

Increasing payload capacity six-fold and simplifying authentication with AWS API Gateway

Client

A global pharmaceutical company headquartered in Israel

Company Size

37,000+ employees

Location

Global

Featured Partners



The client faced limitations with AWS Application Load Balancer (ALB), which could only handle 1 MB payloads and restricted critical application features. They also needed to maintain secure authentication with an external identity provider, which added complexity to their modernization efforts.

Marlabs migrated the client's architecture entirely to AWS API Gateway, implementing JWT authorizers for OAuth/OIDC authentication. This streamlined architecture increased payload capacity to 6 MB, enhanced scalability, and simplified authentication. The migration unlocked previously blocked features, improved security, and created a future-proof foundation for development.



Cloud
Migration



Cloud
Architecture
Modernization



Digital Security
Authentication



DevOps

The Challenge: Limited payload capacity and complex authentication



Objective: Expand the 1 MB payload limit while ensuring secure OAuth/OIDC authentication.



Existing Issues: The AWS ALB to Lambda constraint prevented critical application functionality.



Solution Needed: A unified API gateway architecture supporting larger payloads and external identity provider integration.



Outcome: A modern, scalable, and secure API gateway platform that would enable seamless application performance and digital authentication.



The client's AWS ALB to Lambda integration blocked endpoints requiring larger data transfers, resulting in inefficiencies and disruption. At the same time, secure authentication with an external identity provider had to be maintained during any architectural change.

The Solution: Modernizing API architecture with AWS API Gateway

Our team executed a phased migration strategy to unify the client's API architecture. By replacing AWS ALB authentication with JWT authorizers, we streamlined identity management, expanded payload capacity, and improved scalability and monitoring. The project was completed in just a few weeks, minimizing disruption and accelerating benefits.

Phase 1: Architecture Redesign

We migrated from the ALB/API Gateway hybrid to a unified API gateway solution.

Workstreams:

- Infrastructure design & cloud architecture
- DevOps configuration & automation
- Development & integration support
- Security & compliance validation

Phase 2: JWT Authorizer Integration

The team configured AWS API Gateway JWT authorizers with the client's external identity provider.

Workstreams:

- Identity provider integration
- DevOps pipeline management
- Security & authentication testing
- API configuration & policy management

Phase 3: Frontend Deployment

Our team implemented frontend token management and completed deployment.

Workstreams:

- Frontend development & token handling
- Deployment & release management
- Quality assurance & end-to-end testing
- Monitoring & logging enablement

Services and Technologies Used:

Services:

- Cloud Migration
- Cloud Architecture Modernization
- Digital Security & Authentication
- DevOps

Technologies:

- AWS API Gateway (HTTP API with JWT Authorizer)
- AWS Lambda
- DynamoDB
- CloudFront & S3
- External Identity Provider (OAuth 2.0/OIDC compliant)

The Results: Impact on the client organization

The new architecture delivered a 600% increase in payload capacity, simplified authentication, and enhanced scalability.

By consolidating infrastructure into AWS API Gateway, the client improved security, monitoring, and developer experience. The migration was completed in under 3 weeks, providing immediate business value and faster go-to-market time for new features.



Increased Payload Support: Payload limit expanded from 1 MB to 6 MB across all endpoints.



Improved Scalability: Serverless API Gateway enabled automatic scaling for variable workloads.



Unified Authentication: All API endpoints are secured through JWT-based identity provider integration.



Faster Delivery: We completed the entire migration in under 3 weeks.



Simplified Infrastructure: Migration removed ALB/API gateway complexity and reduced maintenance overhead.



Better Developer Experience: Centralized API management improved productivity and reduced errors.