Database migrations and ETL

About

WaveAccess is a results focused software development company that provides high quality software outsourcing services to hundreds of emerging and established companies globally. We use our technical expertise to increase business efficiencies, optimize slow or unreliable systems, recover projects that have gone off track and bring ambitious ideas to life.

22
years of delivering successful outcomes for customers

800+
talented and passionate professionals

8
R&D centers and regional offices

17+
industry verticals from banking to healthcare

500+
successful projects delivered and counting

96%
customer satisfaction index

Awards and Recognitions

Microsoft Partner | 2017 Partner of the year Business Analytics Award

Microsoft Partner | 2018 Partner of the year Artificial Intelligence Award

Microsoft Partner | 2019 Partner of the year Media & Communications Award

Microsoft Partner Network
WORLDWIDE DYNAMICS PARTNER OF THE YEAR
2009, 2010, 2011 & 2016

GDPR

ISO/IEC 27001

SCI-TECH AWARDS (ACADEMY OF MOTION PICTURE ARTS AND SCIENCES)

Project Overview

Scientific companies are living around data – results of experiments to process or the processed results for decision making. The data is always stored in a reliable place as the relations database, mostly Oracle and PostgreSQL.

Know-How

Frequent tasks that the WaveAccess team knows how to solve:

- Support and improvement of the existing ETL process
- Data migration into a new place with a new format
- Python
- Storage performance optimization

The tasks usually come together and each item delivery is very linked with the other ones.

Project Stages

The first step of the ETL and support project is to save the existing pipeline and keep it stable during the whole development life cycle. To achieve this, WaveAccess performs the reverse engineering of the existing solution and extracts all the use cases and then the QA team covers the cases with data sets to support the ability of auto testing. Having the ability to validate the ETL at any point of time, the WaveAccess team can make changes and provide a stable version every day.

Migration of the data into a new storage or format depends on the project aspects, but the most popular cases are migrating data with SQL procedures inside DB or with a custom ETL code between incompatible storage. The SQL approach is more flexible and usually much faster because it provides for the ability to perform operations using a tool (relation DB) that was initially designed to process data, also in memory operations using sophisticated SQL optimizers that are faster than custom code.

Custom code ETLs are used in cases when the destination storage is incompatible with the current solution directly – no driver for the linked server, the driver is slow, or security issues. Often we implement ETL apps on Java or Groovy to support cross platforming, modern storage interface libraries, or integration with web services – SOAP/REST.

Possible Issues

In most legacy ETL pipelines, we find issues with performance in different layers – database configuration, storage organization, inefficient SQL queries, or incorrect data access layer architecture. To resolve the issues, we have a very experienced team of architects that is specialized in finding bottlenecks and reverse engineering. After detailed analysis, the team produces a plan with risks evaluation and a proposal of the next steps to minimize the impact of changes that are required to improve the performance.

The Result

At the end of ETL projects, our customers have required and documented a pipeline with reasonable performance characteristics to support the expected data flow and formats.

WaveAccess

We Make IT Easy

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