

Case Study: Travel & Hospitality

Digital modernization streamlines worldwide sales reporting

A global restaurant chain transforms its sales data management system using a digital cloud-native approach to speed how it collects, consolidates and reports worldwide sales.

A world-renowned restaurant chain with a presence in over 120 countries became famous by innovating not only its menu but also its business by using better methods, systems and controls. Setting a new standard in the food industry when the chain was established, these methods lowered costs and made it possible to sell products to the public at a lower price—all advantages that drove the chain's growth and profitability.

The challenge

Maintaining corporate and financial applications using 40-year-old legacy technology created operational cost and risk for the restaurant chain. The system was supported by a wealth of internal knowledge, but there was almost no documentation. To mitigate this risk, the client wanted to transition off the existing system comprised of a range

At a glance

After operating its global sales function using a disparate 40-year-old legacy system, a global fast-food chain partnered with Cognizant to modernize its mission-critical sales data management system. The implementation helps the company:

- Operate using a single integrated web application for the end-to-end sales close process
- Ingest and validate 3+ million incoming sales data transactions from 37,000+ stores worldwide within minutes
- Reduce TCO with the new highly resilient and scalable application built on AWS
- Simplify and improve data reconciliation/analysis and reporting
- Enable infrastructure as a code, which cuts cycle time to provision the cloud infrastructure from one month to one hour

of technology platforms that had repetitive functionality but inconsistent user interfaces across the geographies.

Validating sales data from multiple sources

In addition to the constraints of doing business using the legacy system, the chain had difficulty collating sales information from its more than 37,000 stores across the world. By identifying the client's key challenges, we defined the right course to platform modernization.

System challenges included:

- **Process inefficiencies** due to a distributed application ecosystem, with separate sales apps for stores in different geographies, and data coming in from different systems, which was critical in creating a single sales report
- **High TCO** due to old technologies that limited the system's capabilities and increased maintenance costs
- **Difficulties extracting data** for reconciliation/analysis and reporting
- **A high number of manual errors** due to a lack of robust validation rules
- **Unresponsive design** due to a lack of file upload capabilities, the use of Microsoft Excel reports and the absence of any dashboard or analytics

Challenges with the monthly sales close process and timing added inefficiencies and reporting constraints. For instance, starting each month's sales reports required collating data from different systems and applying numerous business validations. This routine consumed a lot of time and introduced manual processing errors to the sales data.

Maintaining business data from three different business lines (corporate stores, international stores and US franchises) further complicated the month-end close process. This scenario, combined with already limited skilled resources to maintain the legacy systems, led to inconsistencies on reported

sales within enterprise systems.

The approach

We initiated the project with discussions on how best to re-engineer the existing system architecture. To understand the complex business logic involved in the chain's global sales system, we proposed a discovery phase to document each business process, leveraging reverse-engineering tools to trace data lineage across several database technologies. As part of the technology transformation, we created detailed documentation to capture the as-is state and dis-integrated the legacy and tech-based monolithic solutions, moving them to a cloud-native digital solution on AWS.

After finalizing the technical design, we planned three sequential releases and began building the framework of the new system. To meet our client's goal of retiring its legacy platform, we first replaced all legacy applications and data dependencies. This required re-platforming and/or rehosting the apps and dependencies to a more modern, low-cost and low-risk solution.

Delivering parallel releases on time

Over the parallel releases, we targeted the chain's three different sets of business users, delivering a high-velocity minimum viable product with minimal overlap between the releases by the client's deadline. The transition to the new system began with a pilot that included a few operators and US franchises, and then several international users. This approach meant some users entered data into old systems while others entered it into the new system. We did a full cutover only after we were confident the applications performed as expected, minimizing the client's risk.

Throughout the project, we held product demos and sprint reviews every three weeks with product, business and IT owners to gather feedback. In addition, our in-house workforce transformation initiative, to upskill our internal resources to digital engineers, was integral to the successful delivery of this project.

Modernized enterprise system

We helped the client modernize its entire global enterprise system portfolio, which included a number of firsts. The cloud-native solution helped the client build a cloud infrastructure from scratch, facilitating its move to the cloud by embracing complete DevOps automation and Agile methodologies.

We leveraged multiple AWS tools and technologies to provide a robust sales modernization system, which is also mobile-compatible and integrated on the AWS platform. The autoscaling system provides real-time data processing with high availability and the capacity to handle peak concurrent users.

The new continuous integration/continuous delivery (CI/CD) pipeline allows one-click deployment and near-zero downtime. We converted more than 80 static offline mainframe reports and built over 20 real-time, user-intuitive Power BI analytics dashboards, enabling the client to produce various sales reports that its sales organization uses on a regular basis.

Business outcomes

The entirely new, modernized global sales system is now a single, integrated web application that collects, consolidates and reports worldwide sales data, covering the end-to-end sales-close process. We transformed five distributed, 40-year-old legacy systems into an integrated, intuitive, cloud-native and single-source-of-truth system that supports streamlined processes.

The modernization program helps the client not only reduce its legacy footprint but also take a huge leap forward with digital transformation by delivering the first cloud-native digital solution within its global enterprise system portfolio.

A new era of digital transformation

The project has many technology and engineering process firsts within the client's environment. Benefits of the new system, which handles monthly data from more than 37,000 stores and is used

by over 2,200 users across the globe with ease, include:

- Reconciled the last 10 years of the client's global sales data into the new system
- Increased parallel processing at scale, with approximately 3 million transaction data points from 37,000 stores globally, ingested and validated within minutes
- Created a highly scalable system that handles thousands of sales submissions every 30 minutes, with 200 concurrent API invocations per sales submission
- Reduced cycle time to provision the cloud infrastructure from one month to one hour by enabling infrastructure as a code
- Minimized risk by moving users to the new system gradually, running the old and new systems in parallel
- Improved the back-end system for owner-operators by eliminating the need to log into different systems to gather data for monthly sales reporting via an integrated, intuitive, cloud-native and single-source-of-truth system that supports streamlined processes

The integrated system is highly available and resilient, with near-zero downtime. To ensure adoption, we not only implemented the new system but also trained trainers, created documentation and held demos with product owners, who trained the remaining operations teams across all 37,000-plus stores within the US and around the world.

A cloud-based digital ecosystem

In summary, we transformed and modernized a distributed, 40-year-old, error-prone and unresponsive sales management system. The fast-food chain now enjoys the benefits of a single window, highly responsive, resilient and scalable cloud-based digital ecosystem that handles restaurant sales closure reporting and data reconciliation processes from all international and US domestic markets. The solution makes a difference in the way the client and its partners derive value from systems.

About Cognizant

Cognizant (Nasdaq-100: CTSH) is one of the world's leading professional services companies, transforming clients' business, operating and technology models for the digital era. Our unique industry-based, consultative approach helps clients envision, build and run more innovative and efficient businesses. Headquartered in the U.S., Cognizant is ranked 185 on the Fortune 500 and is consistently listed among the most admired companies in the world. Learn how Cognizant helps clients lead with digital at www.cognizant.com or follow us [@Cognizant](https://twitter.com/Cognizant).

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