CLIENT
Nav Canada

INDUSTRY
Aeronautics

TECHNOLOGIES
Oracle, Microsoft Azure SQL Database

BUSINESS NEED
Client needed to migrate from Oracle to Microsoft Azure SQL Database, in order to get a more cost-efficient environment with similarly optimized performance.

SOLUTION
Pythian led a team to rewrite the code, which included database changes and design elements. The organization's production environment included very complex code involving geographical data that required customization and optimization.

RESULT
A successful migration to a new Microsoft Azure SQL Database environment that increased performance and reduced costs significantly.

FLIGHT DATA IN THE CLOUD

PYTHIAN'S CLOUD DBA EXPERTISE HELPS CIVIL AIR NAVIGATION ORGANIZATION MOVE CRITICAL DATA TO THE CLOUD TO LOWER COSTS, WHILE ENSURING HIGH PERFORMANCE

Nav Canada is a private, non-share capital corporation that owns and operates Canada's civil air navigation service (ANS). The organization provides in-depth interpretive weather briefings and en route advisories to pilots operating anywhere in its airspace. They are also responsible for providing timely reports on missing or overdue flights.

These services are critical to the ongoing safety to commercial and general aviation from facilities across the country. It is imperative for this organization to provide safe, efficient and cost effective air navigation services on a sustainable basis.

Nav Canada manages more than 10 million aircraft movements a year for tens of thousands of customers.

BUSINESS CHALLENGE

Nav Canada supports flight planning with aviation weather, aeronautical information, and online flight planning. Their collaborative planning system enables pilots to file, amend, delay or cancel flight plans.

The flight planning system supports complex flight information including visual flight rules (VFR) flight plans, user updates to VFRs, instrument flight rules (IFR) flight plans, updates to IFR flight plans, along with information from the Aviation Weather Web Site (AWWS).

Nav Canada needed to migrate from Oracle to Microsoft Azure SQL Database in order to get a more cost-efficient environment for their critical flight planning data, while optimizing performance.

Pythian

NAV CANADA

ABOUT PYTHIAN

Pythian is a global leader in data consulting and managed services. Since 1997, we have specialized in planning, deploying, and managing business-critical data systems for large and mid-market enterprises. Learn more about Pythian and its elite teams of data experts at www.pythian.com.

WORLDWIDE OFFICES

Ottawa, Canada
New York City, USA
London, England
Sydney, Australia
San Francisco, USA
Hyderabad, India

SOLUTION

The organization engaged the Pythian team to migrate their Oracle database to a Microsoft Azure SQL Database.

Pythian's team was tasked with creating a Proof of Concept (PoC) on an Azure database, while simulating the central SQL database. The team designed the tables on Azure with the proper data types, while translating more than 3000 lines of Oracle PL/SQL code to T-SQL code, primarily targeting improved performance.

With the existing database, geographical data is frequently collected from different sources to local Oracle databases and then transferred to a central Oracle database.

In the central database, a process involving 3000 lines of PL/SQL code runs every 20 seconds, performing calculations on up to 3 minutes of collected data. This process calculates and summarizes the data (including geographical functions) and updates central tables accordingly.

RESULT

Pythian consultants were able to demonstrate that the same level of performance could be achieved within a more cost-effective environment. With a successful PoC complete, the client is in the process of implementing the system across the production environment. Pythian proved that you don't have to sacrifice performance to maintain cost-optimality, and continues to work as a trusted advisor to Nav Canada.

Pythian