



by Fosfor

Case study

Clarios + Spectra

Creating a next-gen data
and analytics ecosystem



With Snowflake and Spectra, Clarios increased its battery sales revenue with a multifold increase in its operational efficiency.



| | | |
|---------------------------------------|---|---|
| Solution Data and analytics | Vertical Manufacturing | Major technology used Snowflake |
| Product used Spectra | Data source Oracle SAP, SQLServer | Destination Snowflake |

About the client

Clarios is an advanced energy storage solutions company that develops, manufactures and distributes a portfolio of evolving battery technologies.

Clarios creates the most advanced battery technologies for virtually every type of vehicle. They are a global leader in advanced energy storage solutions, powering one in three of the world's vehicles. They produce more than 150 million batteries - one-third of the industry's output - every year, and they continue to build and expand their capacity to meet their customer's future demands.

Challenges

Business challenge

Clarios's security team suspected there was a malware attack (crypto-mining) on an HDInsight (HDI) cluster. They needed to decommission the HDI clusters from all three existing client environments and reconfigure them to use the Snowflake Pushdown Optimization (PDO) approach. This change would:

- Remove the risk of malware
- Achieve more efficiency in resolution performance
- Ultimately, reduce costs

This situation presented a unique opportunity to build a solution to reduce processing time and increase design efficiency to increase the sales revenue for the company.

Technical challenge

The challenge became that Fosfor needed to build a scalable and high-performance cloud-based ecosystem. This network needed to connect data from various systems and across multiple applications to serve Clarios's diverse business needs.

In summary, these two points also needed to be addressed:

- The HDI cluster was susceptible to malware attacks, creating security risks.
- Due to malware attacks, multiple unwanted jobs were getting triggered on the HDI cluster, driving up cost.

Solution

- Wherever Snowflake was used as an input and output database, it was implemented as a run engine on Spectra.
- For pipelines other than Snowflake database connectors, Azure Data Factory (ADF) tool was used to implement a file-based system. Furthermore, other on-premises database systems were integrated with the Spectra pipelines to support completion of end-to-end batches.
- Respective changes were made in all applications to support the new Snowflake PDO, Spectra, and ADF pipelines.

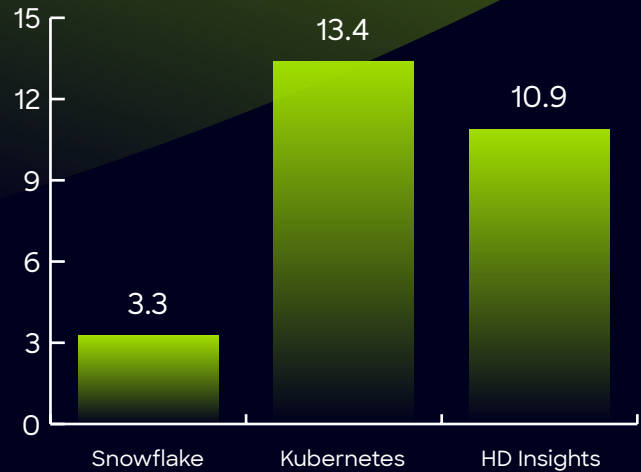
Value delivered

Snowflake vs. other run engines

Development

- Jobs running on Snowflake consume less than a third of the credits consumed by jobs running on HDInsight.
- Jobs running on Snowflake consume less than a fourth of the credits consumed by jobs running on Kubernetes.

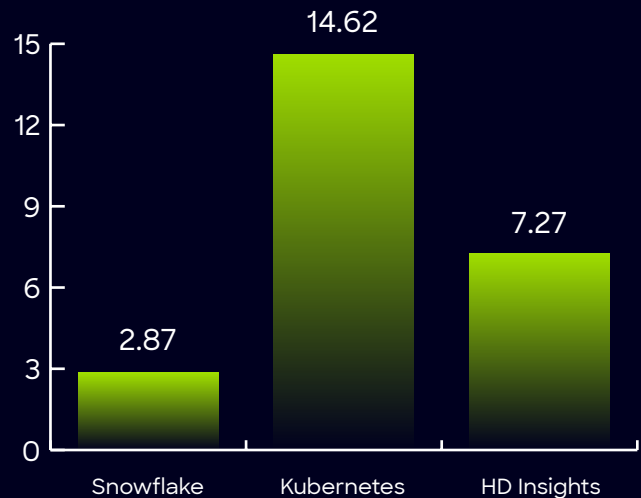
Credits comparison: DEV



Quality assurance

- Jobs running on Snowflake consume less than half of the credits consumed by jobs running on HDInsight.
- Jobs running on Snowflake consume less than a fifth of the credits consumed by jobs running on Kubernetes.

Credits comparison: QA



The Fosfor Product Suite is the only end-to-end suite for optimizing all aspects of the data-to-decisions lifecycle. Fosfor helps you make better decisions, ensuring you have the right data in more hands in the fastest time possible. The Fosfor Product Suite is made up of Spectra, a comprehensive DataOps platform; Refract, a data science and MLOps platform; and Lumin, a decision intelligence platform. Taken together, the Fosfor suite helps businesses discover the hidden value in their data. The Fosfor Data Products Unit is part of LTIMindtree, a global technology consulting and digital solutions company with hundreds of clients and operations in more than 30 countries. For more information, visit www.Fosfor.com.