REACH FOR THE SKIES

Every company in the world is looking for technological innovations to enhance efficiencies. But it's not often that they get to turn those innovations into brand new revenue streams.

Infosys®

FEEDING THE BEAST

Commercial airplanes are expensive and complicated machines – which means two things. First, airlines have to get the best possible return from their investment by using them as much as possible. Long-haul flights can keep an airplane in the air for up to 20 hours every day, earning money for the airline with every passing minute. However, the plane makes no money on the ground, so airlines have to maintain and service the aircraft efficiently, and get it back in the air with a new payload of passengers as quickly as possible. Therefore, the MRO (maintenance, repair, and overhaul) is a critical and complex part of an airline's business and one of the key factors in making the business successful.

Aircraft are the geese that lay golden eggs for the airline. So the airlines need to look after them.

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ACCESSING THE DETAIL

The second point is that aircraft are not simple machines. The technicians and engineers who service them are highly skilled and use detailed plans, task cards, and manuals to maintain them, always being mindful of stringent safety regulations of the world's aviation authorities.

Traditionally, these documents are made available online, but since each airline typically operates a number of different airplanes, each with its own specific maintenance requirements, the task of quickly accessing such a volume and variety of supporting documentation is usually almost unmanageable.

Our client, a major aircraft manufacturer, was keen to help airlines maximize their return on investment from aircrafts, and therefore asked us to simplify the way engineers accessed technical maintenance data.

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BLUE-SKY THINKING

However, there was a further opportunity. Providing access to the latest maintenance manuals around the clock via any computing device was one thing. But what if details of every manufacturer's planes could be included on a single, universal, easy-to-use platform? MRO teams would simply log into a unified, cloud-based, web app and get all the information they needed.

They would get their airplanes ready faster – and our client could develop a brand new revenue stream by charging for subscriptions. The idea was noble and doable – but given the nature of the aviation world today, the journey from idea to implementation wasn't a simple one.

BREAKTHROUGH

What if details of every manufacturer's planes could be included on a single, universal, easy-to-use platform?

SPLENDID ISOLATION

The key problem was to conform with each manufacturer's strict information security guidelines. We, at Infosys, achieved this by using a public Amazon cloud, thus ensuring that no competitor data was stored on our client's premises, and adding an insulation layer that separated the data of each manufacturer.

As an additional security measure, we implemented an API gateway, web application firewalls, encrypted data at rest and in transit, and vulnerability assessments. The implementation of deep a security monitoring tool and security information and event management (SIEM) dashboards produced the intrusion detection metrics that addressed vulnerabilities proactively. We also designed security architecture in-line with the defense-in-depth principle, leveraging multiple security controls and governance processes.

An added benefit of the cloud platform was to prevent delays caused due to hardware procurement challenges.

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AVOIDING DELAYS

We significantly reduced time to go live by adopting a template-based approach in building the solution. We built AWS CloudFormation templates, which included building an AWS Virtual Private Cloud using Elastic Block Store and all other supportive AWS services to accommodate future scalability needs. These templates, in conjunction with a configuration management tool and continuous integration/continuous development (CI/CD) pipeline, resulted in saving repetitive build efforts, thus reducing the cost and time to go live.

We also minimized system downtime by leveraging AWS availability zones, AWS S3, and Glacier storage for long-term retention of backup data. Augmented with disaster recovery (DR) in a different AWS cloud, while still adhering to the geographical regulations around data storage, this resulted in a service availability of about 99.99 percent, along with reduced storage requirements and back-up cost.

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CLEARED FOR TAKE OFF

The first benefit of the solution was the increased loyalty of airline operators. Secondly, easier MRO through the new platform enabled our client to achieve a noticeable reduction in contract termination.

Meanwhile, the new revenue stream is also springing to life – there is a pipeline worth approximately US$25 million coming from airline operators keen to use the new system.

In addition, our efforts to build an efficient, cloud-based system made a significant difference to project costs: our client estimates cumulative savings of around US$1 million as compared to on-premise hosting.

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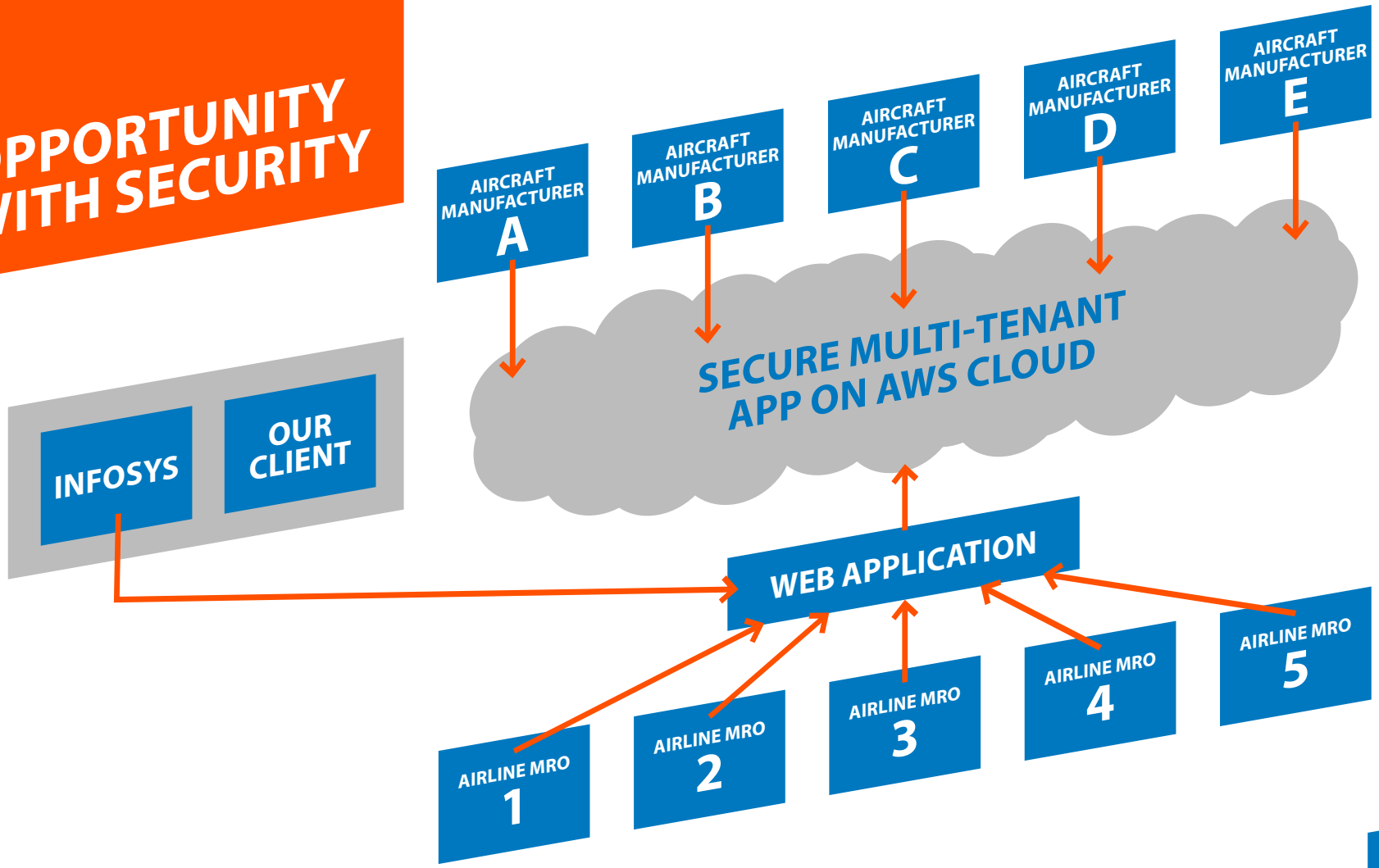
OPPORTUNITY WITH SECURITY



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A PIPELINE OF NEW REVENUE WORTH

US$ 25 MILLION

CUMULATIVE SAVINGS OF AROUND

US$ 1 MILLION

AS COMPARED TO ON-PREMISE HOSTING

By leveraging the convenience and power of AWS, we've helped make maintenance easier around the world – and created a new revenue stream!

WE DID THIS FOR THEM. WE CAN DO IT FOR YOU.

Find out more about how innovation can help increase your efficiency and uncover new opportunities. Reach out to us at askus@infosys.com

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