

# How SugarCRM reduced costs while growing internationally with Amazon Aurora



## Case study

### Executive summary

In the past few years, customer demand for SugarCRM, an award-winning AI-based CRM platform with customers in 120 countries, has grown. The amount of customer data SugarCRM stores has grown significantly, increasing 20 percent year-over-year. The success and breadth of its portfolio, its unified customer experience suite, and functionality that makes life easier for sales, marketing, and service professionals are what led Nucleus Research to name SugarCRM a Hot Company to Watch in 2021. But the company's rapid growth resulted in a sizable increase in the data its MySQL database had to collect and store. Self-managing was becoming costly and burdensome, and scaling while maintaining performance and reliability was a challenge. After switching to [Amazon Aurora](#), the customer relationship management provider dramatically reduced costs even while growing its customer base. SugarCRM was also able to optimize its stacks and improve the performance, scalability, and reliability of the platform's most foundational ingredient: data.

### Sugar low: Data delays and overspending affect performance

Data is the core of SugarCRM, a customer experience solution that helps B2B marketing, sales, and customer service professionals across industries better anticipate customer needs and identify opportunities—without the friction of data entry. SugarCRM's three signature services—[Sugar Market](#), [Sugar Sell](#), and [Sugar Serve](#)—automatically pull in data from any number of sources to inform smarter customer engagement, from early sales touchpoints to ongoing customer service.

Because the solution promises its users comprehensive data-informed insights in context, the reliability and performance of MySQL was essential to the products' effectiveness. But as the company grew, managing these databases in-house was becoming unsustainable, both from a cost and performance perspective. Data wasn't moving from the writers to the readers quickly enough, challenging the trustworthiness of the insights the solution generated.

Additionally, the company was maintaining two database servers for each of its three solutions, with one simply receiving data for failover, which was costly and inefficient. That's when the company realized that it needed a cloud database compatible with MySQL that would allow them to use all its database resources for customer workloads, offer better performance, reduce costs, and support global business expansion.

### About SugarCRM

SugarCRM is an intelligent, award-winning customer experience platform that helps businesses win customers for life. It gives marketing, sales, and service teams a clear picture of each customer's journey without the hassle that comes with traditional CRMs.

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## Sourcing a database that taps into layers of expertise

The SugarCRM team chose Amazon Aurora because they were impressed with the way the database implemented the storage layer, which would mitigate the inherent latency that they had experienced with a self-managed MySQL.

“The Aurora storage layer is implemented across the cluster, which we knew would allow us to do all the things we wanted to do,” said Jorge Arroyo, SVP of engineering and cloud operations at SugarCRM.

Together, the SugarCRM team and [Amazon Web Services \(AWS\)](#) experts planned an architecture that adhered to best practices and coordinated custom changes. Then, they implemented Amazon Aurora so that it would meet SugarCRM's immediate and future business goals. Once the company moved to Amazon Aurora, it was pleased to discover it could consult with the AWS team of experts for guidance. The team received advice on how to make changes effectively and adopt a systematic approach to optimization and fine-tuning—cutting the time they typically spent on this process in half.

“One of the reasons we chose AWS is because we're a relatively small company, and there's nothing better than to have a partner that comes with 13 years of experience with cloud databases, helping us whenever we need it,” Jorge said.

## Pouring read-replicas on analytics brings lag time from 1 hour to under 100 milliseconds

SugarCRM needed redundancy to ensure that its mission-critical processes could meet service-level agreements (SLAs) if there was an outage or disaster. Read replicas were an important part of ensuring this continuity.

Each Amazon Aurora cluster can hold five read replicas. The read replicas deliver the elasticity needed for read-heavy workloads by scaling up and down as needed. Prior to moving to Amazon Aurora, frequent spikes in replica lag could go up to six hours, which limited SugarCRM to only vertical scalability in a single cluster. A lag of more than one minute also couldn't be used in customer workloads. Now, replica lag is now down to less than 100ms—.00275% of what it once was, and database outages haven't gone over 60 seconds.

Because the clusters could live in multiple availability zones for multiple components in the solution's architecture, the company felt confident in its international growth, and has since doubled the global regions in which it operates from three to six.

“What Amazon Aurora did was allow us to increase the speed of global expansion since the costs were more manageable,” Jorge said.

## Recovery time drops from 15 minutes to a few seconds

When SugarCRM was managing its legacy database, failover alerts would sometimes come later than they should have or the failover would get hung up, putting the team at the mercy of a semi-automatic process. With Amazon Aurora, recovery time decreased from 15 minutes to a few seconds, eliminating previous alert and process issues.

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“Aurora is a great solution for pairing a high level of redundancy with a more effective cluster cloud database.”

— Jorge Arroyo, SVP of Engineering and Cloud Operations at SugarCRM

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"Our customers don't even realize when a failover happens because we can recover so quickly," Jorge said. "Amazon Aurora is a great solution for pairing a high level of redundancy with a more effective cluster cloud database, and it has enabled us to address and reduce replica latency issues."

Previously, replicas were used only for disaster recovery and backups, but Amazon Aurora makes it possible to use them for complicated analytical queries, leaving writes to serve more transactional queries per second. The company can also use storage volume snapshots for backup. With Amazon Aurora, stack backup time has gone from one hour to under 15 minutes.

A market differentiator for SugarCRM is its event-based model, which processes data in near real-time rather than in batches. Amazon Aurora delivers not only the resilience and availability needed to support this model but also increased competitive advantage.

## Keeping costs flat and growth up

SugarCRM is architected to put multiple customers together in one stack, all sharing the same resources. Because the company only had one database server taking all of the load, the stack's density was at capacity. By bringing on Amazon Aurora, SugarCRM can process over one billion requests per month while managing more than 50 terabytes of data. And, it has increased density by 40 percent, which allows SugarCRM to invest more towards innovating for their customers.

"We are now able to consolidate instances and put more customers on fewer stacks using fewer databases, and that was a game-changer for us," Jorge said. "It made our small operations team more effective and drove down the total cost of ownership."

In 18 months, SugarCRM reduced its database costs by 20%, freeing up funds so that it could invest in other strategic initiatives. The company has also increased the performance of its platform by 50% through the adoption of Amazon Aurora and application modernization efforts.

## Building for the future with AWS

SugarCRM has integrated more than 30 different AWS tools and services into customer-facing features, including [AWS Step Functions](#), [AWS Cloud Formation](#), and [Amazon Connect](#). AWS has also enabled SugarCRM to provide its customers who use the on-premises solution with many of the same features their cloud customers enjoy. "The way we look at it, Sugar is an AWS app," Jorge said.

The reliability and resiliency of its data means the SugarCRM team can build new features that continue to give it a competitive edge in the market and are currently developing a "time-aware" solution powered by AI. With most database solutions, once new data is written the previous data goes away, eliminating some of the raw material that effective AI requires. SugarCRM's upcoming solution will show new data with a record so that they can see the current state of things as well as what has happened in the past. Users will be able to see how long an opportunity took to go from point A to point B, and offer deeper, smarter insights into what's happening in a business.

"Having Amazon Aurora enables us to change data capture and create events out of every single database update, giving us the whole movie, not just a frame of it," Jorge said.

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