Implementing & Managing Microsoft Azure API Management for a Leading Personal Lending and Mortgage Business

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1. Customer Overview

The customer is a prominent player in the personal lending and mortgage industry in the United States, with over 500 branches nationwide. In a highly competitive market, they face significant challenges in reducing fixed costs and customer acquisition expenses. Given the nature of retail banking, where customers often switch providers based on minor differences in interest rates or loan terms, the customer sought to leverage technology to gain a competitive edge.

2. Our Relationship with the Customer and reason for choosing Microsoft APIM

Given the business pressures the customer faced, they initially engaged us to help architect and migrate their two on-premise data centers to the Microsoft Azure public cloud. After successfully enhancing their security posture and implementing robust security protocols, we moved on to assist them in creating and opening their APIs. This allowed users to interact with the company directly without needing to visit a physical branch.

This ongoing project involves managing the full lifecycle of APIs, from creation to version control to retiring, while ensuring no shadow APIs create security vulnerabilities. Since the customer has a majority of their IT components using the Microsoft stack, we advised them to move forward using the Azure API services that are available. They are both robust and cost effective and also give an option for using some components, in an on-prem fashion. Also unlike open-source tools, Microsoft has much more advanced security capabilities and also allows you to integrate with third party tools for advanced security

3. Project Scope

Provisioning and Configuration

APIM Instance Setup

Created a new Azure APIM instance, selecting the appropriate pricing tier and configuring basic settings.

Custom Domains

Configured custom domains to provide a seamless and branded experience for API Consumers.

API Gateway Deployments

Managed API gateway deployments to ensure efficient routing and security of API traffic.

User Management

Account Management

Added, removed, and managed user accounts, assigning roles and permissions to ensure secure access.

Role-Based Access Control (RBAC)

Implemented RBAC to manage user permissions and ensure that only authorized users could access specific APIs.

Policies and Security

Authentication and Authorization

Defined and enforced policies for API authentication and authorization to protect sensitive data.

Throttling and Caching

Implemented throttling and caching policies to optimize API performance and manage traffic loads.

Data Transformation

Applied transformation policies to modify API requests and responses as needed.

Monitoring and Analytics

Logging Configuration

Configured logging to capture detailed information about API requests and responses.

Performance Monitoring

Monitored API performance to ensure optimal operation and quickly identify any issues.

Usage Analytics

Analyzed usage patterns to gain insights into API consumption and optimize API offerings.

Documentation

Comprehensive API Documentation

Provided detailed documentation to facilitate developers' understanding and usage of APIs.

Developer Portal

Set up a developer portal to enable internal and external developers to discover, onboard, and consume APIs.

API Onboarding

API Import and Configuration

Imported and configured APIs within the APIM, defining endpoints, methods, and backend services.

API Versioning

Managed API versions to ensure backward compatibility and smooth transitions for API consumers.

Access Control

Access Policies

Implemented and managed access control policies to ensure that only authorized users could access specific APIs.

API Key Management

Managed API keys to control access and usage of APIs.

Threat Detection

Security Monitoring

Monitored for potential security threats and vulnerabilities, ensuring timely mitigation and response.

Incident Response

Developed and implemented incident response plans to address security incidents promptly.

Compliance

Regulatory Compliance

Ensured that API usage complied with organizational and regulatory requirements, reducing the risk of non-compliance penalties.

Audit Trails

Maintained detailed audit trails to track API usage and access for compliance purposes.

Technical Support

API Consumer Support

Provided support to API consumers, resolving technical issues related to API usage

Troubleshooting

Diagnosed and troubleshot problems reported by API users, working with other teams to implement fixes

4. Benefits

The implementation of Microsoft Azure APIM provided several significant benefits to the customer:

Cost Reduction

Operational Efficiency

Streamlined API management processes reduced operational overhead and improved efficiency.

Lower Customer Acquisition Costs

Enhanced API capabilities enabled the customer to offer more competitive and personalized services, reducing customer acquisition costs.

Improved Customer Experience

Seamless Integration

The integration of backend services with Azure APIM ensured seamless data flow and operations, enhancing the overall customer experiences.

Faster Time-to-Market

The ability to quickly develop and deploy new APIs allowed the customer to respond faster to market demands and customer needs.

Enhanced Security and Compliance

Robust Security Policies

Implementing robust security policies ensured that APIs were protected from unauthorized access and data breaches.

Regulatory Compliance

The solution helped the customer comply with industry regulations and standards, reducing the risk of non-compliance penalties.

Scalability and Flexibility

Scalable Infrastructure

Azure APIM's scalable infrastructure allowed the customer to handle increasing API traffic without compromising performance.

Flexible Deployment

The flexibility to deploy APIs across different environments (on-premises, cloud, hybrid) provided the customer with greater operational agility.

Actionable Insights

Comprehensive Analytics

The analytics capabilities provided actionable insights into API usage patterns, helping the customer optimize their API strategy.

Proactive Monitoring

Real-time monitoring enabled the customer to detect and address issues promptly, ensuring high availability and reliability of services.