

A grocery retailer

IBM WebSphere messaging backbone quickly delivers transaction data to a central hub

Overview

The need

At this company, transaction data from 2,400 grocery stores reached a central data warehouse via daily batch transfers. This batch processing method delayed analysis and hampered theft prevention efforts.

The solution

The company implemented an integrated message queuing infrastructure that can transfer data from any store endpoint to the central hub in near-real time.

The benefit

The company's data warehouse now receives transaction data in near-real time, supporting more-informed decisions.

This company is a large grocery retailer based in the United States. Its brands include grocery, multidepartment, convenience and jewelry stores. The company employs more than 339,000 associates.

Moving massive amounts of information

With its operations spread out across numerous states, it's essential for the company to be able to collect data in a timely manner from all of its stores so it can make informed decisions for the company as a whole. The company's application environment must therefore support the movement of a great deal of information so that more than 2,400 grocery stores can deliver information on sales and operations to a central hub on a daily basis. "Currently, we're handling around 50 million messages a day to and from the stores," says a software engineer at the company. These messages include transaction logs from the checkout lanes, credit checks and verification of information for pharmacy transactions.

In the past, the company managed most of these communications in large batches. Each store transmitted its transaction logs to the corporate data warehouse once a day. These logs were then parsed for analysis.



“WebSphere Message Broker is rock-solid. It has a relatively small footprint, and it is a world-class integration engine.”

—A software engineer, grocery retailer

The company wanted to improve the timeliness of these data transfers so it could improve access to accurate information for day-to-day operations such as customer service, supply chain management, and monitoring of over-the-counter drug sales.

Creating a reliable messaging backbone

To speed up the flow of information, the company implemented an in-store enterprise service bus (ESB) for each store based on IBM® Integration Bus (formerly known as IBM WebSphere® Message Broker) and IBM WebSphere MQ software. “The ESB provides reliable data transformation and delivery to all of the endpoints in the store, which use a variety of protocols,” says the software engineer. “It also enables us to transform messages and publish them so they get sent to remote endpoint systems that might be interested in them.” Stores’ point-of-sale controllers publish messages to the store ESB through WebSphere MQ Telemetry (MQTT), a protocol supported by WebSphere MQ software. “MQTT is designed to connect endpoints that do not support a full MQ client, and it is lightweight and very reliable,” says the engineer.

The company uses IBM WebSphere MQ File Transfer Edition software to transfer files between the central hub and the stores’ ESBs and in turn, to other endpoint applications in the store.

Solution components

Software

- IBM® Integration Bus (formerly known as IBM WebSphere® Message Broker)
 - IBM WebSphere MQ
 - IBM WebSphere MQ File Transfer Edition
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—A software engineer

Receiving sales data in near-real time

The WebSphere MQ architecture has streamlined data transfers that used to be batched and processed daily. “Rather than waiting a day to get transaction information centrally, we’re seeing transactions arrive within seconds of checkout. WebSphere Message Broker is rock-solid,” says the engineer. “It has a relatively small footprint, and it is a world-class integration engine.”

Ultimately, the solution:

- Dramatically reduces time between customer transactions in stores and data reaching data warehouse
- Provides a rock-solid messaging integration engine in a small footprint
- Delivers a reliable infrastructure for transaction data and file-based information

For more information

To learn more about IBM WebSphere software, please contact your IBM representative or IBM Business Partner, or visit the following website: ibm.com/websphere

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