



Real-Time Retail Analytics Across 100+ Stores Using Microsoft Fabric



Real-Time Retail Analytics Across 100+ Stores Using Microsoft Fabric

WHO WE ARE

“ UB Technology Innovations is a Microsoft Power Platform delivery partner offering no/lowcode solutions, virtual bots, RPA, and data insights. We help clients on their digitalization journey by automating tasks, optimizing workflows, and providing a competitive edge through quick app deployment.”

WHAT WE DO

- Compliance and Security
- Enhance Productivity
- Improve Time to Market
- Reduce Operational Costs
- Maximize Profits
- Customer Experience



THE CLIENT

The client is a large global retail enterprise with a strong presence across multiple regions, offering products across multiple categories groceries, fashion, home essentials, and technology. Their retail ecosystem is known for 100+ retail outlets and high daily volume of in-store transactions, with growing operational data footprint.



CHALLENGES

As the organization expanded its store network and product offerings, the volume and complexity of data increased significantly. To maintain operational efficiency and consistent customer experiences, the company required a scalable analytics platform with real-time operational insights, centralized reporting, and secure data management. All their billing transactions generated at store systems were transmitted to LS Central (Microsoft Dynamics 365 Business Central) through an on-premises Kafka streaming platform. Despite this setup, several challenges limited operational visibility and reporting efficiency:

- Disconnected Data Across Systems: Operational data was distributed across multiple systems:
 1. LS Central: Sales and POS transactions
 2. SAP: Inventory management
 3. Hive: Historical data processing
 4. SQL Server: Master data and operational records

With 100+ stores generating large volumes of transactions daily, consolidating these data sources into a unified reporting platform became complex and time-consuming.



- Manual and Slow Data Preparation: LS Central transmitted transaction data in JSON format, which required additional processing before analytics could be performed, resulting in delayed report availability, increased manual workload for IT teams, and higher risk of inconsistent data preparation.
- Delayed Operational Insights: Although sales and inventory updates were generated continuously, the organization lacked real-time analytics capabilities with these limitations:
 1. Power BI dashboards struggled with large transaction volumes.
 2. Reports depended on scheduled refresh cycles.
 3. Store managers received delayed operational insights.
- This prevented teams from reacting quickly to demand changes or inventory issues.
- Security and Network Constraints: The organization required all operational data to remain within secure private networks to comply with internal policies. However, the legacy architecture did not consistently enforce encrypted data transfers, private network connectivity, and centralized governance controls.
- Data Privacy Concerns: In their reporting environment, store teams could potentially access data from other locations, raising concerns around store-level data privacy, confidentiality of operational performance metrics, and proper access governance. These limitations created operational blind spots, slower decision-making, and higher IT maintenance effort.



SOLUTION

- UBTI's Microsoft-certified experts implemented a modern data architecture using Microsoft Fabric to enable centralized data management and real-time analytics, with governed data access through:
 - Centralized Data Platform: Operational data from multiple enterprise systems was consolidated into Microsoft OneLake, integrating LS Central, SAP, Hive, and SQL Server.
 - Automated Data Processing with Medallion Architecture: To efficiently process high-volume transaction data, UBTI implemented Eventhouse with a Medallion Architecture framework:
 1. Bronze Layer: Stores raw transactional data as received from source systems. Preserves the original data format for traceability.
 2. Silver Layer: Cleans and structures raw data. Converts JSON events into analytical tables.
 3. Gold Layer: Creates refined datasets. Generates business-ready metrics for reporting.
 - This architecture ensured that data remained clean, structured, and analytics-ready, while significantly reducing manual data preparation.
 - Real-Time Analytics: Using Fabric streaming capabilities and Eventhouse, sales and inventory events are now processed almost instantly.

Secure and Private Data Transfers: To strengthen security and governance, we implemented:

1. Private network endpoints within Microsoft Fabric
2. Secure data movement within controlled network boundaries
3. Encrypted data transfers

This ensured compliance with the client's security and governance policies.

- Faster and Continuous Reporting: Power BI dashboards were connected to OneLake using Direct Lake mode, enabling analytics directly on the data.



www.ubtiinc.com



info@ubtiinc.com



+1 (714) 912-1600



- **Role-Based Data Access:** To protect sensitive operational data, Role-Level Security (RLS) was implemented. Access rules ensure each store can view only its own data, leadership teams can view enterprise-wide analytics, while maintaining both data privacy and centralized analytics visibility.
- **Proactive Operational Alerts:** Automated alerts were enabled for inventory shortages and sudden spikes in product demand, notified via Microsoft Teams and Outlook.



OUTCOME

UBTI's Microsoft Fabric implementation delivered measurable improvements across the client's retail operations:

- **Unified Data Platform:** Sales, inventory, and master data were all consolidated into a single platform, eliminating fragmented reporting systems and giving a single trusted source of data.
- **Real-Time Operational Visibility:** Managers and executives can now: monitor 100+ stores in near real time, track sales, inventory, and departmental performance, while also identifying trends and anomalies quickly.
- **Faster Operational Response:** Automated alerts enable teams to quickly respond to inventory shortages, demand spikes, and any other operational anomalies, ensuring improved product availability and operational continuity.
- **Improved Reporting Performance:** Power BI dashboards now deliver faster query performance, continuous analytics access, and immediate operational insights. Managers no longer wait for scheduled report refresh cycles.
- **Enhanced Data Security:** Security improvements include encrypted data transfers, private network connectivity, and role-based data access. Sensitive operational data remains protected and accessible only to authorized users.
- **Data-Driven Decision Making:** Executives now use Power BI dashboards to monitor top-performing products, department-level KPIs, and store performance trends. These insights support better decisions around promotions, inventory planning, and store operations.
- **Scalable Data Platform:** The Microsoft Fabric architecture provides a future-ready analytics foundation capable of supporting growing transaction volumes, store expansions, and advanced analytics and AI initiatives.

Conclusion:

The client faced limited operational visibility due to fragmented systems and delayed reporting across more than 100 retail stores. UBTI implemented Microsoft Fabric as a unified analytics platform, enabling centralized data management, secure governance, and real-time reporting. This led to real-time operational visibility across stores, high-performance Power BI analytics, secure and governed data access, and a scalable architecture for future growth. The solution helped the client transition their analytics capabilities from delayed reporting to real-time retail intelligence. Following the successful implementation, the client is now expanding Microsoft Fabric capabilities to support end-to-end logistics and supply chain analytics.



www.ubtiinc.com



info@ubtiinc.com



+1 (714) 912-1600





ABOUT US

UB Technology Innovations, Inc. (UBTI) is a leading global technology solution provider with over 3 decades of experience across all industries, specializing in Capital Markets (Asset Management), Logistics, and Healthcare. We are the preferred Microsoft Solutions Partner backed by a world-class team of Microsoft Certified experts with rich experience in Azure Cloud Platform and Data Analytics.



UB Technology Innovations, Inc.
2401 E Katella Ave, Suite 450
Anaheim, CA 92806



www.ubtiinc.com



[company/ubti](https://www.linkedin.com/company/ubti)



info@ubtiinc.com



+1 (714) 912-1600



Connect us

