

Customer Case Study

ETS: tcVISION Real-Time Synchronization Between IBM® Mainframe IDMS and AWS PostgreSQL



Headquartered in Princeton, New Jersey, ETS is a private nonprofit organization with approximately 3,000 employees devoted to educational measurement and research. We develop and administer a broad range of educational products and services for government agencies, academic institutions and corporations, including the TOEFL® and TOEIC® tests, the GRE® General and Subject Tests, and the Praxis® assessments. At nonprofit ETS, our belief in the life-changing power of learning is at the root of everything we do — it's behind the tools we develop to move learning forward, the research that inspires educational progress and the commitment we make to enable opportunity for learners everywhere. We're with you on the journey to what's possible.

ABOUT TREEHOUSE SOFTWARE

Treehouse Software offers the most comprehensive and flexible portfolio of solutions available anywhere for integration, replication, and migration of data between mainframe sources and any target, application, or platform; and virtually any mainframe application modernization project.

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BUSINESS BACKGROUND

ETS products and services are available to institutions, businesses, organizations and governments in more than 180 countries around the world. The top industries served by ETS are K-12 Education, Higher Education, English-language Learning, Career Development and Consulting Services.

BUSINESS ISSUE

Most of ETS's high volume critical application data is stored on an IBM mainframe in IDMS databases. The technology is very old, therefore it is difficult to recruit and retain qualified technical personnel to maintain applications. ETS is moving to Cloud-based computing which will allow them to retire the mainframe environments and modernize the applications. The data is used and shared across several applications. ETS required a solution that would allow them to continue, uninterrupted, daily operations on their mainframe while replicating data to their AWS Cloud platform, where they could develop modern application features. This solution enables ETS to maintain demanding daily processing while they modernize and develop innovative Cloud solutions to meet and exceed customer requirements.

TECHNOLOGY SOLUTION

Treehouse Software and the ETS team developed a rigid testing plan to implement tcVISION and performed a Proof of Concept

to measure the effectiveness of the data replication, considering the high volumes of data changes on the source databases. We collaborated on architecture requirements and installation steps. There were many considerations associated with this process, including monitoring, alarming, configuration options, high availability, measuring the impact to existing mainframe database performance, restart capability, and security. Concurrently, a team of subject matter experts worked on data mappings and translation of database designs from the IDMS network databases to AWS PostgreSQL relational databases. The goal was to be able to replicate two very large IBM mainframe IDMS databases real-time on two Cloud-based PostgreSQL databases. Implementation was done in phases, starting with one non-production database being replicated to the Cloud. High-volume testing was performed on the source database to simulate peak processing, replicating millions of transactions to the target PostgreSQL databases. Many technical challenges were encountered and resolved with outstanding technical assistance from the Treehouse Software support team. Once in production, the tcVISION product was able to deliver real-time data to the Cloud platform with no interruptions to the customer's daily processing. The customer was then able to develop modern application features and functions in the Cloud to achieve independence from the legacy mainframe systems. Using new Cloud-based capabilities enabled the customer to be more agile with meeting new requirements.

