Leveraging AWS to Scale Data Analytics & Enhance Decision-Making for Syngenta

Syngenta AG, a leading global agricultural company, helps farmers around the world restore soil fertility to protect crops and improve seed quality through sustainable practices. To effectively assess seed product outcomes and make more informed decisions on its product advancement, the company needed to refactor their data analytics workflow.

THE CHALLENGE

Leveraging an on-premise, open source Hadoop environment for data analysis, Syngenta built several proof of concept (PoC) data analytics solutions. However, the data processes running on this infrastructure were not integrated, automated nor stable, and the data analytics tools had limited bandwidth. In addition, there was no dedicated processing power or storage for most of the system components and the processing power had to be started and stopped manually to avoid growing operating costs.

Additionally, while the system's load was predictable most of the time, the PoC platform was unable to scale for data ingestion peaks during harvest periods. These harvest periods are the most demanding and important timeframes for the Syngenta team because the data scientists and applications require a steady supply of data to make business decisions without delay or interruption due to load issues.

THE SOLUTION

In 2017, Syngenta turned to EPAM, due to its AWS expertise and core engineering capabilities, for help in rethinking its data analytics solution to address their business challenges. EPAM helped Syngenta migrate from their on-premise environment to AWS, delivering a new AWS-based capability to enable data analytics that implements AWS managed services and allows applications to extract data from the system through a suite of APIs. With the following components of the solution, EPAM architected a new data workflow so Syngenta data scientists were able to gain access to useful, accurate and up-to-date data:

- Platform Data Flow
- Data Processing
- Data Query Engines
- Storage
- Data Sources & Acquisition
- Concurrency
- Data Consumption

THE RESULT

With EPAM's solution, key data sets are now accessible via the AWS Cloud, providing a stable, automated and integrated environment for the Syngenta team. Syngenta data scientists are able to leverage a broader set of analytics tools and computing capabilities, leading to an easier and more manageable governance approach. With greater infrastructure elasticity and scalability due to the cloud, Syngenta is able to better manage peaks during harvesting periods. Finally, Syngenta's operational workload was reduced considerably compared to the on-premise environment.

HEAR FROM THE CUSTOMER

"Syngenta relied on EPAM's AWS expertise and development speed to deliver this project successfully within our challenging time constraints."

— *William Burtle, DataOps Platform Manager, RDIT, Syngenta*

ABOUT EPAM

Since 1993, EPAM Systems, Inc. (NYSE: EPAM) has leveraged its software engineering expertise to become a leading global product development, digital platform engineering, and top digital and product design agency. As an AWS Advanced Consulting Partner, EPAM works with its global customers to design, migrate, build and support sophisticated cloud applications on AWS with increased flexibility, scalability and reliability.

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