Executive Summary

ETQ, has been at the service of quality-driven leaders for 30 years.
ETQ is continuously evolving to bring better solutions to their customers, and now offers the Reliance QMS platform in a Software-as-a-service model. The new model brings numerous benefits to customers as well as ETQ. However, to operate profitably in the new paradigm, ETQ needed to change its model from an allocation-based cost model to a utilization-based model. ETQ Architecture team has chosen AWS as the platform of choice and changing its software to allow it to scale up and scale down based on utilization.

The legacy Reliance product was offered to its customers in an on-prem model and supported a multitude of databases Oracle., MSSQL and MySQL to work with the preference of their customers. In parallel to the buildout of the target platform, existing customers must be migrated seamlessly from their existing on-prem environments and allocation-based cloud environments to take advantage of the new multi-tenant pod-based architecture. It has been determined that the migration process needs to be automated for consistency, data integrity and cost efficiency.

Intuitive Technology Partners (aka Intuitive.Cloud) – an Advanced AWS Consulting Services Partner was selected to deliver a suite of tools to automate the migration. Once the migration tool development is complete, the actual migration will be run by Intuitive teams with oversight from ETQ. The project entailed a discovery of the source and target architectures, understanding the migration goals, phases, and nuances of the Reliance QMS and to develop and test the migration tooling and performing pilot migrations to deliver a high velocity of migrations to AWS, while delivering a seamless experience to the customer, while ensuring data quality, performance, operational efficiency and costs were maintained at optimal levels. The current project was to tackle Oracle based migrations which formed the largest group of customers.

Customer Challenge

The customer wants to migrate different production databases to the AWS cloud, for this, DMS and SCT tools are evaluated. There are few limitations found with these AWS services, like – with DMS, Foreign keys are not created on the target database. Additionally, the database schemas were changing to accommodate multi-tenancy as well as due to feature additions. During discovery it was also learned that the database schemas were not static and uniform but were dynamically built at the time of onboarding of each new customer. ETQ needed a custom solution / tool which could overcome all the limitations and smoothen the migration of different flavors of databases to AWS Cloud.

About ETQ

ETQ, LLC is an industry leader in Quality Management Solutions since 1992, founded by visionaries with several decades of combined experience in enterprise software. ETQ, LLC has a strong customer base of 500+ customers spread across the globe of various sizes.

ETQ, LLC Reliance Quality Management Solution integrates 8 products into a single integrated platform and ETQ, LLC Insights provides powerful Analytics.

Goals

- Migrate variety of databases to AWS Cloud
- Overcome the limitations of DMS and SCT
- Ability to have customize migration features
- Automation of complete migration

Partner Solution

Intuitive.Cloud team performed a detailed discovery of the source and target architectures, as well as of the Reliance product to understand and document the nuances that drove the creation of the schema and customizations. After conducting a number of PoCs of AWS native as well as 3rd party tools, a decision was made to go with a "build" approach rather than a "build + buy" approach.

The migration would be delivered through a suite of tools.
1. A pre-migration check tool to check compatibility of the source and advise on migration readiness.
2. Migration tool to migrate one tenant at a time from source to AWS multi-tenant destination. The migration tool synchronizes migration of the entire customer Reliance estate including database, filesystem, indexing, task creation and application configuration settings and status and verification of the migration process.

The migration tool also had to go through a pharmaceutical validation process to be in compliance with the FDA guidelines.
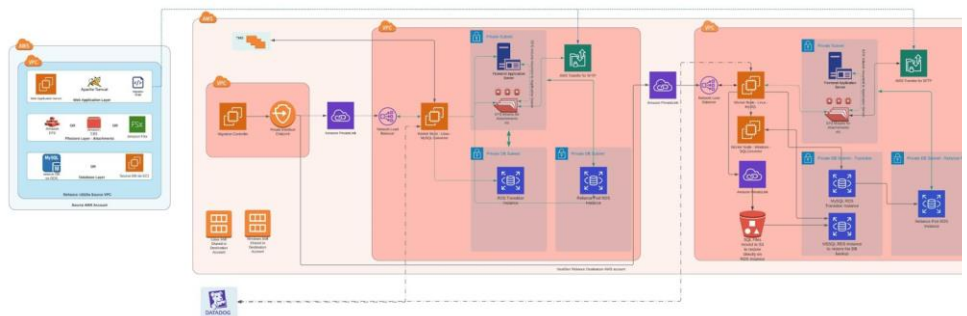
- Scalable AWS Design & solution
- Filesystem migration to AWS EFS with option to select Filesystem content to migrate
- Complete database migration from source to AWS
- Build and migrate indexes from Lucene to Elasticsearch on AWS
- Build UI dashboard to monitor the migration process

AWS Services

- Amazon Virtual Private Cloud (VPC)
- Amazon Elastic Compute Cloud (EC2)
- Amazon Simple Storage Service (S3)
- AWS RDS
- Amazon Route 53
- Amazon CloudWatch
- AWS CloudTrail
- AWS EBS
- AWS EFS

Results and Benefits

- Setup a foundation for a large-scale migration with methodology and approach based on cloud migration best practices
- Developed and tested the migration tool
- Migrated pilot customers to the target architecture
- Performed post migration testing and validation of data and migrated application configurations
- Developed cutover plans, runbooks, rollback plans, test plans and other related documentation

With help of this tool, a total of 145 customer environments (approx.) with a total database size of 2700 GB migrated to Amazon RDS.

Intuitive.Cloud

AN ENGINEERING COMPANY DELIVERING CLOUD EXCELLENCE!

Intuitive Superpowers

- Cloud Infrastructure Engineering
- Cloud Native, AppSecOps, DevSecOps
- Cyber Security & GRC
- Hybrid Cloud, SDDC, SD-WAN, SDN
- Data & AI/ML
- Digital Workspace (M365)

The Intuitive Impact

120+	90%+	40+	10+	338%	500+	19
Enterprise & ISV Customers	Customer Retention	Countries with Service Delivery Capabilities	Years of successful YoY Growth	Cumulative Growth for 2021-2022	Cloud SMEs	Innovation Investments in Cloud, Data/AI/ML, CyberSecurity

Inc. 5000 2022   CRN FAST GROWTH 150 2022   ISO 27001 Certified   AICPA SOC 2

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