

Techlogix evolves a robust framework for enterprise API migration

As a large healthcare payer in the US, the client is committed to making healthcare accessible for its members across the nation. Its mission is to keep their community growing, and becoming healthier and stronger through innovation and affordability.

Payers struggle with increased consumer demands, diverse stakeholders, and cost pressures - warranting sophisticated technology solutions. The IT landscape involves integration with a large number of internal and third-party systems, managing memberships, benefits, and claims. Our client's legacy enterprise architecture was challenged by hundreds of complex APIs developed in silos, leading to redundancy and inefficiencies; further complicated by performance issues and security gaps in mission-critical applications.

The client undertook an API ecosystem modernization initiative to standardize APIs across multiple legacy integration technologies, leveraging our structured API life cycle methodology to achieve a unified and scalable API architecture.

Customer
Healthcare Payer

Industry
Healthcare

Offering
API & Integration Services

About the Client

Our client is a large healthcare payer in the US serving millions of members.

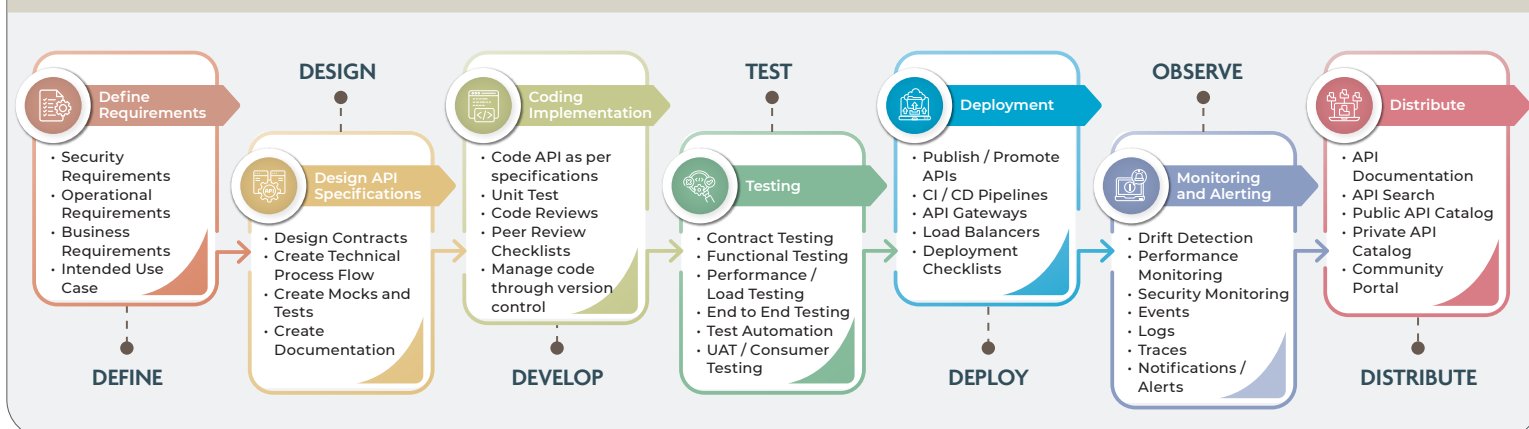
The Challenge: API rearchitecture, security, and performance

- Fragmented API Landscape:** Hundreds of APIs had been developed in silos, leading to redundancy and inefficiencies. The client needed to redesign these APIs with no pre-existing documentation available.
- Backend Integration Issues:** Multiple systems managing claims, membership, and benefits lacked streamlined communication.
- Performance Bottlenecks:** High latency hindered critical applications like member portal in accessing membership, eligibility and claims data in large volumes. The new APIs had to meet enhanced performance and compatibility standards to improve overall systems performance and ensure a non-disruptive transition.
- Security Gaps:** Weak authentication mechanisms posed significant compliance risks.
- HIPAA Compliance:** Patient records involve sensitive PHI and PII data containing protected health and identity information. The solution and development methodology had to comply with HIPAA privacy standards.
- High Operational Costs:** The associated licensing and operational costs of redundant legacy technologies were causing a significant financial burden and had to be brought down.

The Solution: Agile API lifecycle methodology

- Specialized Team:** A 40-person team of Requirements Analysts, Developers, and Test Engineers overseen by Architects and Program Managers worked collaboratively to evolve the development and governance framework for enterprise API migration.
- Methodology Toolkit:** Our team developed an API-specific toolkit of processes, artifacts and templates to streamline the project management and engineering methods. The templates capture specifications, standards, API flows and data signatures for all phases - from requirements, design, development, testing to DevOps. Kanban task boards in JIRA were adopted to facilitate a visual workflow, improving productivity.
- Taxonomy-Driven Go-Lives:** The team supported the client in identifying and prioritizing groups of APIs currently live in the legacy landscape for end-users and systems. This taxonomy helped to carve a critical path for successful adoption of new APIs by the end-users without impacting live applications. The client now has better control and visibility over their APIs due to clear documentation and optimized gateway services.
- Performance Optimization:** Techlogix has conducted detailed comparison and performance testing drives to ensure that all APIs meet the required functionality and performance benchmarks.
- 100% Compliance:** A highly secure API framework is developed to ensure strict compliance with standards, with a focus on data sanitization and validation to prevent vulnerabilities. Techlogix rigorously maintained compliance with HIPAA regulations through routine team training and a strict “clean room” policy.

API DEVELOPMENT ENGINEERING METHODOLOGY

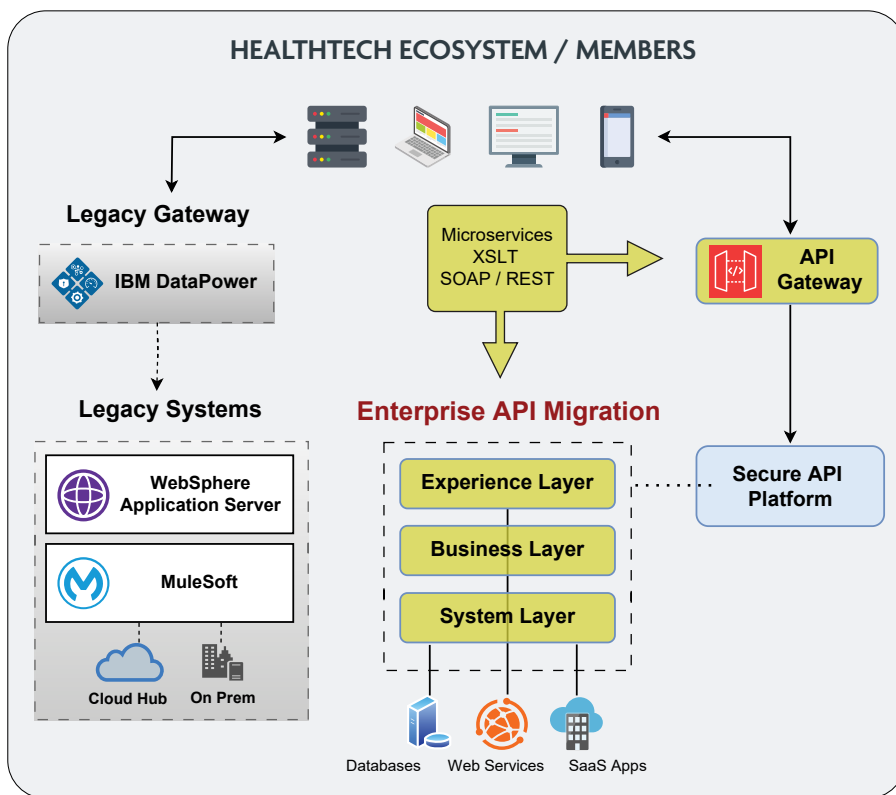


The Technology: Microservices backend through API gateway

The goal of the project was to modernize API ecosystem and to standardize APIs across multiple legacy integration technologies to achieve a unified and scalable API architecture.

A robust, n-tier microservices based, and event driven architecture was implemented:

1. **Experience Layer:** Delivered APIs tailored to business applications, ensuring consistent user experiences across the various consumer applications.
2. **Business Processing Layer:** Standardized business logic for core processes made these services reusable and scalable.
3. **Systems Integration Layer:** Connected with diverse backend systems by leveraging their supported capabilities, e.g., MQ, SOAP, SQL, Cobol copybook, etc., to provide a REST interface. This abstraction simplified connectivity and improved data consistency.
4. **Edge Services:** Deployed security and connectivity policies to ensure robust authentication and secure access consistently across all APIs.



The DevOps process employed GitHub for version control, and Jenkins, Cloudbees for CI/CD deployment.

Key Benefits

- **Enhanced Performance:** The new API stack improved throughput and reduced latency by up to 40%, and supported faster transactions.
- **Brand Trust & Risk Mitigation:** Elevated security and compliance protecting the system from breaches and reinforced consumer trust in the client. It also protected the client from potential legal or financial issues.
- **Cost Savings:** Switching from expensive legacy products to a more cost-effective platform enabled the client to reduce architecture, operational, and licensing costs while maintaining performance and scalability.
- **Scalability:** The new architecture was built to integrate with both legacy and modern systems, making it adaptable to future needs.
- **No Downtime:** Techlogix efficiently accomplished the complex migration of APIs, without disrupting user experience.

Conclusion

Healthcare firms are at a crossroads where the right API strategy can pivot the ability to address rising consumer demands and operational complexities. The transformation achieved by Techlogix via a taxonomy-driven architecture, technology modernization and consolidation with an Agile methodology; serves as a blueprint for turning API ecosystems into strategic assets, ensuring superior performance, cost efficiency, and scalability.

Healthcare Solutions

<https://www.techlogix.com/healthcare>

Techlogix helps its clients develop solutions that optimize healthcare IT investments for better business and care outcomes and by developing new platforms for supporting innovative care delivery models.

We bring our deep domain experience in healthcare and expertise in healthcare technology to each engagement. Our consultants analyze your problems, recommend a solution, and then develop and implement it.

Supported by our technology practice areas (Innovation & Product Engineering, API & Integration Services, Cloud Transformation, Data Analytics & AI, Business Process Management, and Enterprise Mobility) and leveraging a library of our pre-built modules, we implement solutions in an extremely cost effective and efficient manner.

Contact

For more information, contact info@techlogix.com



About Techlogix

Techlogix is an IT services, consulting, and business solutions company that helps its clients use innovation and emerging information technologies to digitally transform their business. Our globally distributed development teams build high performance solutions leveraging our practice-specific delivery methodologies. Our people combine the spirit of engineering excellence with a strong commitment to deliver a delightful end-to-end customer experience. Techlogix employs approximately 600 people in 6 delivery centers worldwide.

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