



Objective

Create an Open API for external developers to make data more available in order to encourage innovation of travel services

Approach

Issued request for proposal to vendors with appropriate technical and industry skills and the ability to deliver in a tight timeframe

IT matters

- Streamline and simplify external developer access to airline data and functions in an managed and controlled manner
- Reduce application
 development and maintenance
 costs
- Use standard methods like Hypertext Transfer Protocol (HTTP)
- Take IATA-led New Distribution Capability (NDC) into account

Lufthansa accelerates the progress of travel innovation

DXC Technology services designs and implements Open API for leading German airline Leading German airline, Lufthansa, wants to improve traveller experience throughout all touch-points and increase its brand visibility. To encourage innovation it decided to make its data more readily available to external innovators by creating an Open Application Programming Interface (API). DXC provided design and implementation services.

Business matters

- Grow sales through increased brand visibility and ability to target new markets
- Improve travel experience for Lufthansa customers
- Position Lufthansa as an innovative organisation

Challenge

Need for more travel services

Improving and enhancing travel services is the key business driver for airlines as they fight for their share of the intensely competitive air travel market which, according to the International Air Transport Association (IATA), saw 3.3 billion passengers fly in 2014 in a market estimated to be worth USD\$746 billion.

Operators acknowledge this and recognise the need for more innovative travel services but they just don't have sufficient internal development resources to do it themselves and address specific new markets.

They have to make use of external software developers to satisfy the growing demand and that is the case with leading German carrier, Lufthansa. In 2014, its Passenger Airline Group, which includes SWISS and Austrian Airlines, achieved total revenues of €30 billion with more than one million flights taking nearly 106 million passengers to destinations in over 100 countries. "Developers could only use screen parsing-based logic to integrate Lufthansa data and functions within their apps or obtain dedicated access using Lufthansa enterprise IT which meant long lead times and repetition for every app," explains Thomas Ramscheid, Senior Manager Middleware and Central Services, Lufthansa. "These were lengthy and complex processes and the result was that other parties were just not producing apps for Lufthansa's customers."

Within its Innovation Hub, Lufthansa wanted to innovate the travel business and put the customer back into focus. The unit is validating and facilitating digital opportunities to create the happy journey of tomorrow. Its purpose is to engage with the social community and encourage more people to develop mobile applications – a job that is outside the airline's core business and seen as a risky investment of time and materials.

To achieve this, the airline needed to make its data more readily available to the development community and its partners. "The HPE (now DXC) services team involved in this project did more than I asked for. They were very proactive and brought in new ideas that we had not thought of. Thanks to HPE's (now DXC)technical and airline industry experience we implemented a first release of the Open API within two months, including setting up new infrastructure components within the Lufthansa gateway."

- Thomas Ramscheid, Senior Manager Middleware and Central Services, Lufthansa

Solution

Controlled access to data

Lufthansa decided to follow a growing trend in the aviation industry and create an Open Application Programming Interface (API) which exposes Lufthansa data and functions to developers in the outside world via the Internet and is also available to Lufthansa's own service providers and departments for developing internal services. The Open API uses standard methods like Hypertext Transfer Protocol (HTTP) and also takes account of the IATA-led New Distribution Capability (NDC) standard, based on Extensible Markup Language (XML). NDC is a collaborative initiative to define a new messaging standard between airlines and travel agents that will enable greater transparency and choice for consumers.

"A good comparison is that in the nineties, everyone had to have a website. Now, everyone has to have an Open API," says Ramscheid.

Although Lufthansa was to lead the project it needed a design and implementation partner so issued a request for proposal (RFP) to various vendors. It selected HPE (now DXC Technology) services which already had extensive knowledge of Lufthansa's technology landscape from having implemented its Service Oriented Architecture (SOA) middleware layer in 2007. "We selected Hewlett Packard Enterprise (now DXC) as our partner for the provision of Lufthansa Open API because, as well as being familiar with our IT infrastructure, it also had extensive functional and technical experience of solutions for the airline industry. Most importantly, it would be able to deliver the project in a very short timeframe," adds Ramscheid.

Initially, DXC specialists helped Lufthansa prepare the business case for Open API and then developed the functional structure of the first version ready for a three-month Proof of Concept (PoC). The basic functionality was presented to the development community at a hackathon in Berlin in December 2014 and now the DXC team is developing further functionality, with more hackathons in the pipeline.

Developers and partners access data through a dedicated API portal based on TIBCO Mashery API Management. When they register, users receive a client ID and an Open Standard Authorisation (OAuth) access token. TIBCO Mashery API management software can block, throttle or filter access to services based on this token. If a registered developer is considered a trusted source, they can be given access to more data whereas unknown developers will only have access to public data.



The API site features an API Playground and API Showcase to introduce the functionality. Data already available includes information on core services such as flight schedules, arrivals, departures, flight status and aircraft seating maps. Other ancillary services such as cities, countries and airport lounge information have recently been added and there are plans to add even more data in future. Portal design enables developers to easily register their applications and create individual API plans. Resources can be tested and there is extensive interface documentation.

The site invites start-ups and digital companies to co-create innovative offers to 'advance the way we travel' and tempts them with a potential user base of Lufthansa's 100 million passengers.

Benefits

Improved brand visibility

The first mentionable external usage of Open API recently went live with FlightStats.com and, as more developers use the interface, Lufthansa anticipates that a wide range of other services will follow.

"As more Lufthansa-centric apps are published it will increase our brand visibility and position us as an innovative organisation," says Ramscheid. "We expect that this will also translate into increased earnings because these services will be able to target new markets – for example a dedicated one for travellers with special needs. Lufthansa cannot invest the time or money on these markets but there is a good business case for external developers to do this. We will support them and in the end it will increase bookings with Lufthansa.



"Providing the Open API for external developers enables new ideas and business opportunities to be piloted without impacting Lufthansa's traditional business."

- Thomas Ramscheid, Senior Manager Middleware and Central Services, Lufthansa

Customer at a glance

DXC services

 DXC Applications Development "Having more services will improve passengers' travel experiences and running hackathons among the development community will drive creative innovation and produce new ideas that we might not have thought of ourselves."

A further aim is that apps will increase the use of social media, enabling customers to share their travel data, itineraries and current locations with friends and partners. Increasing the speed of innovation within Lufthansa by exposing data or processes through the API allows services to be developed for virtually any platform, with the main emphasis on mobility. It also reduces the cost of development because accessibility to data is a lot easier through a common, standard portal. "When you are in the airline industry you work in a silo. By exposing our data in this way we can gain better visibility on what other people think," concludes Ramscheid. "That will increase the speed of innovation which is good news for both Lufthansa and its customers."

About DXC

DXC Technology (NYSE: DXC) is the world's leading independent, end-to-end IT services company, helping clients harness the power of innovation to thrive on change. Created by the merger of CSC and the Enterprise Services business of Hewlett Packard Enterprise, DXC Technology serves nearly 6,000 private and public sector clients across 70 countries. The company's technology independence, global talent and extensive partner alliance combine to deliver powerful next-generation IT services and solutions. DXC Technology is recognized among the best corporate citizens globally. For more information, visit www.dxc.technology.