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CASE STUDY

eHealth Firm Achieves Cost Optimization and Compliance in the Cloud

Introduction

The Massachusetts eHealth Collaborative is a non-profit services firm who delivers strategic guidance, project management, data warehousing, analytics, and implementation support to health industry clients nationwide, with a goal of improved clinical and business performance. The MAeHC team includes strategists and implementation experts who take an individualized approach to help leaders map practical solutions to problems at the intersections of healthcare and technology. Clinical data analysis is at the core of MAeHC's client services, including the real-time exchange of quality data between remote clients and MAeHC strategists.

MAeHC's Challenges

Storing over 10 terabytes of data in an on-premises Microsoft SQL Server 2008 warehouse environment was limiting Massachusetts eHealth Collaborative's technological agility and ability to optimize costs for growth and onboarding new clients beyond immediate needs. "On a daily basis, we were reviewing capacity, growth, and looking at where we needed to adjust to add infrastructure," says Senior Project Director David Delano.

MAeHC's expanding data assets had outgrown the capabilities of the premises-based data infrastructure as well as its security and recovery capabilities. While the road to the cloud is paved with risks in highly-regulated industries such as healthcare, the on-premises solution was a risk for MAeHC. It had even begun to limit the firm's ability to respond to clients and industry changes.

One of the primary challenges was that the cloud migration of the non-profit's Quality Data Center (QDC) couldn't interrupt real-time client clinical data submissions. In addition, security was also paramount, including strict and continuous HIPAA compliance for the storage and archival of electronic personal health information (ePHI).

For a secure, compliant migration, MAeHC needed to enlist external experts who could create a roadmap for high availability during the migration process and a cloud infrastructure that could help the non-profit achieve their goals of technological growth and cost optimization.

The Solution

Massachusetts eHealth Collaborative ultimately upgraded the premises-based SQL Server 2008 environment to SQL Server 2016 and migrated to Amazon Web Server by partnering with Datavail for Microsoft SQL server database expertise. This decision enabled MAeHC to achieve their goal of total transparency or a "single pane of glass into the environment." The solution also provided MAeHC with total modernization of capabilities, such as access monitoring and HIPAA-required tracking logs necessary for hosting protected health information.

The project team took a customized approach to a cost-effective, secure cloud migration to ensure minimal risk of outages to client services while maintaining continual compliance with HIPAA requirements – including shipping backups through a Snowball and log shipping through a VPN. The right cloud solution for MAeHC consisted of R4 high-memory Amazon Ec2 instances with provisioned IOPS. During the migration process, the project team ran in production using an on-demand resource until CPU, memory, and storage was optimally configured to minimize operating costs while optimizing performance.

After the cloud migration was complete, MAeHC implemented a custom Datavail solution for 24x7 monitoring of the new AWS cloud environment to ensure proactive response and ongoing performance tuning while minimizing the management responsibilities for MAeHC's internal staff members.

The Rewards

By migrating to Microsoft SQL Server on AWS, Massachusetts eHealth Collaborative traded a limiting premises-based data environment for an agile, transparent cloud without sacrificing compliance or cost efficiency. Lowered operating costs and strengthened visibility of HIPAA compliance were two rewards realized immediately after the cloud migration.

With a single pane of glass view into the cloud environment and 24x7 monitoring, MAeHC can get ahead of performance and compliance requirements instead of reviewing capacity and growth requirements on a daily basis. According to Delano, the non-profit has already found some great opportunities to adjust their operating model in the cloud with this new sense of transparency.

Conclusion

MAeHC hoped to achieve a highly-scalable environment in preparation for a changing industry and client requirements. The organization is no longer limited in how they can serve clients by the infrastructure or storage capacity of their on-premises data warehouse. As a component of the migration project, MAeHC prepared to scale by creating a defined process for onboarding future clients into their secure AWS cloud environment.

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[MAeHC needed] the ability to tap into a broad and deep bench of expertise around high availability, security, growth, infrastructure, management, upgrades, and expansion, as well as cost optimization. We have a focused effort right now to look at cost optimization across our platforms. We're finding some great opportunities to adjust our model according to that.

David Delano,
Senior Project Director at Massachusetts eHealth Collaborative