

The background of the top half of the page is a nighttime cityscape of Kuala Lumpur, Malaysia. The Petronas Twin Towers and the Kuala Lumpur Tower are prominent, illuminated against a dark sky with some clouds. A thick, light blue line starts as a semi-circle on the left and then descends as a straight line towards the right, framing the title text.

TENAGA NASIONAL BERHAD FUELS INNOVATION AND AGILITY WITH API-FIRST STRATEGY

Partnering with Capgemini, Tenaga Nasional Berhad (TNB) deploys next-gen Google Cloud's Apigee API Management Platform to power seamless integration of applications with Application Programming Interfaces (APIs), and accelerates its culture transformation to become a more agile digital business

More than just a kilowatt per-hour business

The energy industry today is disrupted by technological, regulatory, and competitive forces. To thrive and seize new opportunities amid this changing landscape, utility companies across the globe are reinventing the way they operate, as well as building new roadmaps for future growth.

One such company is Tenaga Nasional Berhad (TNB), which serves over nine million customers nationwide as the largest electricity utility company in Malaysia. The 70-year-old organization had previously embarked on a lofty

Overview

Client: Tenaga Nasional Berhad

Region: Asia Pacific

Industry: Energy & Utilities

Client Challenges:

As part of its 10-year transformation roadmap, TNB wanted to future-proof its technological landscape in order to better prime the company with the agility to pivot and drive innovation and growth at scale

Solution:

Working with Capgemini and Google Cloud, TNB designed an API-first blueprint that laid a strong foundation to build, deploy and scale APIs and introduced new agile ways of working to sustain and accelerate its digital maturity from within

Benefits:

- More agile and scalable architecture
- Seamless integration of applications and exchange of data
- Deeper insights enabled by better use of data
- Improved customer experience through on-boarding new business partners from external ecosystem
- New revenue streams from API monetization

transformation journey to achieve its strategic ambition of becoming the leading provider of sustainable energy solutions, both in Malaysia and internationally, by 2025. In order to achieve that vision, TNB looked into its opportunities to future-proof its technological landscape.

Among the key areas that needed refinement, TNB identified that its existing API products could become more flexible and required an update to cater to new integration technology such as microservices. The company wanted to better align the governance and adoption of API management, as well as expand the in-house capabilities it could provide to support the company's anticipated growth. In addition, TNB was also keen to explore non-regulatory revenue, whereby data generated from its business could be repackaged and monetized in the market.

With clear objectives laid out, TNB chose Capgemini and Google Cloud as its strategic partners to rollout an enterprise-wide API adoption program as Capgemini demonstrated an extensive comprehension of the company's digital vision and offered a robust set of end-to-end services for API strategy and delivery.

Laying the foundation for an agile organization

To ensure that the solutions developed were best tailored to TNB's business needs and maturity, the partners conducted various assessments, as well as virtual discovery workshops using design-thinking principles. A comprehensive program was launched to implement an API Management tool on a hybrid platform with Apigee Edge Cloud SaaS and On-Premises Microgateway.

This established a foundation for an agile, flexible infrastructure, which has allowed TNB to unlock newly consolidated data and services, opening them for broader consumption by internal and external customers, as well as allowing reusability, enhancing security, and strengthening governance requirements. APIs were also developed for the chatbot integration on the myTNB mobile app, and a chatbot was integrated into TNB's website.

Driving cultural transformation for sustained results

With the architecture framework in place, TNB needed a clearly defined blueprint to help identify key strategies to operationalize, accelerate, and sustain its newly built API capability. Together, the partners introduced a Center of Enablement, which was based on the Hub and Spoke model and served as a dedicated, centralized location to foster and nurture the growth of API practices within the company. New governance was also enforced to document the various standards, guidelines, and best practices for APIs. In addition, TNB and Capgemini identified value-driving APIs to be prioritized and charted a roadmap based on the business value of each use case as well as potential future trends in the utilities industry.

As part of the partnership, Capgemini also facilitated a cultural mindset shift to drive API literacy across TNB. A Community of Practice was set up to instill better knowledge sharing and collaboration on API development across the organization. The teams also used simple, bite-sized communications to spread the API-first agenda amongst all employees. These upskilling opportunities ensured that TNB employees not only possessed the necessary technological capabilities, but also the knowledge to harness the new framework's full potential.

Unlocking innovation and digital growth at scale

The delivery of the project was conducted using agile scrum methodology, which allowed the deployment of three squads to work on the platform implementation, the establishment of governance and strategy, and change management simultaneously. A unique two-in-a-box knowledge transfer approach was utilized in such a way that every role within TNB was paired with a mentor from Capgemini to ensure that mentees could get up to speed as quickly as possible.

By undergoing this journey with Capgemini and Google Cloud, TNB has successfully moved forward on its transformation roadmap to become a leading global player in the utilities industry. The more open digital backbone enables the flexibility TNB needs to connect with the outside world, generate new revenue streams, and drive innovation at a faster rate.

As a result, the utility giant now has ability to react more effectively to market-competitive pressures and keep pace with changing customer demands. Over the coming months, TNB and Capgemini will continue to work together to manage API systems and look for more opportunities to improve and develop use cases for the myTNB mobile app.



“TNB has grown from strength to strength to become a utility that is responsive to the needs of our stakeholders and the marketplace, and we are constantly looking into opportunities to unlock new growth. TNB is now able to capitalize the power of APIs to navigate sustaining and disruptive innovation within and outside our ecosystems, with a more resilient and scalable technological infrastructure, with Capgemini and Google Cloud's participation in our transformation journey.”

DATUK FAZIL BIN IBRAHIM
Chief Information officer of TNB



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