How Mythics' Automation and Infrastructure-as-Code Impacted the Operations of a Top Business School

Automation and infrastructure-as-code (the process of managing infrastructure through code instead of manual processes) allows organizations to dramatically accelerate their shift to the cloud, freeing them to innovate without sacrificing security. It took just three days for the business school of one of the world's leading universities to reinvent its data center — shifting from Oracle Database Appliances to Oracle Cloud Infrastructure (OCI).

This was not a small lift-and-shift. It was the beginning of a fundamental transformation of a complex organization with a global reputation for excellence. An automation platform developed by Mythics, a top Oracle partner, helped drive this change.

This case study on Mythics explains the challenges, technologies and results of this initiative, which highlights the value of Oracle technologies and the role of forward-looking partners in driving the best results for Oracle users.

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The Challenges: Improving Flexibility, Retiring Aging Hardware, Boosting Security

This business school sustains a diverse ecosystem of students, faculty, alumni programs, buildings and investments. The school's technology leadership wanted to give its IT practitioners the freedom to deploy next-generation cloud technologies in ways that preserve its global brand while maintaining the highest standards of security and data protection.

One of leadership's top priorities: breaking the boundaries of on-premises technologies. That meant embracing automation in the administration of their new Oracle Cloud environment.

"They were really clear in their scope-of-work from the get-go," says Laura Bond-Harris, the Mythics Senior Program Manager who oversaw the initiative. "They wanted automation and infrastructure-as-code."

Pairing automation with infrastructure-as-code was central to rapidly replacing on-prem Oracle Database Appliances, which had reached end of life, and embracing the inherent agility of OCI. In the cloud, the business school can dive into tools like containers and microservices, expanding its ability to deploy new applications and improve services for students, staff and faculty.

Speed was crucial because the school's massive databases had to be migrated on a tight timeline. "It was a production system," says Praveen Mogili, Vice President for DevOps and Cloud Engineering at Mythics. "There was a very narrow window because of summer classes." Moving an operation that large in so little time was a non-trivial challenge.

Security and compliance were fundamental concerns of the client. "They have to be GDPR compliant because GDPR is required for their European students," Mogili says. OCI's "Secure by Design" philosophy appealed to the school's technology leadership, which also insisted on a zero-trust security architecture.

Zero-trust security ensures users gain access only to what they need and nothing else. When implemented correctly, it prevents unauthorized users from moving laterally until they discover valuable data.

Finally, the school's OEM environment management tools had to be migrated to the cloud. "They had a lot of scripts," Bond-Harris recalls. Cloning and upgrading the school's OEM collection turned out to be a significant component of the project, she says.

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The Technology Solution: Automation, Infrastructure-as-Code, Zero-Trust Security

Mythics helped the business school migrate its environment to OCI. The project scope included:

- Establishing into four OCI environments (Dev, Staged, Production and DR)
- Implementing Oracle Database Appliance (ODA) lift-and-shift, moving four databases
- Installing OEM and cloning existing OEM jobs from the on-prem environment, connecting and monitoring about 65 targets
- Supporting setup of FASTCONNECT on OCI
- Installing and configuring GoldenGate, Data Guard and Veridata
- Installing security monitoring software including Oracle Data Safe and Cloud Guard; also configuring Splunk integration for log monitoring

> The client was happy with the results and stated, "We have never seen a project move so quickly."

Some of the technology decisions were straightforward. "Their database was running Oracle, so it was a natural progression to OCI," Mogili says. "The performance of Oracle databases on OCI cannot be matched with any other solution, so it just made sense."

Still, there was the matter of moving an elaborate IT ecosystem to OCI on a tight timeline. That required a deft combination of automation and infrastructure-as-code.

"In cloud, everything is software," Mogili says. "The number of things you have to manage explodes." Virtual machines, databases, applications, and other infrastructure components can number in the dozens or the hundreds. They are all interconnected in a pattern that can be standardized and updated with version control. These standard patterns form the core of infrastructure-as-code.

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Mythics designed an automation platform that leverages infrastructure-as-code to accelerate migrations to OCI. "We have a system where we developed a bunch of reference blueprints, architecture and infrastructure code," Mogili says. Mythics also built processes for the Jira project management software that further automates the solution delivery process.

"This is how we were able to do it in three business days," Mogili says. The client was happy with the results and stated, "We have never seen a project move so quickly."

Agile and DevOps methodologies enabled Mythics to prepare for the migration in two-week sprints. "We had continuous improvement and continuous innovation," Mogili adds.

OCI's secure-by-design philosophy ensured moving fast did not compromise data protection. "Everything is encrypted by default," Mogili says. Moreover, the full suite of Oracle security tools helps enforce zero-trust principles to fend off cyberattacks. Integration with Splunk log-monitoring tools adds another layer of protection.

"That's how we were able to give them the complete, end-to-end security posture," Mogili says.

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The Results: More Security, Improved Flexibility, Room to Experiment

The business school's transformed IT environment taps into inherent cloud economies while giving IT teams the freedom to innovate in a secure cloud environment and confidently identify and move other key workloads.

Security and data protection improved significantly, thanks to the zero-trust architecture. This security approach acknowledges that cybercriminals and other unauthorized users may find a way into a network. But they don't have room to maneuver. "You never can get anywhere if you haven't been given permission," Bond-Harris says. This makes a remote worker's Zero Trust Access VPN connection even more secure. "It's more restrictive than a traditional VPN, because not only does it have to know me, it limits exactly where I can go," Bond-Harris adds.

Moving to the cloud also increases agility while holding the line on equipment costs. "They don't have to go big and spend big to figure out a simple thing," Mogili adds. "And then the performance is better because they are using the Oracle cloud, which is optimized for Oracle databases with all the Oracle innovations."

The environment is also much simpler to manage. "They can quickly bring up something, test it out and analyze it," Mogili says. Jobs like patching and cloning can happen with the click of a button or by typing in a simple command.

Infrastructure-as-code also boosts the ability to try out new things. Bond-Harris recalls that the school's IT team wanted to compare the performance of different environments. Automation made it easy to tear down old environments and rebuild new ones. "Every time we wanted to try something or test something or do the next iteration, it was very successful," she adds.

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The Mythics Edge in Oracle Technologies

Mogili notes that this project revealed Mythics' unique position as a top Oracle partner in four ways:

- Strong automation platform capabilities
- Commitment to Agile and DevOps methodologies
- Comprehensive security expertise
- Extensive OCI subject matter experience

"We are moving toward the path where we can make this repeatable for different customers and get them into cloud," Mogili adds.

Bond-Harris wraps it up like this: "As the PM, this to me was just a great project because we've been introducing and increasing automation over the last couple of years. With this project, all sorts of parts come into play. It was really exciting to see that."

For more information, contact the Oracle experts at Mythics today: sales@mythics.com

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