

Global pharmaceutical company: Increasing the speed and quality of the drug discovery pipeline

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CUSTOMER SUCCESS STORY

INCREASING THE SPEED AND QUALITY OF THE DRUG DISCOVERY PIPELINE

IMPACT

- \$22.8 million net present value over 3 years; 10 months to break-even with CDP Private Cloud investment
- Reduced time for genome-wide association studies analysis from 80 years to a few weeks
- 97% of data is visible to users within R&D
- Improved success rate for drug development process through predictive analytics

Pharmaceutical organizations place high importance on the speed and quality of the drug discovery pipeline. It can take from six to 12 years and nearly \$3 billion dollars to conduct all the steps necessary—from research and testing to clinical trials and regulatory approvals—to bring a new drug or vaccine to market. Once a new product goes to market, pharmaceutical companies have a small window of opportunity to recoup development costs before their patent expires. Adding to the challenge, the cost to produce drugs has remained static in recent years, leading to a considerable reduction in profitability.

This global pharmaceutical company is on the forefront of research and wants to accelerate safe medicine delivery to market. To deliver on these ambitious goals and maintain leadership in the industry, the company needed to rethink its data architecture and strategy.

Challenges

The key goal of their envisioned data platform was to enable strategic business value by unifying their distributed and siloed data sets, such as clinical, lab, and production data, across different legacy systems. The platform would also address the lack of self-service access to data for R&D departments and scientists, reduce costs involved with existing processes, and meet quality and compliance requirements. They determined that adopting a hybrid cloud architecture would be most effective.

This undertaking came with some new and intensified data and technical challenges including:

Noisy neighbor problem - So many analysts working on shared data sets means an unpredictable nature of workloads - spiky, with times of huge contention. Erroneous data leads to huge pipeline reruns. Compute was shared across multiple tenants that even spanned different clusters in some instances. This caused a major delay of 4 weeks in analysis of scientific hypotheses for drug discovery and added to the operational costs.

Triple the ETL workloads - For large organizations it can sometimes take two to three months to turn around the procurement and provisioning of hardware, which makes it difficult to expand compute resources in time for seasonal workloads.

Run anywhere - the company wanted the flexibility of running the workloads where the data was and in a way that optimizes resource utilization - i.e. in a cloud native way, be it on premises or in the public cloud.

Maximize investment - It was impossible to maximize their capital expenditure on hardware assets as resources were severely underutilized. In one example, Impala ran on 150 nodes with 30% static reserved memory irrespective of actual usage. This rendered these resources idle for large amounts of time. To add insult to injury, key Spark jobs were left waiting for resources to complete other tasks. Horizontal scaling wasn't possible with their legacy architecture.

Longer SLAs - It took three to four months to perform an upgrade, including applying patches and running end-to-end testing, in order to minimize impact on downstream applications. As a result the platform team needed to institute longer SLAs with business users.

Find out how a global pharmaceutical company increased the net present value to \$22.8 million in over 3 years; 10 months to break-even with CDP Private Cloud investment. This company also reduced time for genome-wide association studies analysis from 80 years to a few weeks. 97% of data is visible to users within R&D. See how this improved success rate for drug development process through predictive analytics resulted in a massive impact for their organization.