearDATA automation stack to drive down provisioning times and automatically store HIPAA-compliant images, and it takes advantage of the ClearDATA DevSecOps service, which supports CareCloud's continuous integration and deployment efforts.

THE BENEFITS

By running its applications on the ClearDATA Healthcare Managed Cloud on AWS, CareCloud can innovate more rapidly. Now, instead of focusing on managing IT operations, the organization is focused on developing innovative software. "Medical practices demand the best possible technology; nothing less will do when it comes to taking care of patients in a high-growth setting. Running our SaaS platform on ClearDATA on the AWS Cloud takes a lot of guesswork out of compliance and high availability," says Siegel. "That gives us fewer things to manage, so we can spend our time creating new features that help us grow right alongside our high-performing practice clients." CareCloud can automatically scale to meet large spikes in application traffic. "By using AWS, we gain the elasticity to scale up quickly to meet our users' needs, so we can support the big jumps in application traffic we see every day," Siegel says. CareCloud can also maintain fast deployment times. "We have zero downtime deployments, and we can run our applications with 99.99 percent availability," Siegel says. "That's much better than what we were able to do in the data center."

About ClearDATA

ClearDATA is an AWS APN Advanced Consulting Partner and Healthcare Competency Partner. It offers HIPAA-compliant cloud hosting, backup, disaster recovery, and information services for the healthcare industry. ClearDATA is based in Austin, Texas. Learn more at www.cleardata.com.

The organization has enhanced its compliance capabilities by using the ClearDATA Compliance Dashboard, which provides near-real-time statistics and ongoing metrics on HIPAA compliance. And by partnering with ClearDATA on DevOps, CareCloud can fully support its continuous development and integration strategy. "Working with ClearDATA and AWS, we can deliver a pipeline that helps us build out new services quickly, and then we can work with the ClearDATA DevOps team to determine the best way to get into production efficiently," says Siegel.

CareCloud also benefits from ClearDATA's AWS APN participation. "Because of ClearDATA's APN status, we get to see AWS product roadmaps and learn about new services that might work for us in the future," says Siegel. "Healthcare is moving very quickly today, so working with a partner that is completely focused on healthcare technology and compliance frees us to continue innovating, so we can offer the best experience to physicians and practices."

LEARN MORE

To learn more about how AWS can help you manage your healthcare solution, visit our AWS Cloud Computing in Healthcare details page. To learn more about AWS Cloud Data Migration, visit the AWS Cloud Data Migration details page.

About AWS

For 11 years, Amazon Web Services has been the world's most comprehensive and broadly adopted cloud platform. AWS offers over 100 fully featured services for compute, storage, databases, analytics, mobile, Internet of Things (IoT) and enterprise applications from 44 Availability Zones (AZs) across 16 geographic regions in the U.S., Australia, Brazil, China, Germany, Ireland, Japan, Korea, Singapore, and India. AWS services are trusted by more than a million active customers around the world – including the fastest growing startups, largest enterprises, and leading government agencies – to power their infrastructure, make them more agile, and lower costs. To learn more about AWS, visit http://aws.amazon.com.