UNSW SYDNEY

CASE STUDY

Delivering digital resilience through accelerated performance at UNSW

planit an NRI company

UNSW SYDNEY

Summary

As one of the world's top 20 universities, the **University of New South Wales (UNSW)** is committed to driving innovation in learning, teaching, and operations. Recognising the growing importance of resilience and speed in an increasingly digital environment, the university embarked on a multi-year program to modernise its IT systems and improve the performance of critical applications as part of a broader digital transformation agenda.

UNSW partnered with Planit to proactively accelerate performance and deliver consistent improvements across its technology landscape.

Key Outcomes:

- Improved scalability and application response times
- Reduced risk of service outages and performance degradation
- Time savings of up to 10 hours through test reporting optimisation
- Enhanced user experience across key applications

The challenge: Complex modernisation with high stakes

UNSW serves a vast and diverse user base comprising students, academic staff, researchers, and global partners. Its digital ecosystem spans student and HR systems, financial platforms, public websites, and bespoke applications.

To support its ambition of becoming a truly future-ready institution, UNSW launched several concurrent projects designed to enhance infrastructure, strengthen security, and streamline operations.

With such a wide scope, performance quickly emerged as a critical concern. Applications needed to scale to support thousands of users without delays or degradation, particularly during peak usage periods. Some systems lacked historical usage data, making it difficult to benchmark or predict future performance. Others operated in unfamiliar or highly customised environments, adding technical complexity.

Failure to meet performance expectations, especially on public-facing platforms could lead to reputational damage, service disruptions, and operational setbacks.

A smarter approach to performance

Right from the start of the engagement, our team approached performance engineering holistically, embedding performance considerations early in UNSW's project lifecycle. With limited production statistics available, our consultants introduced repeatable process improvements and assessment templates to ensure proactive performance management. These tools, along with active collaboration, empowered project teams to make informed decisions before development even began.

We facilitated workshops with key stakeholders, including business analysts, technical leads, architects, and SMEs, to identify performance requirements and risks. We developed and rolled out several performance templates now in use across all projects, including:

- Performance Risk Assessment
- Performance Questionnaire
- Performance Test Plan
- Performance Test Summary Report
- Performance Test Report – Short
- Weekly Status Report

These frameworks have empowered test managers to assess and mitigate risk earlier, streamline information gathering, and ensure consistent quality across performance engagements.

Driving continuous performance improvement

Our team delivered tailored performance testing across a wide range of projects. Using a mix of cloud and open-source tools, we validated system performance under realistic loads and delivered efficiencies in performance, scalability, and user experience. Our performance risk assessment spanned 86 applications across 18 waves.

Beyond test execution, our value-add initiatives included SQL profiling, concurrency tuning, and innovative solutions like implementing pagination for high-volume APIs. These interventions directly improved performance and reliability for UNSW's student and staff-facing platforms.

Deep dives

Throughout the engagement, Planit identified and implemented targeted performance improvements that led to measurable efficiencies across multiple systems. In one assessment, response times for key business functions improved by 46% while processing times were reduced by approximately 90%, enabling faster operations and greater user satisfaction.

By introducing advanced reporting templates and tools, our consultants also cut analysis time by up to 10 hours across key tests. This allowed teams to focus more on issue resolution and less on manual reporting, streamlining delivery without compromising quality.

In other initiatives, we optimised background processes to reduce processing time significantly, fine-tuned authentication flows to enhance user experience, and configured servers for improved scalability and growth. Our technical recommendations, including SQL profiling, indexing, and query optimisation, helped future-proof the university's platforms against increasing data volumes and user load.

We also provided guidance for early-phase projects involving emerging technologies, validating performance in unfamiliar environments and offering insights into the suitability of existing tools for next-generation applications.

A performance-driven, future-ready digital ecosystem

UNSW now benefits from more scalable and resilient systems. The university's digital infrastructure can confidently support peak periods of usage, including enrolments and assessments.

Performance engineering is now deeply embedded in UNSW's transformation roadmap, and thanks to its ongoing collaboration with Planit, the university continues to stay ahead of risk while enhancing the experience for students, staff, and researchers.

Outcomes

- Improved scalability and application response times
- Reduced risk of service outages and performance degradation
- Time savings of up to 10 hours through test reporting optimisation
- Enhanced user experience across key applications

Services Delivered

- Performance risk assessments
- Performance testing and tuning
- Process and reporting improvement

Tools and Technologies

- JMeter, AWS CloudWatch, New Relic, Grafana, InfluxDB, Azure Insights
- AWS, Microsoft Azure, Oracle 19c, Adobe Experience Manager, PeopleSoft
- PostgreSQL, SQL Server, MariaDB, MySQL, Apache, PHP, .NET

planit an NRI company

At Planit, we can help you embed performance and resilience qualities into your software development lifecycle. Our expert consultants can provide performance and resilience assessments, testing, SRE, observability solutions and advice to mitigate performance and resilience risks.

Contact us to find out how we can accelerate growth for your business.

PLANIT.COM