WSO2

QANTAS APIs TAKE FLIGHT WITH WSO2 TECHNOLOGY

Qantas Airways moved to an API-first strategy allowing the company to build a fully connected experience for its customers.

HIGHLIGHTS

Since launching the WSO2 API Management platform in April 2018, Qantas has:

- Increased the number of APIs published tenfold
- Seen a 500% increase in API traffic
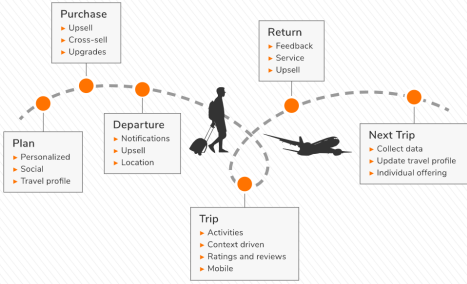- More than halved its operating costs

QANTAS

Industry: Transportation
Location: Australia

ABOUT QANTAS

Founded in regional Queensland in 1920 – as Queensland and Northern Territory Aerial Services – Qantas has played a central role in the development of the Australian and international aviation industry. Today the Qantas Group is a diverse global aviation business, comprising Qantas Domestic, Qantas International, the Jetstar low-cost carrier group and Qantas Loyalty. In total, the Qantas Group operates over 300 aircraft on more than 7,300 flights each week and, together with its codeshare and oneworld partners, offers flights to more than 1000 destinations around the world. Qantas is ranked the world's safest airline by AirlineRatings.com, and holds many major awards for service, food and wine, technology and innovation. The Qantas Group carries over 50 million passengers each year and employs around 30,000 people.

CHALLENGE

Qantas relies on technology, people, and processes to ensure that it is well-positioned for the future. In tune with this objective, they moved to an API-first strategy to build a fully connected experience for its customers. Whether planning for a trip, making a booking, or requesting departure or in-flight assistance, Qantas ensures a seamless journey for its passengers. But bringing some of its legacy technology up to speed with the company's vision was a challenge. It was slow in responding to change, had a fixed compute capacity, was costly, and involved extensive manual work.

Purchase
- Upsell
- Cross-sell
- Upgrades

Return
- Feedback
- Service
- Upsell

Plan
- Personalized
- Social
- Travel profile

Departure
- Notifications
- Upsell
- Location

Next Trip
- Collect data
- Update travel profile
- Individual offering

Trip
- Activities
- Context driven
- Ratings and reviews
- Mobile

In order to overcome these challenges, Qantas needed a technology revamp that would allow it to speed development time, provide multi-channel services, ensure scalability, and fuel business agility. The company also required a solution capable of ensuring that any APIs developed met the required security and visibility standards, without becoming a bottleneck that restricted the creativity and speed of development the business demanded. Qantas realized that it needed a modern API management solution that could help the company operate, protect, and capitalize on its assets.

> " We were able to successfully launch the platform with limited remote trial support. Since then, we have had excellent support from the WSO2 team through both query support and incident troubleshooting and patching."

Samuel Purchase

PRINCIPAL ENGINEER – API MANAGEMENT PLATFORM

Qantas IT

SOLUTION

After careful consideration, Qantas chose the WSO2 Integration Agile Platform as its technology solution. Key factors in the decision were WSO2's open source nature; flexible, hybrid deployment models; quality of customer support; and additional authentication capabilities. With the help of WSO2, Qantas re-architected its technology implementation around an API-first strategy. In order to meet all of the company's requirements, it leveraged Agile development practices, RESTful APIs, microservices, and the cloud.
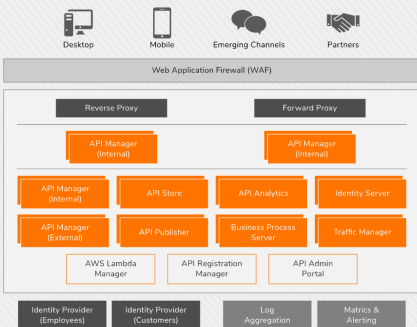
Today, WSO2 API Manager is used to provide internal software development teams and partners the ability to securely publish their APIs for use across Qantas. Meanwhile, WSO2 Identity Server is used as the key manager for the API manager. It also supports single sign-on (SSO) to the platform by federating identity to the relevant existing identity providers at Qantas. Together, the technologies helped to address three key requirements identified by Qantas:

- Deliver a good user experience for developers by providing self-service capabilities and integration into their own API CI/CD pipelines to enable automated API registration.
- Promote API reuse across teams by increasing visibility across the broad range of available APIs and providing a framework to facilitate a subscription-based model for sharing access.
- Employ API usage analytics and insights to ensure that all APIs are optimized.

Qantas developed services in Node.js to orchestrate the required integration between WSO2 API Manager and its developers' build pipelines. This has enabled teams to simply provide a Swagger file describing their API along with a JSON configuration file to set configuration requirements, such as where to publish the API. Qantas also used Node.js to further extend WSO2 API Manager, so software developers could publish and invoke serverless APIs using Amazon Web Services (AWS) Lambda functions in addition to standard HTTP-based endpoints.

The entire API-driven platform is built on AWS where all the infrastructure requirements, product installation, and configuration scripts are stored as code under version control. A distributed architecture with blue-green deployments is used to help facilitate rapid changes to specific components of the solution.

TECHNICAL ARCHITECTURE: API MANAGEMENT PLATFORM

The solution is cloud-native with auto-healing and auto-scaling functionality. Additionally, it is fully automated throughout the API lifecycle, ensuring minimal manual work. A cost-effective licensing model is used to allow future growth.

RESULT

Qantas launched its WSO2 API Management platform in April 2018. In the following 12 months, the company increased the number of APIs published by its teams by tenfold, saw a 500% increase in the volume of managed API traffic, and more than halved its operating costs when measured against traffic volume.

- 500% Increase in Traffic
- ½ the Operating Cost
- 10x Published APIs