

DATA INTEGRATION

CUSTOMER STORY

University of Maryland College

University of Maryland College Uses Qlik® Data Integration (formerly Attunity) to Replicate Data to the AWS Cloud



CUSTOMER STORY

“To improve student outcomes and attract new students, our team set out to combine disparate data sources from throughout the University and leverages analytics to extract patterns and identify actionable opportunities.”

- Darren Catalano, VP of Analytics at UMUC

UMUC wanted to organize and derive insights from a combination of the following four core datasets, totaling 10 terabytes:

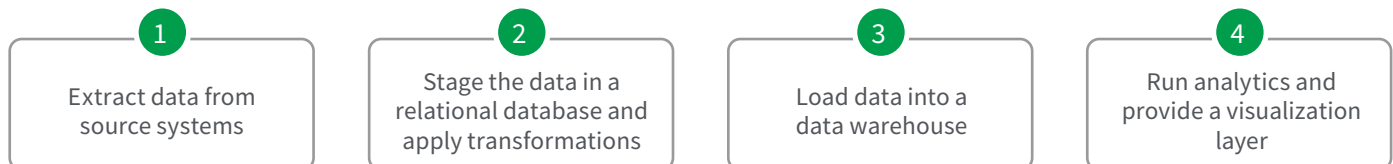
Learning Management System: Data related to online student activities including attendance, academic progress, participation and tool usage.

Student Information System: Data related to student enrollments, course schedules, degrees awarded, faculty information and many other important functions.

Financials: General Ledger and Student Financials data related to revenues, expenses and student payments.

Customer Relationship Management (CRM): Data related to prospective students, applicants and service center inquiries.

The source data exists largely in a structured format and is currently stored in a mix of on-premises Oracle and SQL Server databases, Salesforce, and other cloud-based service applications. UMUC’s challenge is to aggregate these disparate data sources, normalize the data, and then load it into a data warehouse so they can analyze the data. This is a classic ‘data integration challenge’ that includes:



As a first step, UMUC selected Amazon Redshift for its data warehouse, citing its high performance and low cost. To address the data integration challenge, UMUC turned to the AWS Marketplace and chose Qlik for Amazon Redshift.

ABOUT UMUC

University of Maryland University College’s (UMUC) mission is to provide a quality education at an affordable cost to busy professionals, mainly adults who are juggling work and families and, often times, military service.

Providers of higher education like UMUC face increasing pressure to attract the best students and supply a quality education at the right price. To stay ahead of the curve, colleges and universities must ultimately seek a competitive advantage, constantly identifying opportunities for improvement. To achieve this, UMUC launched a big data strategy on the strengths of Amazon Web Services.

Qlik and Amazon Web Services: A “Better Together” Solution

In the past, UMUC was using Oracle Streams to collect data from Oracle Databases and load it into an ODS (Operational Data Store) for transformation using Oracle Data Integrator (ODI), before ultimately loading into a data warehouse for analysis. However, some of the data sources are located on Microsoft SQL Server databases and Oracle Streams is not able to load from non-Oracle databases. To work around this challenge, the team at UMUC had to manually extract data from their SQL Server databases and combine it with their Oracle source data—a time-consuming process.

UMUC leveraged Qlik solutions to both speed up their data movement and have a single point of management for all data movement. This gives the University greater visibility and flexibility when they choose to add or remove data sources or targets in the future. The engineers at UMUC also found that Qlik software was far easier to setup and debug than their old Oracle Streams-based workflow. Specifically, UMUC uses Qlik to move the data from hosted Oracle DB and Microsoft SQL Server into an Operational Data Store (ODS) located in an Amazon RDS Oracle Database instance. ETL transformations are then applied and data loaded into Amazon Redshift where it can be accessed by various business intelligence tools for analysis. UMUC also uses Qlik to occasionally move some of the previously loaded data in Amazon Redshift back into Amazon RDS to be referenced by stored procedures in support of institutional research.

Sourcing data from these core datasets, UMUC can now make sense of patterns, including:

Understanding enrollment trends and demand for academic programs

Measuring student and faculty engagement in online course

Analyzing patterns of re-enrollment and course taking behaviors

Identifying ‘at risk’ students that need assistance

Drilling down on the effectiveness of marketing campaigns

Beyond just saving time, the engineers at UMUC realized that Qlik software could be used to quickly validate the data replication processes. In their case, student data could be stored in a variety of systems such as Oracle Peoplesoft, Amazon RDS and Microsoft SQL Server. Qlik software is able to extract and combine data from all source systems and load into a common database stored in Amazon Redshift. From there it’s easy to execute simple SQL queries to isolate any differences in the data stored across multiple tables originating from different data sources.

UMUC used the AWS Marketplace to purchase Qlik software and had it configured in a matter of hours, replicating data shortly thereafter. Even with the complex data flow, UMUC’s centralized management of Qlik tasks runs on just a single

Amazon EC2 machine, achieving near real-time replication across the mesh of sources & targets.

Qlik provides a detailed walk-through for installing Qlik software, including how to configure replication for both on-premises and Amazon RDS-based Oracle DB and Microsoft SQL Server data sources.

Conclusion

Calling upon the strengths of Amazon Redshift, Amazon RDS, the AWS Marketplace, and Qlik, UMUC successfully implemented an end-to-end data analysis platform. UMUC achieved operational cost savings and they’re now able to identify actionable opportunities to increase enrollment and provide the right education to the right students.



About Qlik

Qlik’s vision is a data-literate world, one where everyone can use data to improve decision-making and solve their most challenging problems. Only Qlik offers end-to-end, real-time data integration and analytics solutions that help organizations access and transform all their data into value. Qlik helps companies lead with data to see more deeply into customer behavior, reinvent business processes, discover new revenue streams, and balance risk and reward. Qlik does business in more than 100 countries and serves over 50,000 customers around the world.

qlik.com