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Why Cloud Migrations Fail

and How to Make Them Work

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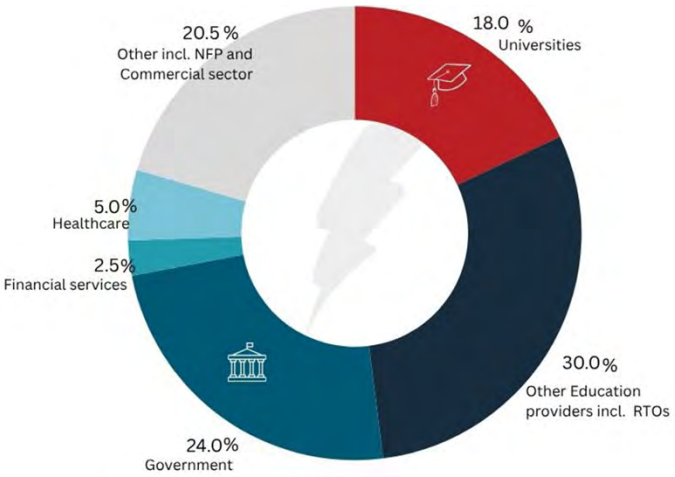
Catalyst IT Australia clients by industry (2025)



Executive Summary

Cloud adoption is no longer a speculative choice. For universities, government agencies, and training providers, the move away from ageing on-premise infrastructure is already under way. Learning platforms need to be always available, secure and ready to scale, yet many cloud projects stall or fail, leaving organisations with higher costs, poor performance, and frustrated users.

The problem is rarely the concept of the cloud itself, but the way migrations are planned, executed and managed. Critical systems such as Learning Management Systems in large organisations have often grown from a small pilot into a central learning hub, surrounded by years of custom integrations. When teams treat an LMS, such as a Moodle site, as a simple website and attempt a quick 'lift and shift', they discover hidden dependencies, fragile architecture and skills gaps that are difficult to fix after the fact.

This whitepaper explains why cloud migrations go wrong and how a more deliberate, expertise-led approach changes the outcome. It explores common failure patterns, the lure and danger of rapid migration, and the importance of continual optimisation once the move is complete.

Catalyst IT looks after some of the largest Moodle sites in the Southern Hemisphere and have completed hundreds of successful LMS migrations worldwide. This whitepaper sets out their migration framework which is designed to make complex simple. The focus is on making complex infrastructure simple to manage, keeping costs under control and giving learners a faster, more reliable experience.

Cloud is the New Normal

Cloud adoption has become a natural part of how organisations operate. The shift began as a practical response to the rise of hybrid work and the growing need for digital access, and it has continued as learning and training moved further online. For many organisations, Moodle is now central to teaching, assessment, and professional development, which means the infrastructure behind it must keep pace with rising expectations.

Many organisations began their journey with Moodle on a single server that worked well enough at the start. As learner numbers expanded and course delivery grew more complex, that original setup became difficult to manage. The cloud offers a way to create a stable and flexible foundation that supports growth without adding pressure to internal teams.

A successful cloud migration creates space for educators and training teams to focus on learning rather than maintenance. It also sets the scene for future capability such as AI assisted course design and richer assessment tools that depend on stable and scalable hosting.

The Hidden Risks: Why Cloud Migrations Fail

Complexity hidden in plain sight

Cloud migration projects often begin with a sense of confidence. The cloud promises a stable foundation for large scale learning delivery and a path away from ageing on premise systems. Being a highly extendable and customisable LMS, Moodle environments may accumulate more complexity than expected, and this is where the risks begin. What started as a small pilot often expands until it sits at the centre of course delivery, assessment management and reporting. That growth usually happens without a structured plan, which then creates complications once a migration begins.

A major point of failure is the absence of a clear strategy. Some teams treat the migration as a direct move of servers rather than a broader program that touches students, educators and business processes. When the wider context is overlooked, issues surface after cutover, at a time when learners depend on the platform being stable.

Security, compliance and integration gaps

Moodle sites that have not been patched for some time often hold vulnerabilities. Once any site enters the cloud, there is greater pressure on internal teams to upskill and obtain expertise in cloud infrastructure.

Hidden integrations add a different layer of risk. Reporting tools, automated enrolment routines, and departmental scripts often rely on direct access to the database. These quiet connections stop working when the system moves into a new environment, and staff lose essential visibility.

The following issues appear frequently across stalled or disrupted migration attempts:

- No strategic plan that aligns infrastructure with organisational needs
- Security work left until after the move
- Disruption caused by forgotten data feeds and integrations
- Legacy architecture carried forward without redesign
- Missing test or staging environments
- Limited collaboration between teams
- Little understanding of Moodle behaviour under load
- No preparation for peak periods such as assessments

Expertise and architecture as deciding factors

Many organisations host Moodle on a single server, which might work well under normal conditions, yet offers no protection against outages or data loss. When this structure is lifted into the cloud unchanged, the underlying fragility remains. The migration may appear successful at first but soon shows its limits as usage grows.

Migration projects also struggle when handled by teams without experience running Moodle across multiple cloud nodes. Small configuration decisions influence the entire system. When these choices are made without a deep understanding of Moodle and/or any specific cloud environment to which it's being migrated, the result is a platform that feels unpredictable and difficult to support.

The “Lift and Shift” Trap

Many teams take their existing Moodle environment, place it into the cloud in its current form and treat the job as complete. This approach is attractive to many because it creates the impression of quick progress. Costs can appear lower in the early months, and the transition seems calm on the surface.

However, this sense of stability rarely lasts. A direct lift of an existing LMS setup carries all the limits of the original environment into the cloud. Single server layouts remain fragile, old configurations remain untouched, and performance issues that were manageable on a small scale begin to show once learner activity increases. As the platform grows, cloud expenses also rise because the environment was not shaped with cloud architecture in mind.

The result is a period of drift. Some organisations start to question whether the cloud is right for them and consider returning to on-premise hosting. The problem usually stems from the design, not the platform. When a migration is done without optimisation or planning, the cloud becomes an expensive and unpredictable version of the old system.

Catalyst IT avoids this situation by treating migration as an opportunity to modernise the entire stack. The focus is on performance, resiliency and long term value, rather than speed alone.

According to the Flexera 2026 State of the Cloud Report, *some of the top challenges for enterprise level companies include:*

- *Managing cloud spend*
- *Security*
- *Managing software licenses*
- *Lack of resources / expertise*
- *Cloud migration*

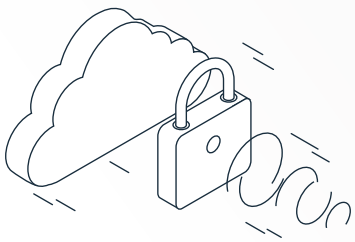
Learn more here.

Cloud Expertise: Why It Matters

The move to cloud hosting brings new expectations for performance, stability and security. Moodle becomes central to how learners access assessments, collaborate through activities and submit important tasks. This creates a need for constant reliability. Many organisations assume their existing technical skills will transfer directly into a cloud setting, however, the shift introduces new patterns that differ from traditional on-premise management.

Moodle behaves differently once it runs across multiple nodes, shared storage, and managed databases. Moodle is very sensitive to network latency once multiple nodes are required, so achieving consistent fast performance requires an understanding of how the system manages sessions, caches content, and handles user activity during peak periods. These details influence the way infrastructure needs to be shaped and maintained.

Expert guidance becomes essential when cloud projects touch multiple parts of the organisation.



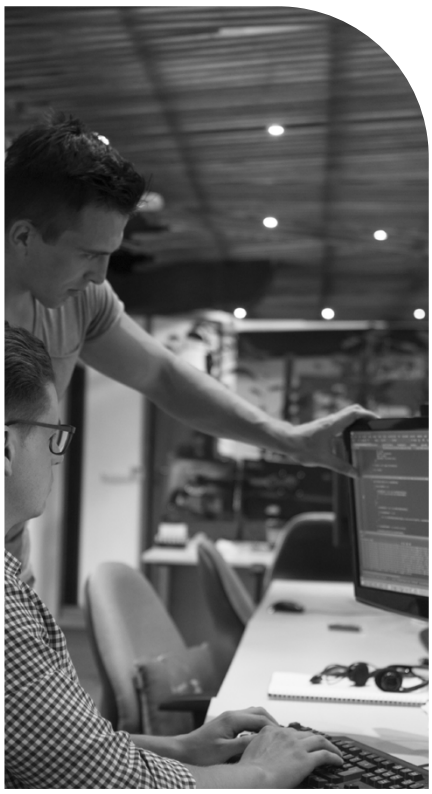
The following areas demand deep experience:

- Understanding how Moodle behaves under high traffic
- Applying performance tuning across web servers and databases
- Managing data storage patterns in a cloud context
- Designing resilient architectures that remove single points of failure
- Anticipating integration issues during migration
- Identifying security requirements before the move
- Testing user journeys to validate real performance
- Tracking cost patterns to keep the environment efficient
- Managing deployments and patching safely in complex environments

Without this level of understanding, small configuration choices can lead to unpredictable behaviour. A page that loads slowly during enrollment week, a reporting tool that stops functioning, or an unplanned spike in cloud costs can affect learners and administrators.

Expert support from a certified software partner gives organisations confidence and creates a foundation that supports future growth, new Moodle features, and emerging AI capability. It also provides a steady partner who understands how to keep the environment reliable, efficient, and ready for change.

Catalyst IT's Migration Framework



Understanding the organisation and shaping the plan

A successful cloud migration begins with clarity. An AWS partner of 15+ years and Premium Certified Moodle Partner of 20+ years, Catalyst IT starts by building a full picture of how Moodle supports your organisation. This includes teaching models, assessment workflows, enrolment processes, and reporting needs. It also includes the compliance expectations that govern many education and training environments.

During this stage, our team identifies the quiet integrations that sit beneath day-to-day operations. These often include reporting feeds, enrolment scripts, and other data connections that have grown over time.

This understanding forms the basis for strategic planning. Catalyst IT shapes an architecture that supports growth and meets security obligations. Cost models are developed so there is certainty across the year and security requirements are reviewed so the new environment aligns with internal controls and external regulation. The aim is to create a plan that gives the migration clear direction.

Acting with precision during the migration

Execution begins once the target architecture is agreed upon. Catalyst IT uses proven methods that have been refined across many migrations.

These include:

- Infrastructure templates create consistency across all environments
- Automation removes manual steps and lowers the chance of error
- Trail migrations confirm that the entire Moodle ecosystem was migrated correctly
- Test migrations also gives teaching teams and technical teams a chance to review the platform before learners use it

Test environments and staging environments also play an important role in this process. They help reveal issues that may have been hidden in the original system, and allow for careful correction. This stage ensures that the eventual cutover is predictable and calm for everyone who relies on Moodle each day.

Supporting stability and improving the environment over time

Catalyst IT monitors real activity to confirm that Moodle performs well under genuine conditions, and we make adjustments as patterns emerge. Problematic areas are corrected and the platform settles into a steady rhythm that feels reliable for learners and staff.

Optimisation continues beyond this point as our team reviews performance results and cost patterns to keep the platform responsive and efficient. Improvements in caching, database behaviour or resource allocation can create visible gains for users. Continuous refinement ensures that Moodle remains ready for growth and for new features that arrive in future releases.

This framework gives organisations a structured approach that reflects years of work in complex enterprise and education systems. It creates confidence and provides a clear pathway from the discovery phase right through to long-term improvement.

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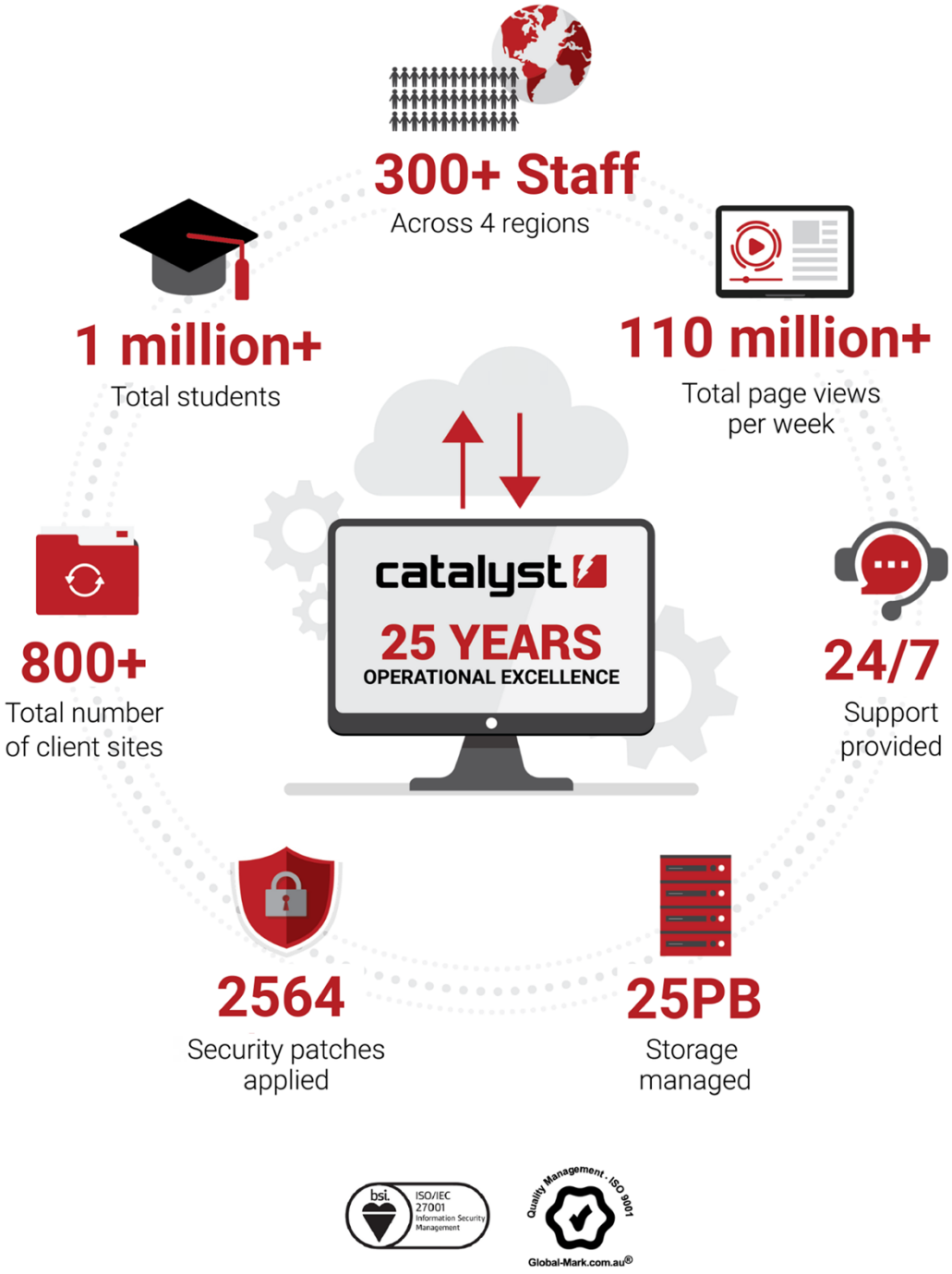
Catalyst IT have completed 100s of cloud migrations worldwide and provide full managed cloud services to some of the largest Moodle LMS sites.



Optimisation and Governance

The migration is only the beginning of the cloud journey. Once Moodle is running in the new environment, ongoing optimisation becomes essential. Catalyst IT maintains a continuous review cycle that keeps the platform efficient and prepared for the demands of teaching and assessment.

Cost optimisation is a core part of this work, as cloud pricing shifts with usage patterns, and small configuration changes can influence overall spending. Catalyst IT reviews these patterns regularly and adjusts resources so clients receive strong performance without unnecessary cost. This forms part of a broader FinOps approach that gives organisations confidence in their cloud investment.

Security governance is strengthened through certified processes. Catalyst IT's ISO 27001 program builds confidence that data remains protected at all times. These controls guide decisions about patching, updates, and incident readiness.

Automation removes the manual steps that often lead to configuration drift and pipelines handle deployment, updates, and repeatable tasks so the environment remains consistent. This focus on optimisation and governance ensures that Moodle stays reliable, predictable and aligned with the organisation's long term goals.

bsi ISO/IEC 27001 Information Security Management CERTIFIED

Metrics for Success

Clear benchmarks make it easier to understand the value of a cloud migration. Catalyst IT focuses on measures that reflect the real experience of learners, educators and administrators. Uptime is one of the strongest indicators of stability as Moodle needs to remain available throughout teaching periods, assessment cycles, and support windows. We track this closely to ensure the environment stays dependable.

Cost predictability provides the next marker of success. Cloud spending changes with usage, and strong planning keeps these shifts controlled. Our team reviews patterns across the year and adjusts resources so the environment remains efficient without disrupting performance.

User performance offers another important view of success, with faster page loads and stable activity during peak periods showing that the infrastructure is meeting demand.

Security outcomes round out the picture: fewer incidents, consistent patching and well-structured controls, all show that the cloud environment is being managed with care. Catalyst IT's approach gives organisations confidence that their Moodle platform is stable, efficient and ready for future growth.

Conclusion

Cloud migrations lose momentum when strategy, experience and long term planning are missing. Large LMS carry layers of complexity regardless of which platform they reside on.

Catalyst IT provides the depth of knowledge needed to navigate the cloud migration journey with confidence. The approach removes risk, prevents drift and creates a foundation that performs well under real demand. Organisations gain a partner who understands how to refine the environment over time and keep Moodle ready for new features and future learning needs.

With the right guidance, the cloud becomes a dependable part of your organisation's digital framework.

About Catalyst IT

Catalyst IT brings long standing partnerships with leading open source projects and a deep commitment to community-driven innovation. The team includes specialists who understand the needs of education, government, commercial training, and not for profit organisations. Catalyst IT's certified information security program supports clients who require strong governance and reliable protection. The result is a service model that blends technical skill, industry knowledge and genuine care for long term success.

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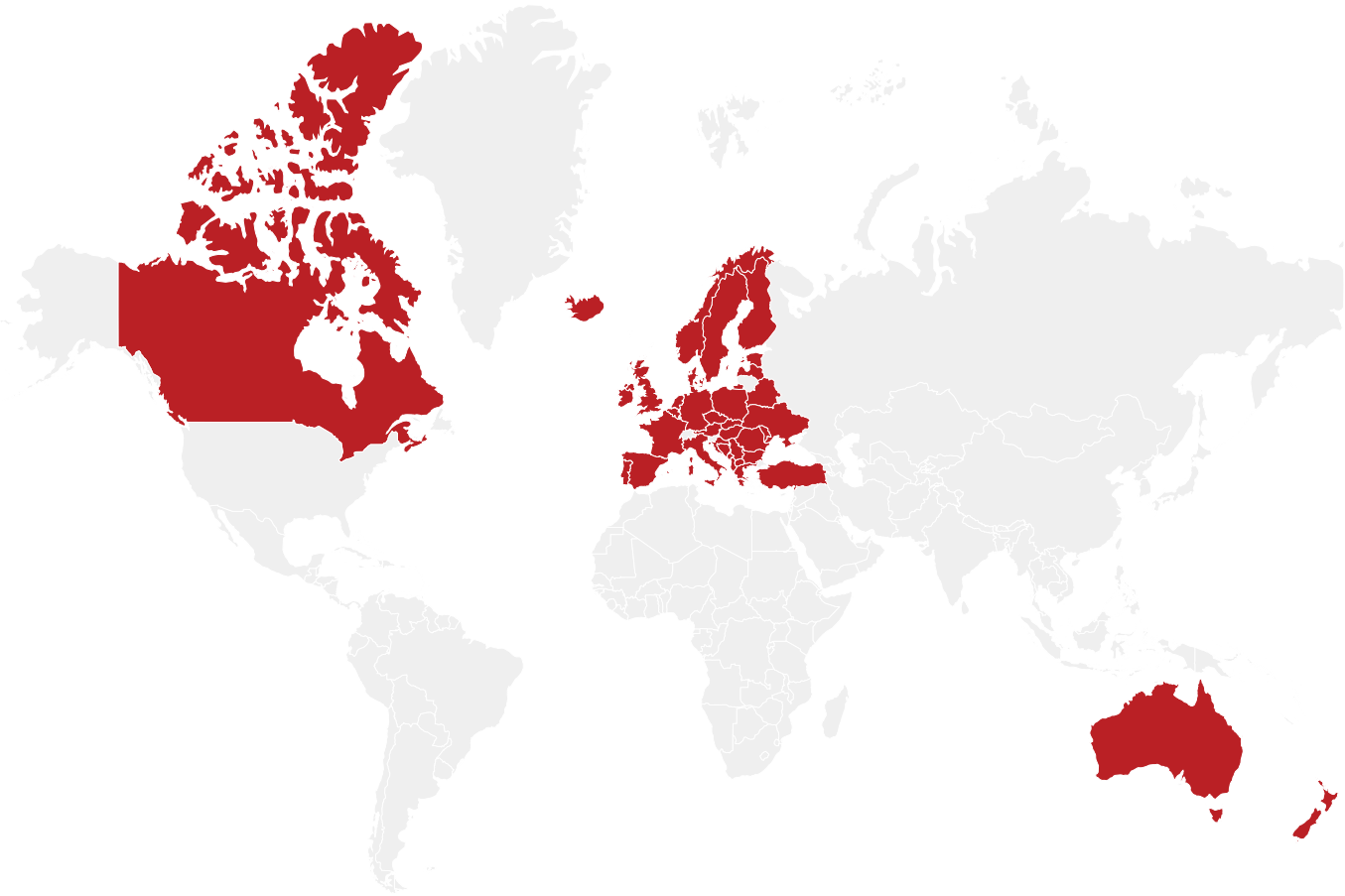

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