

API Enablement of Mainframe Applications

Renew mainframes with APIs for new digital business capabilities

Today, every business wants to digitize their operations and embrace lucrative opportunities in the digital marketplace. For many enterprises, this means providing open banking application program interfaces (APIs) as well as an omni-channel customer experience. To do this, they must first renew their core mainframes to enable APIs.

API enablement is the process of exposing an organization's internal platforms and interfaces to external developers/partners in order to:

- Enable new business capabilities on digital channels
- Enhance customer experience by offering an omni-channel experience

- Improve employee productivity by eliminating paper-based and manual work
- Enable agility through reusability and reduce time-to-market



However, organizations do have concerns and face challenges during API enablement that include:

- Decomposing monolithic applications and exposing services rapidly
- Handling SMAC traffic after enabling API and exposing services, without elevating TCO from increased load
- Infusing development agility and reducing cost
- Maintaining the right security and governance of APIs so they cater to future business needs

Infosys API enablement services

Infosys has developed a platform-as-a-service (PaaS) – the Infosys Cornerstone Platform – that builds APIs as microservices. It simplifies the creation of microservices for frequently consumed services and enables the caching framework, thereby reducing microservices enablement cost and time by 20-30%.

Infosys API enablement offering provides key services such as:

- **API readiness assessment:** We curate the complete landscape, identify and categorize services to be exposed on legacy systems and recommend services to be exposed as microservices
- **Rapid API conversion:** We enable rapid conversion of SOAP/green screens into REST-based services
- **API development and lifecycle management:** We conduct a complete API enablement implementation of SOAP or REST-based services that align with enterprise goals
- **API governance:** We set up the API environment so enterprises can build apps and develop proofs of concept (POC) in future

Infosys also provides extreme automation by leveraging proprietary, in-house and leading industry tools across the API development lifecycle that enable APIs rapidly, thereby slashing cost and time by 25-30%. Our industry-specific API management tools ensure security and governance throughout the API enablement process. Our Ki tool understands complex logic and generates insights from client's IT application portfolio. Finally, adopting DevOps provides agility in development, further reducing cost by monitoring, fine-tuning and regularizing complex processes.

Infosys approach

Our approach to modernization projects with API enablement is a 'meet in the middle' one that involves:

- **Top-down domain decomposition** – This includes gathering information from business owners, conducting feasibility analysis, defining processes, and mapping them to services
- **Bottom-up application analysis** – Here, we analyze the mainframe application inventory, identify business functionalities that need to be exposed as services, create components for these functionalities, and expose them as APIs using zOS Connect or IBM integrated web services
- **Building service catalogues** – This offers a detailed service catalogue that maps all business process, services and components

Key benefits

Our solution approach coupled with services and industry-specific tools provides clients with benefits such as:

- An accelerated solution implementation that leverages automation and minimizes manual intervention
- Minimum business risk and disruption by externalizing business logic, thereby eliminating impact on other systems
- Easy and quick adoption of social, IoT, analytics, and cloud
- Improved performance by eliminating dead code and componentizing reusable business functions for high reusability and better maintenance
- Lower MIPS cost by exposing frequently-read operations as microservices
- Future-ready applications that are highly scalable with agile architecture to address evolving needs



Success stories

Mobile app for warehouse management helps Swedish retailer boost productivity

A retailer based in Sweden was struggling with production delays and low employee productivity due to manual warehouse management processes. Infosys developed a warehouse management mobile app and created REST APIs to access mainframe applications from mobile devices. Now, Android mobile users can connect directly with the mainframe for business processes using JSON and REST. Besides improving employee morale, the Infosys solution helped increase productivity by 20%.



Health insurance provider turns 400 legacy services into microservices

A US-based health insurance provider was looking to retire over 400 legacy services and replace these as microservices. They also wanted to simplify integration patterns with current technologies and optimize their mainframes for better performance. Infosys identified the legacy services, classified them based on their complexity and converted the complex ones into different microservices. They also simplified the integration patterns with the appropriate products and extracted business rules from applications. The simplified architecture helped reduce the MIPS consumption, brought about immediate reduction in cost and significantly improved the response time as database could now be accessed much faster.



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