

# An Electronic Health Record (EHR) company migrates Netezza to AWS Redshift



## Executive Summary

Practice Fusion was facing a challenge of maintaining their end of life Netezza platform being used for delivering healthcare analytics for clinical trends, population health management and clinical decision support. Cloudwick successfully migrated their analytics workload from Netezza to AWS Redshift based solution for a superior cost performance.

## Customer Challenge

Practice Fusion being a major player in the EHR sector has a lot of ETL models that helped them in providing health care analytics. One such model is the Clinical Quality Measure (CQM), which leveraged Informatica for doing the ETL process and Netezza as a data warehouse solution. The major challenge for the customer was leaving the business-critical data in unsupported environment as IBM announced the end of support for Netezza in 2019. This made them look for cloud-based data warehousing solution to address scalability and ease of management.

## Why did the customer choose AWS and Cloudwick as an AWS partner?

The customer was already familiar with AWS and has been using few of their services like S3, EC2, IAM to maintain their cloud infrastructure for the other ETL processes. The end of Netezza support encouraged them to leverage AWS's services beyond just infrastructure and look for ETL solutions. This is when they approached AWS for a solution.

AWS recommended Cloudwick to the customer based on the success of similar project implementations in the past and the high quality of engineering expertise. Cloudwick did a workshop at customer place and presented a possible serverless AWS solution, which was liked by the customer, and they made an agreement to do a POC of the solution. The POC was a success, which involved migration of 8 of their on-premises data sources and partial calculation of the CQM measures. Customer was impressed with the solution as it was serverless, with easy scalability, performance, ease of manageability and good AWS support. So, they choose to migrate their existing solution to AWS.

Cloudwick was able to implement the proposed solution and the customer was impressed with the solution as it solved their problems and requirements. Cloudwick's expertise in AWS / Big Data and the ability to implement a successful solution on AWS was the key to selection.

## About Practice Fusion



**Practice Fusion is the #1 cloud based ambulatory EHR platform in the U.S., supporting 30,000 medical practices in delivering better care to over 5 million patients a month. With a best-in-class satisfaction rate, Practice Fusion is committed to delivering intuitive and easy-to-use health IT solutions to small, independent medical practices.**

## The Solution

AWS Services used: CloudWatch Event, Step Function, Lambda, Glue, SSM Parameter Store, Secrets Manager, S3, DynamoDB, SNS and Redshift

Customer wanted to migrate their existing on-premises Netezza based data warehousing system to AWS Redshift. The goal of this project was to build a data pipeline to calculate clinical quality metrics (CQM) on Amazon Redshift with the intent to replace the existing implementation on Netezza. It required data to be copied from source OLTP databases as basis for computing CQM. Results must be made available on a data mart.

The existing implementation on Netezza was populated from the below data sources:

1. SQL Server 2016 SP1 CU7 Enterprise Edition – Hosted outside the AWS in PF data center.
2. MongoDB v 3.6 – Hosted on EC2 in AWS.

and calculates CQM using stored procedures on Netezza.

Implementation on AWS:

1. Cloudwick wrote Glue scripts and scheduled them through CloudWatch events to ETL data from data sources (SQL Server and MongoDB) to Redshift. This involves about 150 tables to be ETL processed daily and gets orchestrated using Step Functions. This implementation migrated the existing Informatica jobs to AWS.
2. To migrate all stored procedures from Netezza, Cloudwick wrote equivalent SQL for those procedures in Redshift as stored procedures. Also, Glue scripts were written to run these stored procedures on Redshift and orchestrated using Step Functions. This implementation replaced Netezza based implementation with AWS Redshift.

## Next Steps

Cloudwick is working on automating the deployment process of the components using Sparkle Formation and Jenkins.

## About Cloudwick:

Cloudwick is the leading provider of enterprise business and technology modernization services and solutions to the Global 1000 and helps enterprises gain competitive advantage from open source, data lake, big data, cloud and advanced analytics. Cloudwick is an advanced AWS partner with Big data and machine learning competency.

**Cloudwick**