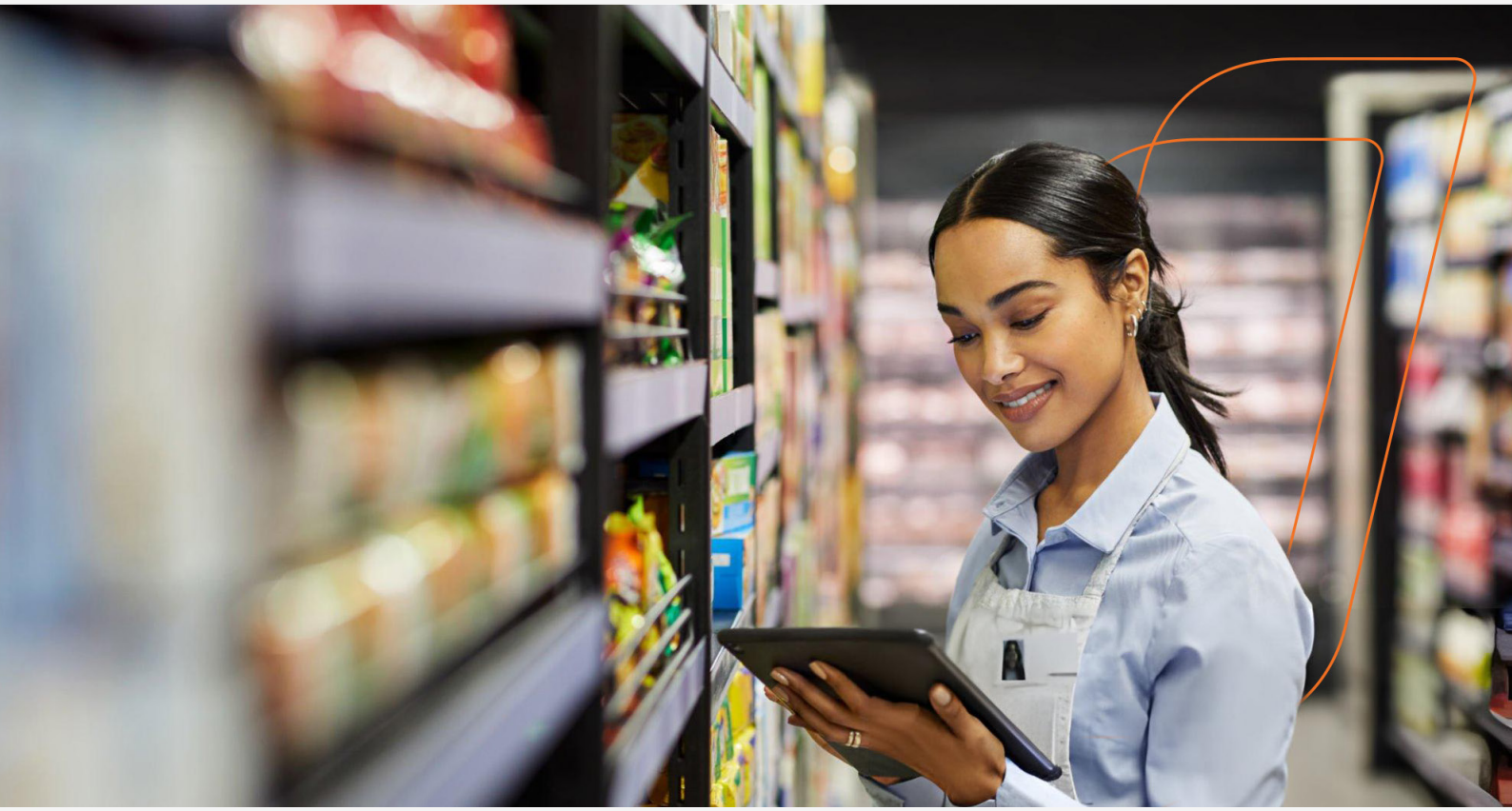
Halving the Hassle:

How FPT Software Helped a Retail Giant Achieve a 50% Reduction in Data Processing Time



HIGHLIGHTS

- 50% reduction in data processing time
- 85% decrease in data skewness
- 95% SLA achievement

THE CLIENT

Our client is a well-established American multinational retailer with a four-decade legacy of delivering exceptional customer experiences. Generating over $78 billion in annual revenue, they consistently rank among the top 20 of the Fortune 500 list. With a vast network of over 800 locations worldwide, the company is dedicated to ensuring a seamless shopping experience and excellence in operations.

BUSINESS CONTEXT

The client had constructed their own data platform on Azure, utilizing Informatica for data ingestion and processing, Azure Data Lake for storage, Synapse for Data Warehouse, and Power BI for visualization. However, their current system was experiencing data duplication, performance issues, and failing to meet service level agreements (SLAs) for daily data updates. To address these challenges, the client engaged FPT Software to improve the system's performance, scalability, and data quality.

FPT SOFTWARE'S SOLUTIONS

After carefully examining our client's business needs, FPT Software leveraged our strengths to assist the client in addressing their challenges:

PHASE 1 — 01

System Assessment & Root Cause Analysis

FPT Software has identified the following issues after performing a system assessment:

- *Skewness in data distribution*
- *Uneven nodes distribution with varying data volumes across data subjects and job schedules throughout the day.*
- *The system faces challenges with managing massive data volumes due to an impractical data retention policy, which holds data for more than six years.*

PHASE 2 — 02

System Transformation

FPT Software has identified the following issues after performing a system assessment:

- *Transitioned the processing layer from Synapse to Databricks*
- *Introduced a new architecture by adopting a Data Lakehouse model over the traditional Data Warehouse approach*
- *Migrated from SAP BODS to Data Factory for the ingestion layer*
- *mplemented data quality rules and standards within pipelines to prevent data skewness, and enabled auto-scaling in Databricks to replace fixed-capacity scheduled jobs.*

Details of FPT Software's solutions implementation in Phase 2

01 Use Databricks Delta Live Table (DLT) and Auto Loader to ingest data from landing zone to bronze layer

02 Migrate transformation logic from Synapse T-SQL to Databricks DLT to transfer data between bronze, silver and gold schemas

03 Use Databricks Workflow to orchestrate and run Databricks DLT pipelines

04 Use the client's enterprise scheduling job UC4 to orchestrate end to end data pipeline which integrated with designed ADF and Databricks Workflow

05 Update the PowerBI Dataset connection from Synapse tables to new Databricks table

VALUES

Successfully cut down data processing time by half, from ***14 minutes to 7 minutes****, enhancing efficiency.*

Implemented new data architecture designs, leading to an ***85% reduction in data*** *skewness. This significantly improved the data source's reliability and trustworthiness.*

Achieved a consistent ***95% Service Level Agreement (SLA)*** *compliance over a three-month monitoring period in the, indicating high reliability and performance standards.*

About Us

FPT Software, a subsidiary of FPT Corporation, is a global technology and IT services provider headquartered in Vietnam, with $1 billion in revenue (2023) and over 30,000 employees in 30 countries.

The company champions complex business opportunities and challenges with its world-class services in Advanced Analytics, AI, Digital Platforms, Cloud, Hyperautomation, IoT, Low-code, and so on. It has partnered with over 1,100+ clients worldwide, 96 of which are Fortune Global 500 companies in Aviation, Automotive, Banking, Financial Services and Insurance, Healthcare, Logistics, Manufacturing, Utilities, and more.

For more information, please visit: **https://www.fptsoftware.com**