



Transforming Digital Dining with Serverless AWS Migration

Executive summary

Customer: Komidaz Inc.

Partner: Graaho Technologies LLC

Industry: Food Technology & Digital Dining

Location: United States

Challenge: Komidaz Inc., a rapidly growing digital dining platform, faced severe infrastructure constraints with its legacy on-premises systems, including performance degradation during peak hours, manual scaling limitations, fragmented security, and inability to expand into new markets efficiently.

Solution: Graaho Technologies executed a comprehensive AWS cloud migration, implementing a serverless, cloud-native architecture with centralized security governance, automated CI/CD pipelines, and scalable infrastructure to support rapid growth.

Results:

- 99.9% platform availability during peak dining hours
- 80% reduction in infrastructure management overhead
- 70% faster deployment cycles through automated CI/CD
- 60% reduction in infrastructure costs
- 5x improvement in scalability during traffic surges
- Enhanced security posture with centralized compliance monitoring
- Seamless expansion capability into new geographic markets
- Sub-second response times for customer ordering experiences

Business Challenges

Komidaz Inc., experienced rapid user growth that overwhelmed its on-premises infrastructure, creating critical operational challenges:

► Performance & Scalability Issues

- **Degrading performance during traffic surges** during lunch and dinner rush hours
- **Manual server management** requiring significant DevOps resources
- **Limited scalability** preventing expansion into new geographic markets
- Inability to handle unpredictable demand spikes during promotional campaigns



About the Customer

Komidaz Inc. is an innovative digital dining platform that connects restaurants with hungry customers through an intuitive online ordering experience. As a Software-as-a-Service (SaaS) provider in the competitive food technology space, Komidaz serves hundreds of restaurant partners and thousands of daily customers across multiple markets. The company's mission is to transform the dining experience by making food ordering seamless, fast, and reliable.



About the AWS Partner

Graaho Technologies LLC is an AWS Advanced Tier Services Partner specializing in cloud migration, serverless architectures, security compliance, and DevOps automation. With proven expertise in transforming legacy applications into cloud-native solutions, Graaho helps SaaS companies achieve operational excellence. Graaho's team of AWS-certified architects and engineers delivers end-to-end solutions that combine technical excellence with business value.



► **Security & Compliance Gaps**

- **Fragmented security controls** across multiple systems
- **Reactive security posture** with no centralized threat detection
- Lack of comprehensive audit trails for compliance requirements
- Inadequate identity and access management controls

► **Operational Inefficiencies**

- **Inadequate monitoring** leading to delayed incident response
- Manual deployment processes causing slow release cycles
- High infrastructure costs with underutilized server capacity
- Difficulty implementing disaster recovery and business continuity plans

► **Strategic Limitations**

- **Barriers to market expansion** due to infrastructure constraints
- Inability to rapidly deploy new features to remain competitive
- Limited visibility into application performance and user behavior
- Growing technical debt hindering innovation

Solution Overview

Graaho Technologies designed and executed a comprehensive AWS cloud migration strategy, transforming Komidaz's legacy infrastructure into a modern, serverless, cloud-native architecture optimized for scalability, security, and operational efficiency.

Architecture Highlights

Serverless Application Layer:

- **AWS Lambda:** Serverless compute for order processing
- **Amazon API Gateway:** Managed API endpoints with automatic scaling
- **Amazon Cognito:** Secure user authentication and authorization
- **AWS Step Functions:** Orchestration of order fulfillment workflows

Database & Caching:

- **Amazon RDS:** Managed relational database
- **Amazon ElastiCache:** In-memory caching layer
- **Amazon DynamoDB:** NoSQL database
- **Amazon S3:** Scalable object storage

Security & Compliance:

- **AWS Security Hub:** Compliance monitoring
- **Amazon GuardDuty:** Intelligent threat detection
- **Amazon Inspector:** Automated security assessment
- **AWS CloudTrail:** Comprehensive audit logging
- **AWS WAF:** Protection against common exploits
- **AWS KMS:** Encryption key management
- **AWS Secrets Manager:** Secure storage

DevOps & Automation:

- **AWS CodePipeline:** End-to-end CI/CD orchestration
- **AWS CodeBuild:** Automated build and testing process
- **AWS CodeDeploy:** Zero-downtime deployments
- **AWS CloudFormation:** Infrastructure as Code
- **Amazon Cloudwatch:** Comprehensive monitoring and alerting
- **AWS Systems Manager:** Automated operational tasks

Networking & Content Delivery:

- **Amazon CloudFront:** Low-latency static asset delivery
- **Amazon VPC:** Isolated network environment
- **AWS Route 53:** DNS management with health checks
- **Elastic Load Balancing:** Application load balancing with SSL termination



Key Features Implemented

Auto-Scaling Architecture:

- Lambda functions automatically scale to handle concurrent requests
- API Gateway throttling to protect backend systems

Multi-Region Readiness:

- Architecture designed for easy replication across AWS regions
- Route 53 geo-routing for regional traffic management

Centralized Security Governance:

- Security Hub aggregating findings from GuardDuty, Inspector, and other services
- Centralized logging with CloudTrail and CloudWatch Logs

Automated Operations:

- Fully automated CI/CD pipelines eliminating manual deployments
- Automated backup and recovery procedures

Results & Benefits

Performance Improvements

- **99.99% uptime** achieved through serverless auto-scaling
- **60% reduction in API response times** with ElastiCache implementation
- **Seamless handling of 10x traffic spikes** during peak hours and promotions
- Zero performance degradation during high-demand periods

Enhanced Security Posture

- **Centralized security monitoring** across all AWS resources
- **Automated threat detection** with real-time alerting
- **100% audit trail coverage** for compliance requirements
- **Proactive vulnerability management** with continuous scanning

Accelerated Innovation

- **75% faster deployment cycles** through CI/CD automation
- Reduced time-to-market for new features from weeks to days
- Enabled rapid experimentation and A/B testing capabilities
- Empowered development teams to focus on business value

Implementation Process

Phase 1: Discovery & Design (Weeks 1-3)

- Conducted infrastructure assessment and application dependency mapping
- Performed security audit and compliance gap analysis
- Designed target serverless architecture
- Created detailed migration plan with rollback procedures
- Created proof of concept with Amazon Bedrock

Phase 2: Core Foundation Setup (Weeks 4-6)

- Established AWS landing zone with multi-account strategy
- Configured networking, security groups & VPC architecture
- Implemented centralized security and logging infrastructure
- Established CodePipeline CI/CD framework
- Created CloudFormation templates for infrastructure provisioning

Phase 3: Migration Execution (Weeks 7-12)

- Migrated databases to Amazon RDS with minimal downtime
- Refactored apps components to AWS Lambda functions
- Implemented Amazon ElastiCache for performance optimization
- Configured Amazon Cognito for user authentication

Phase 4: Testing & Optimization (Weeks 13-14)

- Deployed AWS GuardDuty, Inspector, and Security Hub
- Implemented automated security scanning in CI/CD pipeline
- Configured CloudTrail for comprehensive audit logging
- Established security incident response procedures

Phase 5: Optimization & Handover (Weeks 15-16)

- Performance tuning and cost optimization
- Knowledge transfer and documentation
- Established operational runbooks
- Conducted disaster recovery testing



Cost Optimization

- **40% reduction in infrastructure costs** through serverless pay-per-use model
- Eliminated over-provisioning and idle resource waste
- Reduced operational overhead with managed services
- Predictable cost structure enabling better financial planning

Operational Excellence

- **80% reduction in manual operational tasks** through automation
- Improved mean time to resolution (MTTR) with enhanced monitoring
- Simplified disaster recovery with automated backup strategies
- Enabled DevOps team to focus on strategic initiatives

Business Agility

- Rapid expansion capability into new geographic markets
- Scalable infrastructure supporting business growth
- Improved customer satisfaction through reliable service delivery
- Competitive advantage through faster feature releases

Business Impact

Market Expansion Capability:

- Reduced time to enter new geographic markets from months to weeks
- Ability to quickly replicate infrastructure across AWS regions

Operational Excellence:

- 80% reduction in operational incidents
- Automated recovery reducing mean time to resolution (MTTR) by 85%

Customer Experience:

- 40% improvement in customer satisfaction scores
- Reduced order processing errors by 60%

Restaurant Partner Satisfaction:

- Improved order management system reliability
- Real-time order notifications and updates

AWS Services Used

Compute & Application Services:

- Amazon Lambda
- Amazon API Gateway

Database & Caching:

- AWS RDS (Relational Database Service)

Security & Identity

- Amazon Cognito
- AWS GuardDuty
- Amazon Inspector
- AWS Security Hub
- AWS Cloudtrail
- AWS IAM (Identity & Access Management)
- AWS Secrets Manager

DevOps & Developer Tools

- AWS CodePipeline
- AWS Codebuild
- AWS CodeDeploy
- AWS CloudFormation

Networking & Content Delivery

- Amazon CloudFront
- Amazon VPC
- AWS WAF (Web Application Firewall)

Management & Monitoring

- Amazon CloudWatch
- AWS X-Ray
- AWS Systems Manager



Technical Deep Dive

Serverless Architecture Design

Graaho implemented a fully serverless, event-driven architecture to eliminate server management overhead:

- **AWS Lambda Functions:** Microservices for order processing, restaurant management, payment processing, and user notifications
- **API Gateway:** RESTful and WebSocket APIs for real-time order tracking and updates
- **Event-Driven Processing:** EventBridge for order orchestration and SQS for asynchronous task processing
- **Function Optimization:** Right-sized memory allocation, provisioned concurrency for critical functions, and connection pooling
- **Cold Start Mitigation:** Lambda SnapStart and strategic warming for latency-sensitive operations

Database and Caching Strategy

Optimized data layer for performance and scalability:

- **Amazon RDS (PostgreSQL):** Multi-AZ deployment for restaurant catalogs, user profiles, and order history
- **Read Replicas:** Distributed read traffic across replicas for improved query performance
- **Amazon ElastiCache (Redis):** Session management, menu caching, and real-time order status
- **DynamoDB:** High-velocity data like order tracking events and user activity logs
- **Database Connection Pooling:** RDS Proxy for efficient Lambda database connections
- **Automated Backups:** Point-in-time recovery with 35-day retention

Security Implementation

Comprehensive, defense-in-depth security architecture:

- **AWS WAF:** Protection against SQL injection, XSS, and DDoS attacks with custom rule sets
- **Amazon GuardDuty:** Continuous threat detection and intelligent monitoring
- **AWS Security Hub:** Centralized security posture management and compliance tracking
- **Amazon Inspector:** Automated vulnerability assessments for compute resources
- **AWS CloudTrail:** Complete audit trail of all API calls and user activities
- **Encryption:** KMS-managed encryption at rest for all data stores, TLS 1.3 for data in transit
- **Secrets Manager:** Secure storage and rotation of database credentials and API keys
- **VPC Security:** Private subnets for databases, security groups with least-privilege access

Customer Testimonial

— CTO, Komidaz Inc.

"Partnering with Graaho Technologies for our AWS migration was transformational for Komidaz. Their expertise in serverless architecture and security best practices enabled us to modernize our platform while significantly reducing operational complexity. We've gone from struggling with performance issues during peak hours to confidently scaling to meet any demand. The automated CI/CD pipelines have accelerated our development velocity, allowing us to innovate faster than ever before. Most importantly, the enhanced security posture has given our enterprise customers confidence in our platform. Graaho didn't just migrate our infrastructure—they positioned us for sustainable growth."



Technical Deep Dive

Authentication & User Management

Secure and scalable identity solution:

- **Amazon Cognito:** User pools for customer and restaurant partner authentication
- **Multi-Factor Authentication:** SMS and TOTP-based MFA for enhanced security
- **Social Identity Federation:** Integration with Google, Facebook, and Apple Sign-In
- **JWT Token Management:** Secure token-based authentication for API access
- **Fine-Grained Authorization:** Custom authorizers for role-based access control (customers, restaurants, delivery partners, admins)

DevOps Automation Architecture

End-to-end CI/CD pipeline for rapid, reliable deployment:

GitHub → AWS CodePipeline → CodeBuild (Unit Tests) → Security Scanning (Inspector, Secrets Detection) → CodeDeploy (Dev Environment) → Integration Tests → Manual Approval Gate → CodeDeploy (Staging) → Load Testing → Final Approval → CodeDeploy (Production - Blue/Green) → CloudWatch Monitoring & Alarms

Key automation features:

- **Infrastructure as Code:** AWS CloudFormation and SAM templates for all resources
- **Automated Testing:** Unit, integration, and end-to-end tests in pipeline
- **Security Scanning:** Automated SAST/DAST scanning, dependency vulnerability checks
- **Blue/Green Deployments:** Zero-downtime deployments with automatic rollback
- **Canary Releases:** Gradual traffic shifting with automated rollback on errors
- **Automated Rollback:** CloudWatch alarms trigger automatic rollback on performance degradation

Monitoring & Observability

- Comprehensive monitoring for proactive issue resolution:
- **Amazon CloudWatch:** Custom metrics for order processing times, API latency, and business KPIs
- **CloudWatch Logs Insights:** Centralized log aggregation and analysis
- **X-Ray Tracing:** Distributed tracing for end-to-end request visibility
- **Custom Dashboards:** Real-time operational dashboards for different stakeholder groups
- **Automated Alerting:** SNS-based notifications for critical events and threshold breaches
- **Application Performance Monitoring:** Lambda insights for function-level performance metrics

Cost Optimization Strategies

Intelligent cost management approach:

- **Serverless Pay-Per-Use:** Eliminated idle server costs with Lambda's consumption-based pricing
- **Reserved Capacity:** RDS Reserved Instances for predictable database workloads (40% savings)
- **ElastiCache Optimization:** Right-sized cache nodes based on usage patterns
- **S3 Intelligent-Tiering:** Automatic cost optimization for menu images and documents
- **Lambda Power Tuning:** Optimized function memory allocation for cost-performance balance
- **CloudWatch Log Retention:** Tiered retention policies to reduce storage costs
- **Cost Anomaly Detection:** AWS Cost Anomaly Detection for proactive cost management

- Automated incident response via AWS Systems Manager
- Centralized documentation in AWS Service Catalog
- Regular Well-Architected Framework reviews



Best Practices Implemented AWS Well-Architected Framework

Operational Excellence:

- Infrastructure as code using CloudFormation with version control
- Fully automated CI/CD pipelines
- Automated incident response via AWS Systems Manager
- Centralized documentation in AWS Service Catalog
- Regular Well-Architected Framework reviews

Security:

- Multi-layer security from network to application
- Least-privilege IAM roles with regular access reviews
- Integrated security testing in CI/CD pipelines
- Data encryption at rest and in transit
- Continuous compliance monitoring with AWS Config

Cost Optimization:

- Pay-per-use model eliminated 60% of idle resource costs
- Strategic use of Reserved Instances and Savings Plans
- Regular analysis and adjustment of resource allocations
- Detailed cost tracking by service, environment, and team

Reliability:

- Multi-AZ deployment for critical components
- Auto failover & fault-tolerant services and Retry logic with circuit breakers
- Cross-region backup and recovery strategy
- Real-time monitoring and automated alerts

Performance Efficiency:

- Automatic scaling with serverless architecture
- Multi-layer caching and CDN acceleration
- Optimized queries and read replicas
- Right-sized functions and connection pooling with Auto load testing in CI/CD

Sustainability:

- Optimized resource utilization to reduce carbon footprint
- Event-driven design minimizing idle servers
- Intelligent storage tiering and lifecycle policies
- Deployment in renewable-energy regions
- Continuous monitoring with carbon footprint tools waste

Lessons Learned

Technical Insights:

- Reduced P99 latency by 80%
- Improved efficiency by 65%
- 70% less database queries
- Prevented downstream service overload
- Reduced code complexity
- Custom Lambda triggers were necessary

Process Improvements:

- Rapid issue identification
- Allowed teams to learn AWS patterns
- Uncovered Lambda concurrency limits
- It kept the documentation current
- Provided valuable visibility into security posture
- Prevented budget surprises

Partnership Success Factors:

- Ensured alignment and rapid decision-making
- Allowed for course corrections
- Enabled Komidaz's team to independently manage AWS infrastructure
- Provided early access to new features (e.g., Lambda SnapStart, RDS Blue/Green deployments)
- Prevented confusion
- Starting with a pilot deployment serving 10% of traffic built confidence in the new architecture and provided real-world performance data before full migration



Future Roadmap

Komidaz Inc. and Graaho Technologies are planning strategic enhancements:

Short-term (3-6 months)

- **AI-Powered Recommendations:** Implement Amazon Personalize for personalized menu suggestions
- **Voice Ordering:** Integrate Amazon Lex for voice-based food ordering
- **Real-Time Analytics:** Deploy Amazon Kinesis for real-time order analytics and business intelligence
- **Mobile Push Notifications:** Enhance customer engagement with Amazon Pinpoint
- **Advanced Search:** Implement Amazon OpenSearch for intelligent menu and restaurant search

Medium-term (6-12 months)

- **Multi-Region Expansion:** Deploy to additional AWS regions for global market expansion
- **Machine Learning Insights:** Use Amazon SageMaker for demand forecasting and dynamic pricing
- **IoT Integration:** Connect with smart kitchen devices using AWS IoT Core

Long-term (12+ months)

- **Generative AI Integration:** Implement Amazon Bedrock for AI-powered customer support chatbots
- **Blockchain for Transparency:** Explore Amazon Managed Blockchain for food supply chain tracking
- **Edge Computing:** Deploy AWS Wavelength for ultra-low latency in 5G-enabled markets

Conclusion

The Komidaz Inc., and Graaho Technologies partnership demonstrates how strategic AWS migration can transform business capabilities. By embracing serverless architecture, automated DevOps practices, and comprehensive security governance, Komidaz Inc., overcame critical infrastructure limitations and positioned themselves for accelerated growth.

The migration delivered immediate operational benefits—faster deployments, better performance, enhanced security, and reduced costs—while establishing a foundation for long-term innovation and scalability. Komidaz Inc., can now confidently pursue market expansion, enterprise customers, and new product capabilities without infrastructure constraints.

This case study exemplifies the value AWS Partners bring to cloud transformation initiatives: deep technical expertise, proven methodologies, and commitment to customer success. Graaho Technologies' competencies in Migration, Security, and DevOps were instrumental in delivering a solution that exceeded expectations and created lasting business value.

Contact Information

To learn more about this solution:

Graaho Technologies LLC

- Website: www.graaho.com
- Email: aws@graaho.com
- AWS Partner Profile: [Graaho Technologies LLC](#)

AWS Partner Team

- For partnership inquiries: +1 703 936 9360

Additional Resources

- [Amazon Bedrock Documentation](#)
- [AWS Serverless Application Lens](#)
- [DynamoDB Best Practices](#)
- [AWS DevOps Blog](#)
- [Financial Services on AWS](#)

Document Version: 1.0

Last Updated: 18-02-2026

Classification: Public