

How moving from Oracle on-premise to AWS Cloud saved Macquarie University \$1M+ annually

About NEXTGEN Group

NEXTGEN Group is a leading technology services organisation that helps public and private organisations leverage the power of Amazon Web Services (AWS) to transform their businesses. NEXTGEN Group are revolutionising the channel services segment, providing partners with an expansive suite of value added services designed to support their AWS practice and thrive in a competitive marketplace.

About Optima

Optima is NEXTGEN Group's independent software and cloud advisory practice. Optima's services offer advice on complex digital investment strategies including cloud economics, software asset management, and licence audits. Optima's unique capabilities address complex client challenges and cloud migration roadblocks, presenting an attractive partnering opportunity to drive AWS cloud adoption and efficiencies. Optima specialises in Oracle workloads and simplifies complexity for end-customers by helping solve Oracle licensing issues and accelerate Oracle workload migration to AWS... with ease, and at scale.

About Macquarie University

Located in Sydney, Australia, Macquarie University is recognised as one of the country's leading higher education institutions. The university has over 40,000 students studying undergraduate and graduate programs in the arts, business, humanities, science, engineering, technology, and medicine disciplines across four major faculties, including Macquarie University Hospital, a private teaching hospital.

Tim Hume, Chief Information and Digital Officer (CIDO), Macquarie University, is responsible for leading and overseeing the university's information and digital technology initiatives. This includes managing the implementation of technology systems and services, and ensuring that technology fully supports the university's students and faculty members to enhance teaching, learning, research, and administrative processes.



The Challenge

Managing and maintaining legacy IT systems is challenging, resource-draining and costly. For a number of years Macquarie University was locked into Oracle hardware licensing and Oracle enterprise-wide licensing, which is calculated on student numbers. This hindered the ability to scale and respond to the changing needs of the university.

When the costs of its on-premise IT infrastructure started escalating dramatically - exceeding \$1M annually - and with the university not fully utilising their Oracle licences, the university decided to terminate support, unbundle from Oracle on-premise hardware licences and migrate to AWS Cloud.

Some CIOs consider cloud migration a risk. Preferring to keep working within the costly and restrictive parameters of the on-premise data centre rather than making the leap to cloud. Not to move to AWS Cloud is a far greater risk.

*Tim Hume, Chief Information and Digital Officer,
Macquarie University*

The Solution

Macquarie University approached HES to assist in finding a solution to reduce its Oracle licensing costs.

HES is a not-for-profit organisation owned by, and working for, the Australian higher education sector. HES's role is to find the right partner and/or solution to address the technology needs of its members. Macquarie University, HES and NEXTGEN Optima worked closely on a plan to address the Oracle licensing and support issues faced by the university.

To determine the best path for migration, the project team conducted an assessment of Macquarie University's current Oracle workloads. The university was using Enterprise Edition, the top-tier version of Oracle's database products. Enterprise Edition and the ongoing support for the software and infrastructure was costing the university in excess of one million dollars per year in licensing and support.

Oracle Enterprise Edition software is unavailable in AWS as license included option, therefore customers that move workloads to public cloud are required to license Oracle Database Enterprise Edition under a BYOL (Bring Your Own License) model. This meant that even after migrating from on-premise hardware to AWS cloud the university would still have to maintain their on-premise Enterprise Edition licences - and associated \$1M+ costs - as the Oracle software was still running in the AWS environment.

To significantly reduce this expense, the entire database infrastructure and usage of the database product was closely scrutinised. It became apparent that all the university workloads could run on Oracle Standard Edition 2, a service provided by AWS, which includes the software licence within the cost. This eliminated the need for Oracle Enterprise Edition, enabling Macquarie University to terminate the Enterprise Edition licence contract and costs.



To ensure a seamless transition to AWS cloud, HES was able to bring together the capabilities of NEXTGEN Optima and Blue Crystal Services, a specialised supplier of cloud, application and database management services; cloud strategy, migration and testing.

Amarish Thakur worked closely with Tim and his team at Macquarie University to develop a migration strategy with Blue Crystal Services that would minimise disruption to the university campuses, faculty, or hospital.

Together HES, Blue Crystal Services and NEXTGEN Optima completed:

- Pilot Migration: Testing a workload to ensure it performs as required
- Non-Production Migration: Moving non-customer facing workload
- Production Migration: This is the migration of critical workloads
- Hypercare Support and Knowledge Transfer: Monitoring workloads to ensure everything is working correctly and as expected

Cloud migrations are not something you do every day. It's a big undertaking. Getting external assistance from Amarish and not trying to do everything internally was the key to success.

Tim Hume, Chief Information and Digital Officer, Macquarie University.

Now the migration is complete, the project team continues to provide support, ensuring the university's IT systems are operating smoothly and efficiently by continuing to monitor performance, addressing any issues that arise, and making recommendations for further optimisation.

Results

Replacing the ageing on-premise hardware with AWS Cloud has delivered better performance for students and staff using the systems.

In the on-premise environment, licensing costs are based on the number of cores you have rather than the number you use. You may have four cores but only use one - or even a percentage of a single core - but still pay for all four cores. There is no flexibility.

Right sizing in AWS cloud matches the instance types to your workload performance and CPU capacity requirements at the lowest possible cost. This allows you to identify opportunities to eliminate or downsize without compromising capacity or other requirements, which results in lower costs.

Terminating Oracle licences led to three years of maintenance cost savings of \$1M+ per year for the university.

*Tim Hume, Chief Information and Digital Officer,
Macquarie University*

To help Macquarie University with its right-sizing, the project team assessed the instances the university needed, the spikes of every database workload that was running on-premise then right-sized it to the right environment to lower cloud costs. This allowed Tim and his team to run the exact same on-premise workloads in AWS for a lot less.

For Tim and his team, being able to increase or decrease capacity at different times of the year is simple and much faster to complete with AWS than on-premise systems.

The savings for the university moving from Oracle on-premise to AWS Cloud are considerable. The forecast run rate on AWS is \$450,000/year. This significant saving allows the university to fund new initiatives, deliver greater student services and expand its facilities.

Additionally, the time from commencing AWS Optimization and Licensing Assessment (OLA) engagement to cloud migration was just six months.

Since completing the cloud migration, Macquarie University is looking for further assistance with a cloud financial management (FinOps). This assesses how the infrastructure has been deployed in the cloud, then optimising it to save even further costs.

Conclusion

Macquarie University's success story is a testament to the value HES and NEXTGEN Optima bring to organisations looking to move Oracle workloads to AWS. Deep domain expertise in AWS helped the university transform its IT operations, reduce costs, improve scalability, and achieve its mission of maximising its technology investments. By leveraging AWS Cloud, Macquarie University has become a more agile and innovative institution, better positioned to meet the changing needs of its students and faculty.

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