weaveworks

CASE STUDY

THE CUSTOMER

National Australia Bank (NAB) is Australia's largest business bank serving 9,000,000 customers at more than 900 locations in Australia, New Zealand and around the world. Nab works with small, medium and large businesses to support them through every stage of the business lifecycle.

> *We turned to Weaveworks because of their extensive EKS and Kubernetes experience, including their close partnership with AWS. With Weaveworks' proven track record of running Kubernetes in production, we wanted to bring new thinking into our organization to accelerate our learnings."* - **Nicola Le Poidevin, Head of Technology Wealth Management Digital**

CHALLENGES

The Wealth Management division of the bank adopted cloud technology about five years ago. It was the first area of the bank to experiment with cloud computing. They have several workloads running on EC2 and certain workloads running in non-production self-managed Kubernetes clusters in AWS. Because of this experience, the NAB teams already had a number of established processes that they'd adopted over time. Building on this they wanted to eventually switch to managed Kubernetes with the goal of running production workloads on EKS.

Decrease operational overhead

Before moving fully onto EKS, they wanted to streamline the workflows for their development team in order to keep their environments up to date with security requirements. A lot of time was spent manually or semi-manually patching nodes to keep them updated and secure.

Simplify containerization on EKS

The bank also needed a generic pattern and platform that could lay the foundation for other departments moving towards containerization on EKS in the future. This involved a rather complex set of prerequisites. For example, the required platform needed to fit into the bank's existing framework with many applications written in different languages and it also needed to work with their current toolset. Specifically, the platform had to work with their existing CI servers and pipelines. Finally like all banks, any solution had to work within the guidelines to meet compliance and strict security guidelines.

nab

Industry: Banking
Location: Australia

HIGHLIGHTS

- Single Kubernetes platform pattern delivered
- GitOps deployment
- Automated node updates

KEY BENEFITS

- Bridging the knowledge gap to Kubernetes on EKS
- Significant time savings through automated cluster lifecycle management
- Increased reliability with automated cluster provisioning

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SOLUTION

The NAB team is running two different workload types that they want to deploy to Kubernetes. One type is Java microservices based on Spring Boot and the other is an API gateway.

Reduced learning curve

NAB selected the Weaveworks team based on our deep expertise across the entire cloud native stack. Due to Weaveworks operational Kubernetes knowledge and experience, the NAB team considers us an accelerator to jump-start their journey towards modern infrastructure and operational best practices throughout their organization.

GitOps managed cluster platforms

NAB built a non-bespoke platform with automated cluster lifecycle management that could be rolled out as a generic pattern for containerization and Kubernetes across the entire bank. Cluster worker nodes are automatically updated in tandem with security patch cadence. Application deployment is implemented with Weaveworks GitOps solutions. They leveraged GitOps for automating all mandatory platform add-ons and tools such as Fluentbit, Dynatrace, External DNS, Cluster Autoscaler, Cert-manager and Flux itself. Terraform is used to express the underlying AWS cluster infrastructure as code. In addition to this, the solution was CI agnostic leaving their original CI servers intact.

One of the things I really find beneficial is the production insights that Weaveworks brings to the table which allows us to make important decisions with confidence. That for us is pivotal."

- Wen Yeow, Senior Engineer / Technical Project Lead, NAB

RESULTS

Reduced operational overhead

Auto updating of the EC2 images for all of the worker nodes whenever a new AMI was released significantly saved their development team time to focus on other business priorities.

Increased reliability

All Kubernetes clusters were deployed across 3 availability zones, thereby increasing reliability in case any of the clusters went down.

Compliance built in

Security policies and compliance as code. Teams automatically get compliant EKS cluster by using the generic code base. Customizations are parameterized as configs with clear separations between non-production and production.

This was the first step for NAB in building out their new platform using a more automated approach. Next they plan to roll out GitOps best practices across their entire lifecycle and they are keen to let us know how that goes.