

# How WCLMS moved from regional Victoria to the Global Transport stage



## Executive Summary

Fitzroy IT have been WCLMS' trusted AWS and software development partner since 2017, taking them from a single onsite server in regional Victoria to a world-class infrastructure running a bespoke software platform for some of Australia's largest transport providers and global events such as the 2018 Commonwealth Games.

## Customer Challenge

WCLMS obtained the contract to provide transport services and solutions for competitors, staff, volunteers and dignitaries during the Commonwealth Games, held on the Gold Coast in 2018.

They quickly realised that the logistics of the contract required systems that far exceeded the capacity of their legacy, onsite infrastructure. There was an absolute requirement for a secure, scalable and highly available platform, capable of serving high demand.

It was also apparent that they could benefit from a significant technological overhaul of the software application architecture.

## Fitzroy IT - The Perfect Partner

WCLMS chose to engage with Fitzroy IT because Fitzroy IT were uniquely qualified to take on the challenges presented by the Commonwealth Games. The project required broad experience across AWS Infrastructure Management, Systems Administration, IT Support, Hardware Procurement, Project Management, App Development, GPS Tracking Solutions and Web Development. Such diverse skills are rarely found in one place, but Fitzroy IT prides itself on the breadth and depth of its knowledge and expertise.

WCLMS were also looking for a partner to help guide them through the development of their platform beyond the Commonwealth Games. While WCLMS had a strong platform for managing planned events - transportation services where the routes, schedules, vehicles and drivers were known and managed weeks in advance - they had also identified a market-need for the management of unplanned events - emergency, on-demand services for public transport passengers whose train breaks down en-route to their destination.

Enhancing their software in this manner gave WCLMS the opportunity to gain market share and drove their adoption of more advanced AWS technologies.

## Why AWS

Choosing AWS was a straightforward business and technology decision. Guided by Fitzroy IT, WCLMS could see that no other provider could meet their needs for bandwidth, local infrastructure, elasticity, fault-tolerance, performance, scalability and high-availability.

## About WCL Management Services



**Based in regional Victoria, WCL Management Services (WCLMS) is a rapidly growing company that specialises in passenger transport and logistics operations. It has established itself as the go-to provider of bus replacement management software for both planned and emergency passenger transportation events for large organisations including Metro, V/Line and Transport for NSW.**



## The Solution

Initially, Fitzroy IT worked with WCLMS to design a new AWS infrastructure and plan the migration of their current software and data. During the migration WCLMS' transport management application was replicated onto multiple Windows EC2 instances. This was done to provide redundancy and security separation of the data being processed for each Commonwealth Games organisational division.

WCLMS' software was originally written in ASP.net and could only scale vertically, not horizontally. Fitzroy IT re-architected and rewrote it using PHP and JavaScript. This enabled a move away from Active Directory and Windows EC2 instances to S3, CloudFront, Fargate and RDS to simplify administration and increase performance and cost-efficiency. The new architecture was combined with the implementation of a streamlined build process that utilises CodeBuild, CodeDeploy and ECR.

Over time, further iterative changes were made to make the system multi-tenanted and to reduce costs by removing a multi-node ElastiCache cluster and replacing it with in-application caching.

## Results and Benefits

The move to AWS has provided WCLMS with a far more reliable, scalable and available platform. By working with a partner, their ongoing costs were reduced from USD\$3000 to USD\$1400 per month.

The robust software platform has enabled WCLMS to grow rapidly and they now service three major transport providers within Australia. The platform supports thousands of users, whereas previously it was only used by WCLMS staff. Functionally the platform is continually tracking the GPS co-ordinates and Live ETAs of hundreds of bus replacement services, whilst providing navigation and bus-safe route management.

The implementation of a CI/CD pipeline reduced build and deployment times dramatically, decreasing platform downtime. Build times went from almost an hour, to under ten minutes.

## Next Steps

Fitzroy IT have mapped out a long-term plan for WCLMS which is expected to save them USD\$30,000 per annum when implementation has been completed. This process involves a full separation of their different environments (dev, uat, prod) utilising separated AWS accounts and implementing AWS Organizations.

Plans are also being made to utilize EC2 Mac instances to build the iOS apps used by drivers for navigation and route tracking.

## About Fitzroy IT

Fitzroy IT are AWS partners with a team of Certified AWS engineers with extensive industry experience.

Whatever you need we can help. Our experts can assist with Infrastructure, Migrations, DevOps, Well-Architected Reviews, Ongoing Support and Software Development. We can even educate and upskill your staff.

