How McDonald's Built Its Home Delivery System on AWS

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Introduction

Brief History of McDonald's Digital Transformation

Why McDonald's Migrated from On-Premises to AWS

Key Goals:

- **Scalability** – Handling millions of orders efficiently
- **Performance** – Faster processing & real-time tracking
- **AI-driven Personalization** – Enhancing customer engagement
- **Cost Efficiency** – Reducing infrastructure & maintenance costs

Challenges Before AWS Migration

Performance Bottlenecks

Slow order processing during peak hours

Scalability Issues

Struggles with high traffic spikes

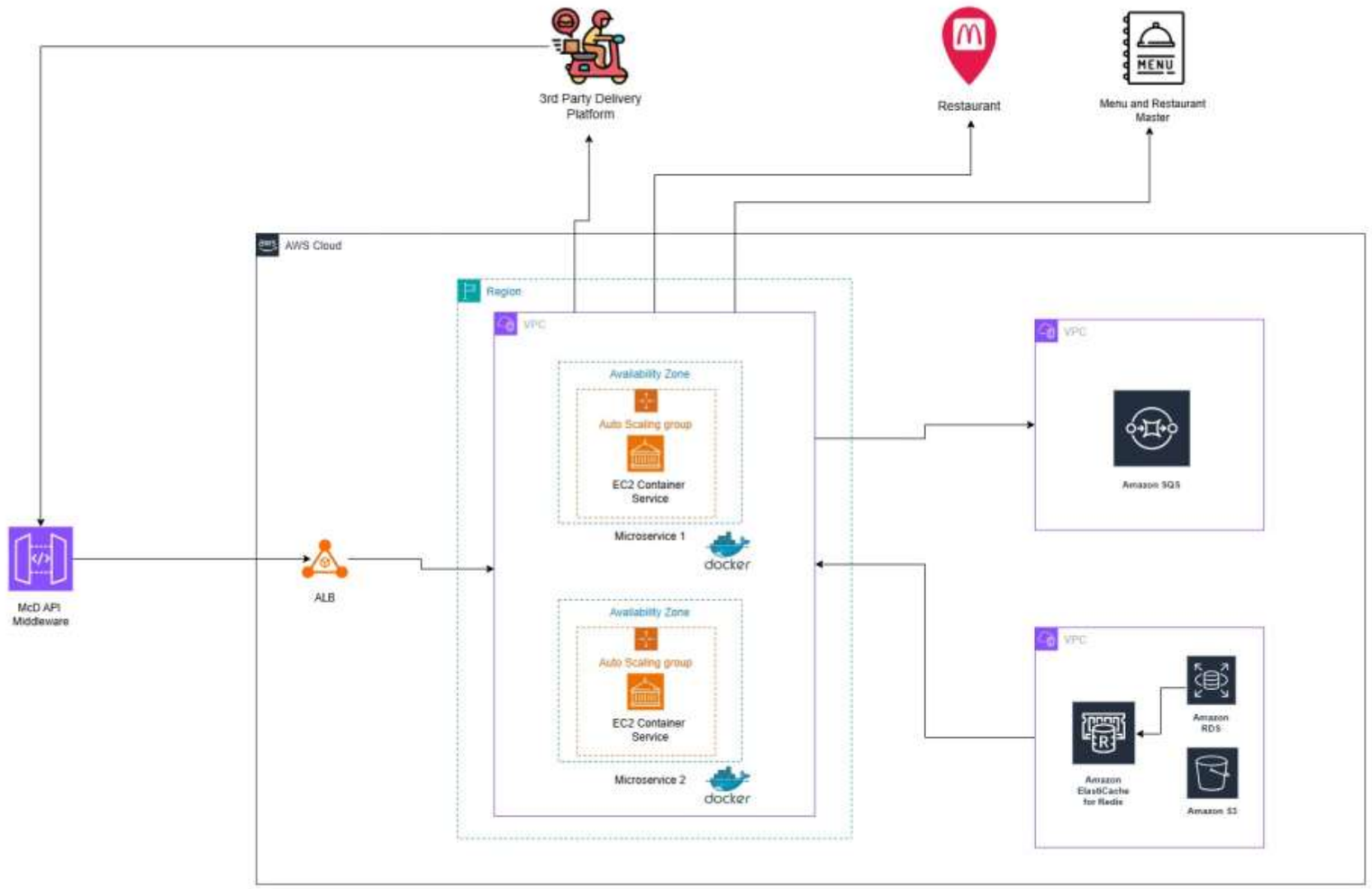
High Infrastructure Costs

Expensive server maintenance & upgrades

Security & Compliance

Protecting customer data & transactions

AWS Architecture



AWS Services Used in McDonald's System

Compute & Processing

- **Amazon EC2** – Runs containerized microservices
- **Amazon EC2 Auto Scaling** – Ensures automatic scaling
- **Amazon ALB** – Distributes traffic across microservices

Containers & Orchestration

- **Docker** – Deploys microservices in containers

Database & Storage

- **Amazon RDS** – Stores structured restaurant/order data
- **Amazon S3** – Stores images, receipts, & static content
- **Amazon ElastiCache for Redis** – Caching for fast retrieval

AWS Services Used in McDonald's System (Continued)

Messaging & Event Handling

- **Amazon SQS** – Manages asynchronous messaging

Security & Networking

- **Amazon VPC** – Isolates cloud infrastructure
- **AWS API Gateway** – Manages API requests

Third-Party Integrations

- **3rd Party Delivery Platforms** – Seamless integration
- **Menu & Restaurant Master** – Real-time data sync

Workflow & Data Flow in AWS

Customer places an order

(Mobile App/Kiosk/Drive-thru)

Order Processing

AWS Step Functions orchestrate order processing workflows.

Data Stored in Amazon RDS/DynamoDB

stores user details, menu items, and promotions.

AI-driven Recommendations

improve user experience

Order Tracking in Real-Time

via SQS Function

Scalability & Load Balancing

Ensures smooth performance during peak hours and distributes traffic efficiently.

Key Benefits of AWS for McDonald's

Scalability & Performance

Millions of orders processed seamlessly

AI-driven Personalization

Smart deals & menu suggestions

Faster Deployment

Quick updates & feature releases

Cost Optimization

Pay-as-you-go model reduces expenses

High Availability & Security

Ensures 24/7 uptime

Impact of AWS Migration on McDonald's

Why AWS was the Right Choice for McDonald's

How AWS Improved Speed, Reliability & Cost Efficiency

24/7

Minimal Downtime

Even During Peak Hours

30 %

Faster Order Processing

↑

Higher Customer Retention

with AI-driven Recommendations

↓

Lower Infrastructure Costs

compared to on-premises setup

Conclusion and Future Enhancement

Conclusions :

McDonald's successful use of AWS to build its home delivery system has enhanced scalability, reliability, and customer experience. With AWS, McDonald's can efficiently handle increased demand, streamline operations, and optimize costs, ensuring a seamless delivery process.

Future Enhancements :

- **Cost Optimization -** Use AWS Cost Explorer for efficient resource management.
- **Advanced Analytics**: Leverage AWS Redshift and QuickSight for customer insights.
- **AI/ML Integration**: Implement predictive order management and route optimization.
- **Expanded Services**: Explore AWS IoT for real-time data and improved delivery accuracy.

Thank You