ASSIGNAR

Built to run on AWS, Assignar's construction software solution needed to speed time to market, increase agility, and provide global scale and a database solution with on-demand storage provisioning and high availability.

BUSINESS
Software service for construction subcontractors

CHALLENGES
A growing customer base created more demand for scaling and required faster time to market for new features. To alleviate operational burdens, Assignar needed increased database performance and cost-efficiency, and the expertise to tie it all together.

SOLUTIONS
Managed Cloud, Public Cloud, Professional Services

PRODUCTS
Managed Amazon Web Services, Database Management

OUTCOME
Increased performance, scalability and uptime while decreasing database query time down to 50 milliseconds, reducing costs during a high-growth period and offloading operational burdens to experts.

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CUSTOMER CASE STUDY

Introduction

According to the 2016 McKinsey Report "Imagining Construction's Digital Future," construction is one of the least digitized industries. As a result, projects typically run over schedule 20% of the time and over budget 80% of the time. After looking for a solution to increase project visibility, reduce the amount of paperwork, and automate manual processes in the subcontracting business, Sean McCreanor and Marko Tomic decided to build their own solution. Assignar, an Australian construction software company, is the software solution that they built to support subcontractors and turn the tide on project and cost overruns in construction.

Their software service helps contractors solve real-world operational management problems in the construction industry by simplifying complex workflows and administrative tasks like time reporting, scheduling and payroll into simple digital solutions. In business for about three years, they have approximately 150 customers and are experiencing 300% year-over-year growth.

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>
> MARCO TOMIC :: CO-FOUNDER :: ASSIGNAR

Initially, they built their solution on servers in their office, then moved to AWS. Early on, they decided they didn't want to spend time patching servers and managing upgrades. And although construction is a 24x7 operation, they were experiencing traffic spikes in the mornings between 5:00 a.m. and 9:30 a.m. "We had a lot of ambition, but the only way we could validate those ideas was to build the product quickly, get it into the hands of customers and start getting feedback," said Tomic. "But for us to do that, we had to not worry about the infrastructure side and focus on the product."

AWS served them well for scale, but as they grew, they wanted more comprehensive support. "We just wanted someone that we could always pick up the phone and talk to," he explained. "And we wanted a dedicated account manager, someone who really understands our environment, so that when we do need help they actually know exactly what we're talking about rather than explaining our infrastructure every single time." By choosing Rackspace as their managed service provider, they got access to a whole team of certified engineers that can help out in any event.

Solving Database Pain Points

With Rackspace, they got a dedicated account manager and a team of experts. In partnering with Rackspace, they found a way to better manage their growing data and database needs. Because construction data is extremely relational, they were running MySQL, a relational database. According to Tomic, there are a lot of compliance metrics to check before sending workers and equipment to a job site. Their databases hold data that helps move people to sites more efficiently by answering basic questions like who is the client, what is the project, where is the job site, what assets are needed, and what competencies are needed. This makes for a small but very complex and highly relational data set. "We're probably looking at nearly four million rows across the stack, but the data is growing fairly fast," he said. "I think it's doubling every six months at this rate."

Their data is more read-intensive than write-intensive. Data is consumed via a dashboard and used by back office workers, schedulers and the payroll department to process time sheets. It's also used by asset managers, safety officers and employees in the field to submit time sheets, forms and other data back to the office. The data is only written once, but it's read for reporting a number of times by a number of users across the company. "Originally, we used AWS RDS service, which is a MySQL-compatible engine of RDS simply because it made a lot of sense with some of the other technologies that we were using," recalled Tomic. Until Aurora was released.

Amazon Aurora is a MySQL- and PostgreSQL-compatible relational database built for the cloud. It combines the performance and availability of high-end commercial databases with the simplicity and cost-effectiveness of open-source databases. And Aurora basically solved all the database problems that they had at the time. "Automatic storage provisioning was huge," said Tomic. "Aurora cost considerations, storage growth, scalability and high availability are massive factors. You can start with as little as 10GB and automatically scale it into terabytes. We can create up to 15 read replicas of our master instance. This gives us plenty of room to grow without running into scaling issues with Aurora."

Rackspace has a long history of managing complex SQL, MySQL and Oracle environments on behalf of some of the world's largest companies. Together with AWS, Rackspace now offers a complete end-to-end database management experience for Aurora on RDS. With this service, Assignar can delegate the day-to-day management of monitoring, backups and other administrative tasks to a team of specialized support engineers and offload optimization duties that maximize the performance and availability of Aurora with the help of a highly skilled team of dedicated DBAs.

> *"Every hour that they save us counts. I don't want to say that we couldn't live without Rackspace, but they make our lives a lot easier."*

Rackspace Provides a Foundation for Growth

With Rackspace, Tomic reported, "Business is growing, but IT costs are not." Back when they first started, they didn't have CI/CD processes in place. Processes had to be implemented manually, which slowed speed to market. "Getting important features out to customers and being able to release at any time was a challenge," he explained. "Now, we do that multiple times a day. To release something from dev staging to our customers' hands takes us as little as 15 minutes today. Which is a huge win for us." Additionally, their Rackspace solution allowed them to improve the response times of their database queries. "We were able to bring our queries to somewhere around 50 milliseconds across the stack and we're still fine-tuning some of the longer-running queries," Tomic shared.

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The solution also includes scheduled auto-scaling to better manage morning spikes.

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Rackspace's global footprint supports their future goals for expansion. "As we scale overseas in the U.S. and in Europe, it means a lot to have people in the region that we're operating," said Tomic. A lot of construction companies, by preference or regulation, store their data in the country in which they do business. Assignar has workloads running in two regions now. One is in Sydney, and another is in Oregon. A global presence allows them to store the data where the customer is actually using their platform and to solve the data sovereignty issue.

"High availability is very important as our customers actually run their entire business on our platform," said Tomic. "So it's absolutely critical that we give them a solution that works 24x7." With Rackspace's industry-leading SLA, they can rest assured that their systems are up and running 24x7x365.

Building a Future With Rackspace

"Every hour that they save us counts," said Tomic. "I don't want to say that we couldn't live without Rackspace, but they make our lives a lot easier. They take away the operational burden that we've had for quite some time." Looking ahead, they plan on leveraging Aurora Serverless. According to Tomic, "Aurora Serverless is very appealing to us. Our stack is actually serverless. Maybe 50% of our workload is now serverless. We're moving away from load balancers and EC2 instances that are powering our APIs. Our compute layers are almost serverless and that's the direction we're heading in. We still manage Aurora database instances, but Aurora Serverless would be very cool for us to install in our development in staging environments, which would further reduce the cost and maintenance tasks associated with databases."

And to optimize their growing data stores, said Tomic, "We expect to engage Rackspace DBA services this year, because that's probably the most critical layer of our stack. In making things work a little bit faster, I think we can certainly improve our existing database. Our data is very complex, and to fine-tune the performance of databases takes a fair bit of time and a lot of expertise. I think Rackspace can definitely help us with that."

A standout piece of their Rackspace relationship is the value of support. Tomic recalled, "I sent my dedicated account rep an email and he replied while he was on his honeymoon! Which shows us that our relationship means as much to them as it means to us." Coupled with a deep relationship with their Rackspace support team and flexible service options, Assignar has found a perfect solution in AWS and Aurora to support growth and efficiently manage data.

ABOUT RACKSPACE

Rackspace is the #1 provider of IT as a service, in today's multi-cloud world. We deliver certified expertise and integrated managed services across public and private clouds, managed hosting and enterprise applications. Because Rackspace partners with the leading technology providers, including Alibaba®, AWS, Google, Microsoft®, OpenStack®, Oracle®, SAP® and VMware®, we are uniquely positioned to provide unbiased advice on the technologies that will best serve each customer's specific needs. Rackspace was named a leader in the 2017 Gartner Magic Quadrant for Public Cloud Infrastructure Managed Service Providers, Worldwide and has been honored by Fortune, Glassdoor and others as one of the best places to work. Based in San Antonio, Texas, Rackspace serves more than 150,000 business customers, including a majority of the Fortune 100, from data centers on five continents.

Learn more at www.rackspace.com or call us at **1-800-961-2888**.

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