**SOLUTION BRIEF** 

# Transforming Quick Service Restaurants with Cloud-Native Computing with Rakuten Cloud



## Summary

The Quick Service Restaurant (QSR) landscape is undergoing a rapid transformation, driven by evolving customer expectations and the need for operational efficiency. To thrive in this dynamic environment, Quick Service Restaurants require agile, scalable, and secure IT infrastructure that can deliver personalized experiences, optimize inventory management, and streamline operations at the edge. This new wave of edge modernization isn't just about cost savings; it's about unlocking new revenue streams and gaining a competitive edge. This solution brief outlines how Rakuten Cloud solutions empower Quick Service Restaurants to build a robust and future-proof cloud-native edge infrastructure. By leveraging these technologies, Quick Service Restaurants can unlock new levels of agility, efficiency, and customer engagement, driving significant business value.



## Quick Service Restaurant Edge Challenges Addressed by Rakuten Cloud

Modern fast-food demands real-time insights and responsiveness at every touchpoint. Traditional centralized IT architectures struggle to meet these demands due to latency, bandwidth limitations, and the complexity of managing distributed infrastructure. Key challenges include:

- Real-time Decision Making: Overcoming the difficulty of making informed, real-time decisions related to dynamic pricing, menu adjustments, staffing optimization, and inventory management due to fragmented data, latency in data processing, and a lack of integrated analytics at the edge. This requires a solution that can aggregate data from various sources, provide immediate insights, and enable rapid responses to changing conditions.
- Delivering Personalized Customer Experiences:
   Customers expect personalized recommendations, targeted promotions, and seamless ordering and dining experiences across all channels (in-store, mobile, delivery).
- Optimizing Inventory Management: Accurate and real-time inventory data is crucial for minimizing waste (especially for perishable ingredients), optimizing ordering, and maximizing profitability.

- Enhancing Operational Efficiency: Streamlining operations, automating tasks (like order taking and kitchen management), and reducing IT overhead are essential for maintaining competitiveness in a high-volume, fast-paced environment.
- Ensuring Security and Compliance: Protecting sensitive customer data and complying with industry regulations and data sovereignty are paramount.
- Managing Distributed Infrastructure: Deploying and managing IT infrastructure across numerous Quick Service Restaurant locations can be complex and costly.

## Quick Service Restaurant Outcomes Addressed by Rakuten Cloud

Rakuten Cloud solutions provide a comprehensive and integrated approach to addressing these challenges, enabling QSR to achieve the following business outcomes:

- Local Decision Making: Gain real-time insights from data to make informed decisions about menu pricing, staffing, and promotions.
- Improved Customer Experience: Deliver personalized recommendations, targeted promotions, and seamless ordering and dining experiences.
- Optimized Inventory Management: Achieve accurate and real-time inventory data, minimizing waste of perishable ingredients and optimizing ordering.

- Enhanced Operational Efficiency: Streamline operations, automate tasks, and reduce IT overhead.
- Agile and Scalable Infrastructure: Rapidly deploy and scale applications to meet changing business needs, especially during peak hours and promotional periods.
- Reduced Risk and Enhanced Security: Protect sensitive customer data and ensure compliance with industry regulations.

### Rakuten Cloud Quick Service Restaurant Use Cases

### **Employee Scheduling**

Optimize employee scheduling based on predicted demand to ensure there are enough staff members on hand to handle peak periods.

### **Inventory Management**

Real-time tracking of ingredients, optimizing ordering and minimizing waste. Al-powered demand forecasting predicts product demand based on factors like time of day and local events.

### Drive-Thru Optimization

Use sensors and computer vision cameras to monitor the flow of traffic through the drive-thru to optimize the ordering process and reduce wait times.

### Predictive Equipment Maintenance

Monitor the performance of kitchen equipment, such as fryers and ovens, and predict potential failures before they occur to minimize downtime and reduce maintenance costs.

## Automated Order Taking

Implement AI-powered kiosks or voice assistants that can take customer orders, resulting in reduced wait times and improved order accuracy.

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## Geofencing for Targeted

Use geofencing to send targeted promotions to customers who are near the QSR, encouraging them to visit.

**Promotions** 

## Enhanced Customer Experience

Personalized menu recommendations displayed on digital menu boards, and mobile integration allows for seamless ordering and payment.

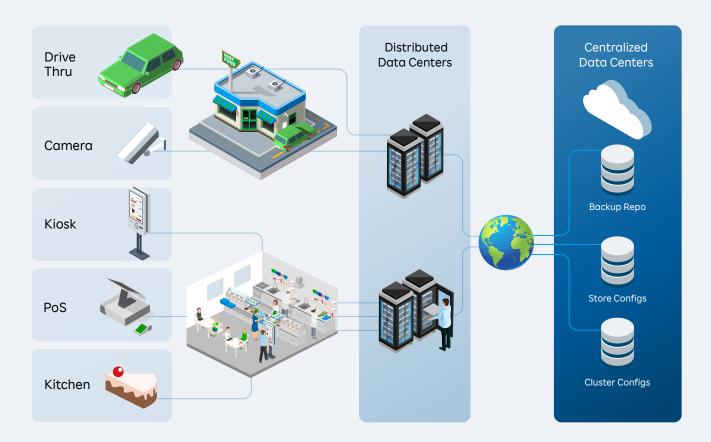
### Computer Vision Enabled Kitchen Display Systems (KDS) Optimization

Use real-time data to optimize the flow of orders through the kitchen, ensuring that food is prepared quickly and efficiently.

#### Dynamic Menu Pricing

Analyze real-time data, such as ingredient costs, demand, and competitor pricing, to dynamically adjust menu prices.

# How Rakuten Cloud Delivers a Cloud Solution to Quick Service Restaurant Edge



## Solution Components

Rakuten Cloud offers a suite of cloud-native solutions designed to work together seamlessly



# Rakuten Cloud-Native **Storage**

Provides secure, applicationaware, and software-defined storage for distributed, stateful applications, ensuring data persistence and protection.



# Rakuten Cloud-Native **Platform**

Unified Kubernetes platform for both containers and VMs, enabling the deployment and management of diverse workloads in distributed data centers, with a small edge footprint.



## Rakuten Cloud-Native **Orchestrator**

A full stack automation platform that orchestrates the lifecycles of bare-metal infrastructure, virtual and containerized applications, and 3rd party appliances, simplifying management at scale.

## Rakuten Cloud solutions work together to deliver a comprehensive cloud solution to the Quick Service Restaurants edge

Rakuten Cloud transforms Quick Service
Restaurants through cloud-native edge
computing. By leveraging Rakuten Cloud, Quick
Service Restaurants can establish a robust,
scalable, and secure edge infrastructure,
unlocking significant business value and
a competitive edge. This enables them to
overcome challenges in responding to dynamic
market conditions by empowering local
decision-making with real-time insights for menu
pricing, staffing, and promotions.

It also addresses challenges in meeting evolving customer expectations by facilitating an improved customer experience through personalized recommendations and seamless ordering.

Quick Service Restaurants can then achieve optimized inventory management, minimize waste, and streamline ordering, thereby addressing challenges in minimizing waste and maximizing profitability.

Furthermore, Rakuten Cloud drives enhanced operational efficiency by automating tasks and reducing IT overhead, which addresses challenges in managing costs and resources.

With an agile and scalable infrastructure, Quick Service Restaurants can rapidly deploy applications to meet evolving demands, addressing the challenge of adapting to changing business needs.

Finally, Rakuten Cloud ensures reduced risk and enhanced security, protecting customer data and ensuring compliance, which tackles challenges in protecting sensitive data and maintaining compliance.



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