

A GLOBAL INSURER IMPROVES CUSTOMER EXPERIENCES WITH AN AI-POWERED CHATBOT

OZ Digital Consulting helps a global insurer process claims faster and serve customers better with an Azure AI-powered chatbot.

GET A FREE AI READINESS ASSESSMENT

30,000

lines of Terraform code developed to run the infrastructure

INDUSTRY

Insurance

FEATURED SERVICES:

Artificial Intelligence

Data Analytics & AI

Automation

Azure Solutions

TECHNOLOGIES:

Azure AI Hub, Azure AI Services, Azure OpenAI, Azure AI Search

Storage Account, Azure Key Vault, Cosmos DB

App Services, Azure Data Factory

Private Endpoint, Virtual Network, Private DNS Zone

Terraform, GitHub Actions (CI/CD), Docker, Azure API Provider

THE CHALLENGE

Slow claims processing turnaround times

Insurance is a document-intensive industry, with policy and claims documents often running into thousands of pages for each customer. The sheer volume slows down the claims process, making manual handling not only time-consuming and error-prone but also unsustainable at scale.

BUSINESS NEED

Instant access to policy and claims data

This global insurer recognized that if they were to scale and improve the customer experience they would need a more efficient way for agents to access policy and claims data. Their existing systems made finding relevant information feel like searching for a needle in a haystack. They needed a solution that streamlined access, improving both efficiency and service quality.

SOLUTION

An AI chatbot leveraging Microsoft Azure and OpenAI technologies

The client partnered with us to create a custom AI chatbot, using Microsoft Azure and OpenAI technologies. We also used Terraform to automate and manage the underlying infrastructure. Since the insurer had never used a chatbot previously to process policy and claims, the solution was completely customized and deployed using Terraform for consistency across development, QA, and production environments.

Data security was paramount as the chatbot would be handling sensitive customer information. So, data privacy, including network isolation, private access, and encryption was baked into the solution. All deployed resources were completely isolated from the public internet, accessible only through Private Endpoints and Private DNS Zones. Given the sensitive nature of insurance data, no sensitive information could be stored in repositories like GitHub, requiring secure management of credentials and configurations. And it adhered to HIPAA standards to protect client data.

Key features of the solution:

Infrastructure Automation with Terraform

- Developed modular Terraform scripts to automate deployment across multiple environments (DEV, QA, PROD)
- Implemented role-based access controls (RBAC) and least privilege access to secure resources
- Ensured version-controlled deployments, reducing manual intervention and configuration drift
- Divided Terraform deployment into separate execution groups, allowing different teams to work on various parts of the infrastructure simultaneously
- Used GitHub Actions for automated deployment validation and execution, ensuring all Terraform plans met organizational security standards

Security-First Architecture

- All services deployed within a Virtual Network (VNet) with Private Endpoints, eliminating public exposure
- Configured to ensure all internal services communicate securely without relying on public DNS
- Leveraged Azure Key Vault to store sensitive information securely, ensuring no credentials were hardcoded in Terraform or GitHub
- Each environment contained over 120 Azure resources, and Terraform's modular approach allowed precise updates without affecting the entire infrastructure

Optimized Development Workflow

- Over 30,000 lines of Terraform code were developed to manage the infrastructure
- Over 800 Git commits and 600 pull requests ensured a structured and collaborative workflow
- Terraform modules were used for storage accounts, AI services, and security configurations, ensuring reusability and standardization
- Parallel execution workflows prevented bottlenecks by allowing simultaneous deployments across teams
- Introduced multi-worker execution with Docker to optimize CI/CD performance

IMPACT:

The chatbot supports insurance agents with the policy and claims information they need exactly when they need, reducing response times, and improving service efficiency. The chatbot retrieves data in seconds, reducing manual search efforts. Powered by Azure Data Factory, it enables real-time data synchronization and updates.

- Reduced infrastructure provisioning time from hours to minutes through Terraform automation
- Established security by isolating resources using Private Endpoints and Private DNS zones
- Meets HIPAA compliance, ensuring data privacy and security
- With infrastructure-as-code, the client can now replicate the solution seamlessly in new environments
- Azure AI Studio allows in-house teams to develop and deploy the AI models efficiently
- Dividing Terraform deployments improves collaboration between various teams, speeding up development and removing bottlenecks