MACQUARIE TRANSFORMS DIGITAL BANKING WITH RED HAT OPENSHIFT

MACQUARIE BANK

SOFTWARE AND SERVICES

Red Hat® OpenShift
Container Platform

Red Hat Gluster Storage

Red Hat CloudForms

Ansible by Red Hat

Red Hat Consulting

Red Hat Training

To meet evolving customer expectations in a competitive market, Macquarie's Banking and Financial Services Group (BFS) needed to transform the digital banking experience for its retail customers in Australia. To achieve this transformation, Macquarie moved to a cloud-based solution using Red Hat OpenShift Container Platform, supported by Red Hat Gluster Storage, Red Hat CloudForms, and Ansible by Red Hat. In addition, Macquarie engaged Red Hat Consulting and Red Hat Training to successfully deploy the new solution and gain expertise on the related technologies. With this new cloud environment and a DevOps approach, Macquarie can more rapidly develop and add new features to its offering to improve its customers' digital banking experience.

Sydney, Australia ●

HEADQUARTERS

FINANCIAL SERVICES

13,800 MACQUARIE GROUP EMPLOYEES

BENEFITS

- Improved customer experience for its personal banking offering, with better availability and responsiveness

- Increased efficiency, improving developer productivity by more than 50% and reducing time to market for new features and updates from hours to minutes

- Gained access to open source innovation with enterprise-grade security and support from Red Hat

- Improved related technology knowledge and skills with customized offerings from Red Hat Training

"Red Hat technology has helped us to work in a more efficient way, with speed and agility as the biggest outcomes. By continually using the platform, we expect huge benefits over the coming months and years. We're just at the beginning of the journey."

LUIS UGUINA
CHIEF DIGITAL OFFICER, MACQUARIE BFS

facebook.com/redhatinc
@redhatnews
linkedin.com/company/red-hat

redhat.com

OFFERING SMARTER DIGITAL BANKING TO CUSTOMERS

Macquarie is a global financial services provider with headquarters in Australia and offices in 28 countries. Its Banking and Financial Services Group provides a diverse range of personal and business banking solutions, as well as wealth management products and services, to retail customers, advisers, brokers, and business clients. To develop its new digital banking offering, Macquarie looked beyond financial services to the digital companies leading in customer experience.

"We're a digital-first business, and therefore our offering has to be the best it possibly can be," said Richard Heeley, head of technology at Macquarie's Banking and Financial Services Group. "We knew we had to transform it. We wanted a fast, efficient experience."

However, initial work created IT complexity. "We started breaking down our monolithic applications into microservices about two years ago," said Rajay Rai, head of digital engineering at Macquarie's Banking and Financial Services Group. "That process created a complex ecosystem that was hard to manage."

In addition, Macquarie's IT teams require efficient development and release processes to iteratively deliver software and collect feedback in shorter cycles. "Our biggest challenge is continuing to meeting customer expectations. They are looking for mobility and real-time information," said Luis Uguina, chief digital officer at Macquarie's Banking and Financial Services Group.

"We can support peaks and high volumes of customers on the system—and grow—without drama. It's a worry-free approach where everything works as expected, and we can monitor it all."

LUIS UGUINA
CHIEF DIGITAL OFFICER,
MACQUARIE BFS

USING MICROSERVICES AND CONTAINERS TO MODERNIZE I.T.

Macquarie evaluated several Platform-as-a-Service (PaaS) solutions before choosing to deploy Red Hat OpenShift Container Platform as a public cloud implementation in a datacenter run by Amazon Web Services (AWS).

"We evaluated a lot of PaaS solutions. Red Hat OpenShift Container Platform is a semistructured PaaS that provides the flexibility to move our monolithic applications and services, as well as our modern microservices, to the cloud," said Rai. "We can iteratively modernize our legacy applications and deploy microservices in containers to streamline and automate their life cycles."

Macquarie also chose Red Hat's solution due to its integration with other leading open source container technology, including docker and Google Kubernetes for resource management.

In addition to Red Hat's PaaS solution, Macquarie deployed several other Red Hat technologies, including:

- **Red Hat Gluster Storage**, a highly scalable storage platform that helps address the challenge of assigning state to containers—which are naturally stateless—replicate metadata across multiple availability zones on AWS and let PaaS operate in hybrid, multicloud environments.

- **Red Hat CloudForms**, a cloud management solution that helps secure services and IT systems against risks and external threats.

- **Ansible by Red Hat**, an automation tool for IT workflows, such as provisioning and build processes.

Red Hat Consulting worked closely with Macquarie to not only ensure a successful deployment, but also support a cultural transition to agile development. "Red Hat consultants are playing a fundamental role in helping us evolve toward a DevOps culture, in accelerating deployment, and to boost the skills of our engineers so we are self-sufficient in the future," said Rai.

With these new technologies, Macquarie has transformed its digital retail capabilities in Australia. In just a few months, Macquarie migrated more than 60 business applications to Red Hat OpenShift Container Platform and can now run them in docker containers. More than 150 services were also migrated.

TRANSFORMING I.T. SYSTEMS TO IMPROVE DEVELOPER AND CUSTOMER EXPERIENCE

Greater scalability and faster time to market for better customer experience

Macquarie now uses Red Hat OpenShift Container Platform across several availability zones in AWS to deliver new features and updates without customer interruption. With release time cut from hours to minutes, Macquarie can release software multiple times a day and go to market faster.

"We can change any product in real time, without any customer impact, and test changes on a limited number of customers," said Uguina.

Using its new Red Hat technology, Macquarie has enhanced its online banking platform to better serve its users. The new digital banking experience includes innovative user features that are the first of their kind in Australian banking, including "search the way you speak" technology, as well as the ability to tag and track transactions, upload receipts and warranties, set saving and spending goals, and automatically categorize spending.

In addition, hosting OpenShift Container Platform on its public AWS cloud offers elastic infrastructure that lets Macquarie scale based on traffic demand, significantly improving provisioning efficiency and costs.

"We can support peaks and high volumes of customers on the system—and grow—without drama," said Uguina. "It's a worry-free approach where everything works as expected, and we can monitor it all."

More efficient, agile development

As part of this project, Macquarie transitioned to an agile DevOps model, including gaining business stakeholder buy-in to speed operations. This approach includes continuous development and rapid iteration in shorter cycles. Macquarie can now deliver updates to improve its services and respond to feedback faster.

"We have a solution on Red Hat OpenShift Container Platform where an entire digital environment can be set up in 10 minutes. Before, such tasks would take weeks or even months," said Heeley.

With support for DevOps through Red Hat's PaaS offering, Macquarie's developers can focus on innovation and asset delivery, rather than routine yet complex tasks. Macquarie used Red Hat OpenShift Container Platform to standardize application delivery workflows for its containers and platform, reduced time to incorporate new software, and gained more efficient management—for example, by creating modular, highly portable applications.

"Red Hat technology and a DevOps culture help innovation thrive," said Rai. "With greater automation and the tools to efficiently deliver software, our engineers are spending less time on repeated, mundane activities and focusing on creating innovative solutions. We can focus on building assets that really differentiate us."

As a result of these changes, Macquarie's developer productivity has improved by more than 50%. "We can iterate faster through our software development life cycles. We can provision end-to-end environments for each developer and maximize server use by increasing container density," said Rai.

Enterprise-grade security

All of Macquarie's new innovations must go through rigorous testing before being released to production for customer use. To help ensure its services and IT systems are properly secured against risk and external threats, Macquarie uses Red Hat CloudForms to gain insights into the security of Red Hat OpenShift Container Platform and its cloud environments.

"OpenShift Container Platform comes with a docker-compliant container registry," said Rai. "This feature lets us give our developers images in a secure manner, which is paramount in our regulated environment, as opposed to open source images that may have a lot of software vulnerabilities."

Access to expert services

To help seamlessly deploy Red Hat technology in its new cloud environment, Macquarie engaged Red Hat Consulting.

"Building these solutions yourself with open source technologies becomes highly complex," said Rai. "Red Hat provides an innovative platform with enterprise-grade support."

In addition, Red Hat Training helped Macquarie's IT teams gain the knowledge and experience to effectively use OpenShift Container Platform, Red Hat CloudForms, and the other Red Hat solutions to update and create new customer services.

EXPANDING INNOVATION TO CONTINUE DIGITAL TRANSFORMATION

After its initial success with Red Hat OpenShift Container Platform, Macquarie now plans for other teams—such as wealth and business banking—to redesign their digital services using the patterns and standards already established for personal banking.

"Our future IT strategy is to keep moving at this pace, to continue to be innovative, and to continue to work with Red Hat on open source solutions," said Heeley.

Macquarie now has a robust foundation for continued development and enhancement of innovative services for its customers, helping it keep pace with the changing demands of a modern marketplace.

"Red Hat technology has helped us to work in a more efficient way, with speed and agility as the biggest outcomes," said Uguina. "By continually using the platform, we expect huge benefits over the coming months and years. We're just at the beginning of the journey."

ABOUT MACQUARIE GROUP

Macquarie Group is a global financial services provider with offices in 28 countries. We act on behalf of institutional, corporate and retail clients and counterparties around the world. Our expertise covers corporate finance and advisory, equities research and broking, asset management, foreign exchange, fixed income and commodities trading, lending and leasing, and private wealth management.

ABOUT RED HAT

Red Hat is the world's leading provider of open source software solutions, using a community-powered approach to provide reliable and high-performing cloud, Linux, middleware, storage, and virtualization technologies. Red Hat also offers award-winning support, training, and consulting services. As a connective hub in a global network of enterprises, partners, and open source communities, Red Hat helps create relevant, innovative technologies that liberate resources for growth and prepare customers for the future of IT.