Woodside

Case Study

MECHANICAL ROCK

The Client

Woodside is Australia's largest independent oil and gas company with a global portfolio worth $28 billion dollars.

The company invests across its value chain to support operational excellence and reduce exploration, development and production costs.

This includes advanced analytics and cognitive computing, IoT, 3D printing and the adoption of a flexible cloud native platform for specific software solutions.

Business Innovation

In order to deliver business innovation, Woodside's Digital team partnered with AWS to establish a cloud service for application development. But selecting a cloud provider is only the first step in the journey to unlocking business agility.

To deliver real business value you have to be able to deliver business focussed application software quickly.

The Problem

The Woodside Digital team turned to Mech Rock to establish a cloud native platform and framework for application delivery.
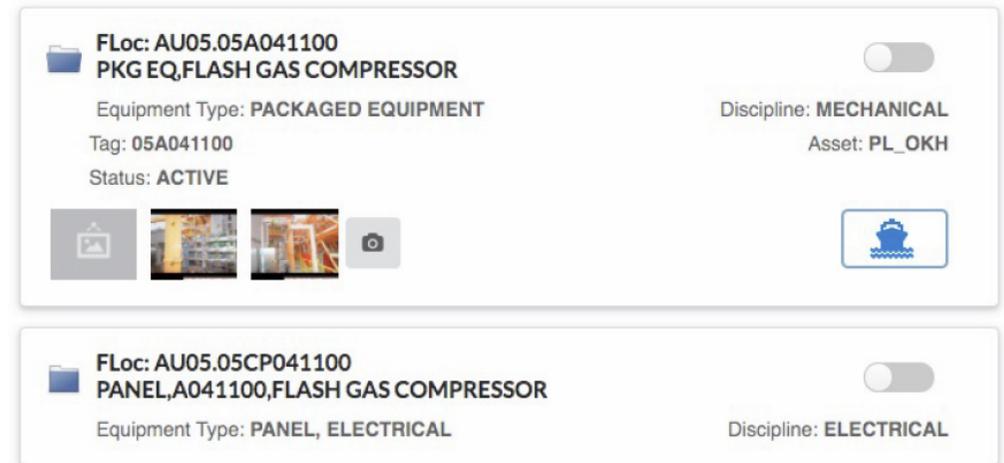
Using techniques like Behaviour Driven Development (BDD), microservices and continuous delivery, the MechRock team delivered the first business application in just two months.

Consuming a disparate range of services, the OpsMaps solution delivers a unified customer experience for Woodside maintenance staff on any web enabled device.

It allows them to quickly identify and visualise a specific piece of equipment amongst the tens of thousands present in any facility.

But more importantly, it lays the foundation for a reusable process and architectures for cloud native applications at Woodside.

The cloud native development environment provides development teams a safe 'play-pen' in which to develop, test and release applications – without the need to worry about nonvalue add 'plumbing' of infrastructure or build environments.

FLoc: AU05.05A041100
PKG EQ,FLASH GAS COMPRESSOR
Equipment Type: **PACKAGED EQUIPMENT**   Discipline: **MECHANICAL**
Tag: 05A041100   Asset: PL_OKH
Status: **ACTIVE**

FLoc: AU05.05CP041100
PANEL,A041100,FLASH GAS COMPRESSOR
Equipment Type: **PANEL, ELECTRICAL**   Discipline: **ELECTRICAL**
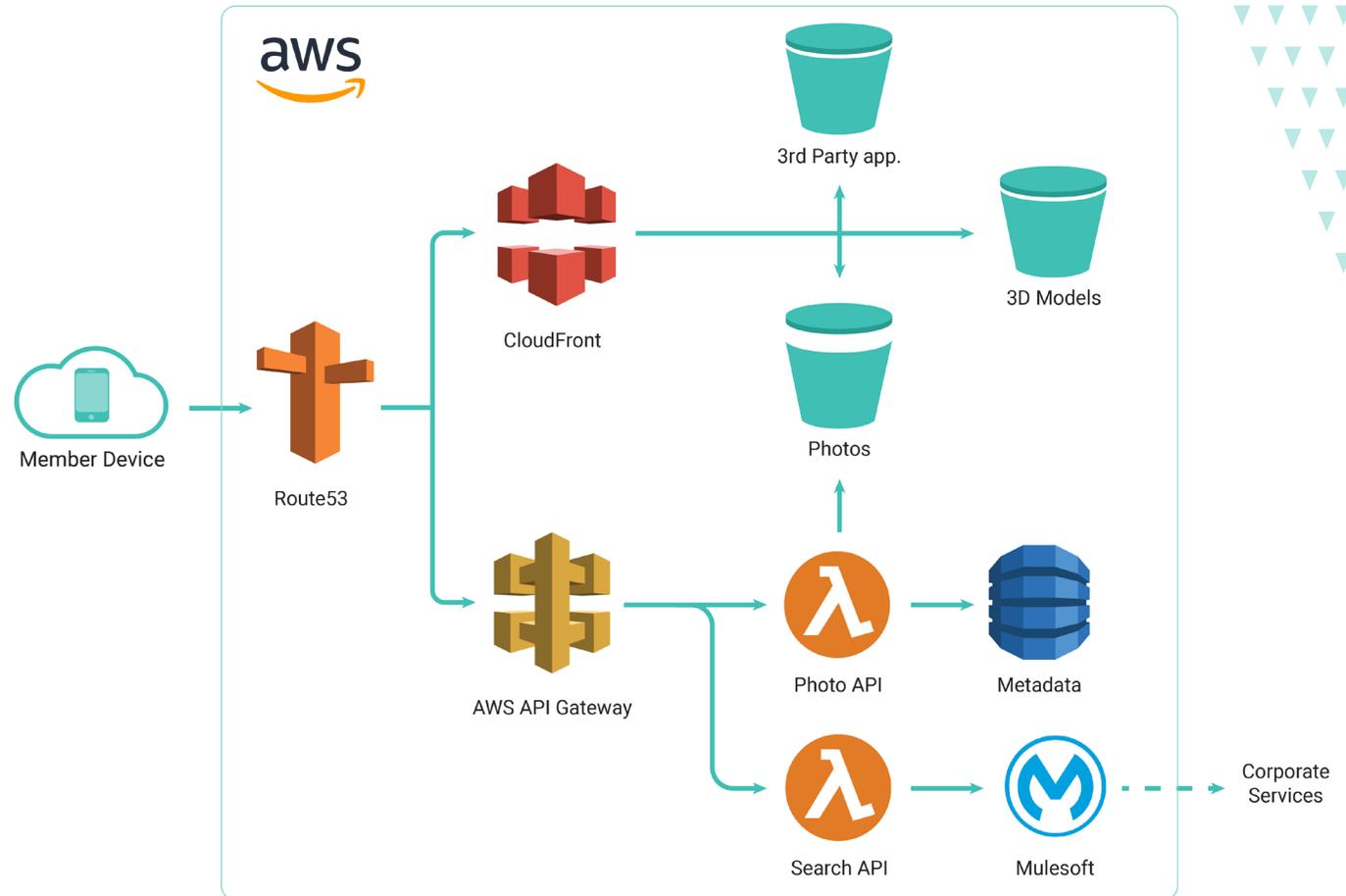
The Solution

The OpsMaps solution utilises AWS native services and integrates seamlessly with backend enterprise services through an API layer.

The system uses AWS API Gateway and Lambda to provide a scalable & economic microservice architecture.

The resulting solution automatically scales to meet user demand and provides an economic PAYG operating model.

The Solution

Cloud Native Development Environment

The cloud native development environment for OpsMaps is completely serverless and driven by a continuous delivery pipeline (AWS Code Pipeline).

The use of infrastructure-as-code (IaC) allows developers to modify and deploy new environments with every build of the app.

Security and operational compliance was delivered using Behaviour Driven Infrastructure (BDI) – delivering an operational dashboard that allows security & ops teams to monitor compliance with controls in real time.

Complex security and authorisation requirements are provided by signed-cookies and Lambda custom authorisers. Identity services are provided via integration with the corporate AD service.

Developer Agility

Developer agility is enabled by providing a local development environment which duplicates test and production (using Serverless framework and Vagrant).

A continuous build pipeline service means that changes can be committed to production with every commit and quality is embedded in the process through automated tests generated at unit level by TDD and scenario level by BDD.

And there are no messy build & configuration servers to maintain!

The Benefits

- An 'on-demand' development environment which can be scaled to meet any level of business need

- Deployable continuous delivery pipelines which allow real time updates to live production systems

- High quality code and automated testing via BDD

- Visible security and operational controls via Behaviour Driven Infrastructure (BDI)

- Reusable microservices architecture for future applications
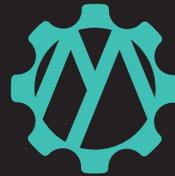
Think we can help with your project?

Get in touch so we can chat about your plans over a coffee

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