Moots Technology Mitigates Risk Using the AWS Well-Architected Tool

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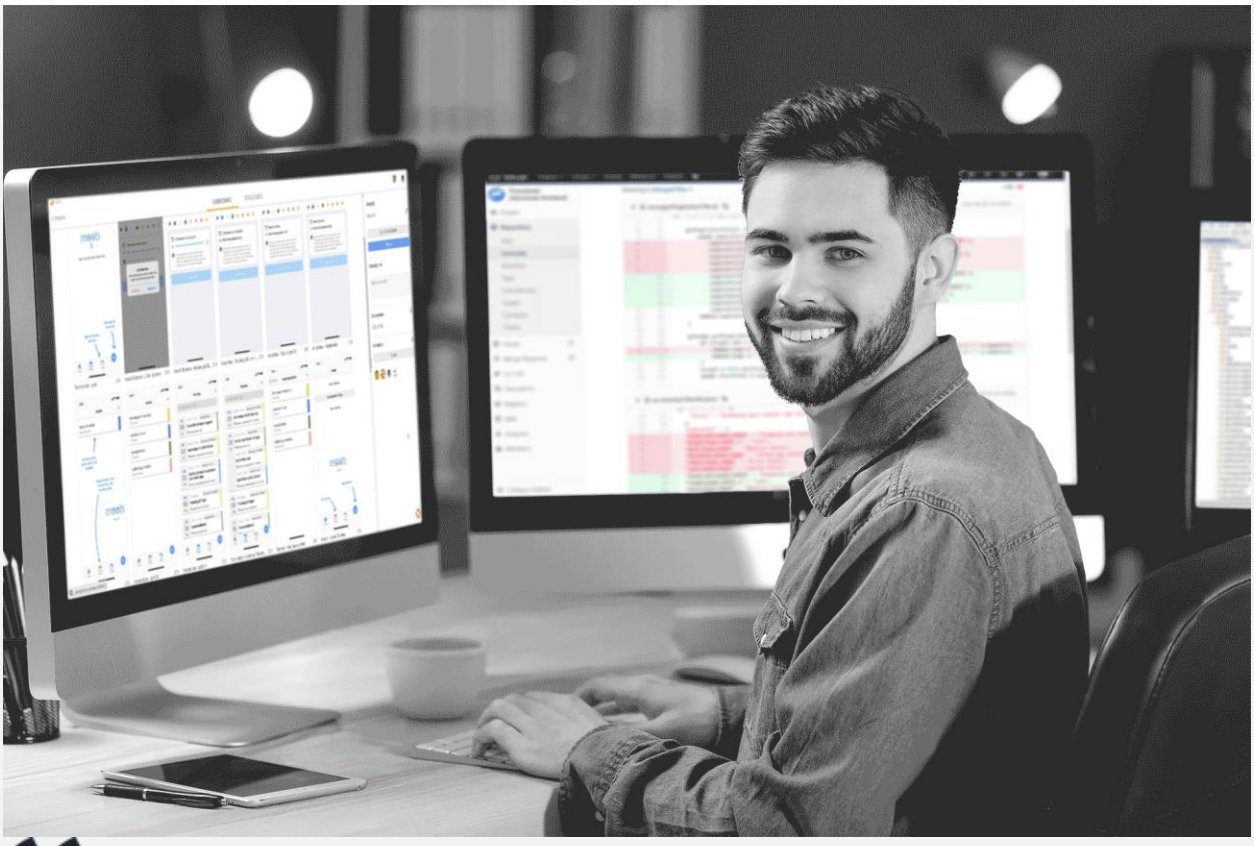
Since its inception, Moots Technology (Moots) has been helping companies solve day-to-day operational challenges by designing innovative business software solutions to help them manage their daily essential business tasks. Moots has focused on time sheet solutions, calendar systems, and resource-booking solutions with usability at the center of the development cycle.

Although Moots designed its solutions with cloud readiness in mind, most of its clients initially ran the solutions in their own data centers or using virtual machines. This was proving less than ideal for their user experience, and as a result, clients were required to manage their whole infrastructure stacks, software updates, and general maintenance. “Running our solutions on physical servers or virtual machines worked only if the number of clients or concurrent users did not grow too high or too quickly,” says Oliver Bischof, managing director of Moots.

Determined to build optimized, cloud-native solutions, the Moots team turned to Amazon Web Services (AWS) and to the AWS Well-Architected Tool—which helps users review the state of their workloads—so that it could take preventative action against high-risk issues in its solutions architecture. Using AWS, Moots was able to address immediate risks, reduce infrastructure costs, and embrace best practices for developing solutions on a global scale.



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Oliver Bischof
Managing Director, Moots Technology

Exploring Potential Options

Following the pivotal design decision, the Moots team went to the market to explore the options available that best suited its needs. Moots very quickly realized it could improve both the security and efficiency of its solutions by migrating to AWS. Moots could also see that using AWS would address several immediate concerns, such as reducing infrastructure costs and embracing best practices for developing solutions on a global scale. Moots could overcome the limiting factors around its current architecture by bringing more of its infrastructure into the cloud. "One of the most important reasons to use AWS was to facilitate global customer growth potential," says Bischof.

The Moots team was familiar with using AWS and already operated production systems using Amazon Elastic Compute Cloud (Amazon EC2), a web service that provides secure, resizable compute capacity in the cloud. The team at Moots recognized that by designing its software

solutions on AWS, it would help mitigate hardware failure risks, improve service-usage visibility, secure client data, increase availability, and facilitate global scalability. “Using AWS could provide all the bells and whistles required to operate infrastructure effectively,” says Bischof. “With the speed at which AWS innovates and releases new services every year, it was a no-brainer to choose it as our cloud provider.”

Improving Architecture Using AWS Expertise

To help the team strengthen its cloud knowledge, Moots enrolled staff in AWS Training and Certification, which helps build and validate skills so that individuals and teams can get more out of the cloud. On the path to AWS Certification, the team was introduced to the AWS Well-Architected Framework, which describes the key concepts, design principles, and architectural best practices for designing and running solutions in the cloud. Leaders at Moots were excited to learn how using AWS Well-Architected would help its cloud architects build secure, high-performing, resilient, and efficient infrastructure for its mobile and web applications.

As a result, the team at Moots began to review its application architecture using the AWS Well-Architected Framework and the AWS Well-Architected Tool, which supports risk analysis and assigns scores for specific workloads. Moots was able to prioritize remediation efforts using the high, medium, and low rankings of the identified risks. The team first addressed the identified risks with simple measures like rewriting procedures and documentation and moving more of its infrastructure to serverless and cloud-native services on AWS. A widely used application server was replaced with a combination of AWS services, including Amazon CloudFront, a content delivery network, and Amazon Simple Storage Service (Amazon S3), an object storage service. Also including AWS Lambda, a serverless compute service, this architecture increased the scalability and front-end availability of Moots’s application while reducing provisioning costs. To help automate administrative tasks like patching and backup, the team used AWS managed services for container orchestration and databases. With these quick adjustments, Moots immediately improved its risk scores, reducing the high-risk score of its cloud-ready architecture by 25 percentage points (down to 10 percent) and the medium-risk score by 27 percentage points (down to 23 percent).

Using the AWS Well-Architected Tool empowered Moots to compare its processes with established best practices based on thousands of workload reviews conducted by AWS. By examining examples from other use cases, Moots can better predict challenges that might arise once it begins running multitenant solutions in the cloud on a global scale—and learn how to best design its solutions architecture to mitigate risks from the start. “The AWS Well-Architected Tool has provided us with simple guardrails so that we can focus on understanding and implementing important improvements in previously little-known terrain,” says Bischof.

Applying an Agile Approach to AWS Infrastructure

From the start, Moots has employed an agile approach to its software development projects—making constant improvements with user input. As Moots builds new services on AWS, the company can extend that philosophy to building its technology infrastructure, meaning it can build new functionality into client-facing solutions and facilitate new technology stacks fully

deployed as code in any AWS Region within minutes. Because Moots architected its solutions with high resilience and availability, its clients do not need to schedule downtime for maintenance or worry about disruptions at peak times. Moots can now deploy and improve its solutions more rapidly and with more visibility and reduce the turnaround time for updates to clients. “With every next step on AWS, we reduced a risk, opened up a new opportunity, or saved infrastructure operating costs,” says Bischof.

Preparing for Growth

As a result of migrating its software solutions to AWS, Moots saved operating time and increased the performance, availability, and reliability of its solutions. Now, Moots is equipped to expand its services and plans to develop complementary applications, having laid a solid foundation of best practices. “By implementing the AWS Well-Architected Tool and expanding our standards and procedures through AWS Training, we took the fast lane for learning how to operate solutions at scale securely, reliably, and efficiently,” says Bischof.

About Moots Technology

Australian software company Moots Technology designs new, innovative business software solutions, seeking to solve day-to-day operational challenges in a globally scalable, holistic manner.

Benefits of AWS

- Reduced high-risk issues by 25 percentage points
- Reduced medium-risk issues by 27 percentage points
- Builds new functionality into client-facing solutions
- Reduced dependency on client-side server maintenance
- Improved internal processes for future growth
- Mitigated critical hardware failure risks
- Deploys solution stacks in new AWS Regions in minutes