Case Study

ENHANCING DATABASE EFFICIENCY THROUGH MIGRATION TO AMAZON AURORA POSTGRESQL

At a Glance

The company faced challenges managing their growing data and traffic, leading to declining database performance and inadequate disaster recovery measures. To address these issues, AceCloud migrated 350 GB of its on-premises MySQL database to Amazon Aurora PostgreSQL. This strategic move leveraged Aurora's auto-scaling capabilities, high performance, and robust disaster recovery features, resulting in substantial improvements.

Post-migration, the organization saw a 35% increase in query execution speed, enhanced scalability, and a 20% reduction in database costs while also strengthening its disaster recovery strategy with 99.99% uptime and faster recovery time.

The Client

Founded in 2019, the client operates in the Wellness and Fitness Services industry, focusing on revolutionizing hair health through a holistic approach. By combining ancient Ayurveda, modern dermatological insights, and nutritional expertise, they address the root causes of hair issues.

Their doctor-backed algorithms and personalized treatment kits have transformed the lives of over 8 lakh customers, with an impressive efficacy rate of 93%. With dedicated hair coaches providing ongoing support, they are committed to delivering real, lasting transformations in hair health.

The Challenge

The organization faced significant challenges in scalability, struggling to manage the growing volume of data and increasing traffic. This issue was further compounded by a noticeable deterioration in database performance, adversely affecting user experience and overall application efficiency. Additionally, the lack of robust disaster recovery solutions posed a serious risk, leaving the organization vulnerable to potential data loss and extended periods of downtime.

The Solution

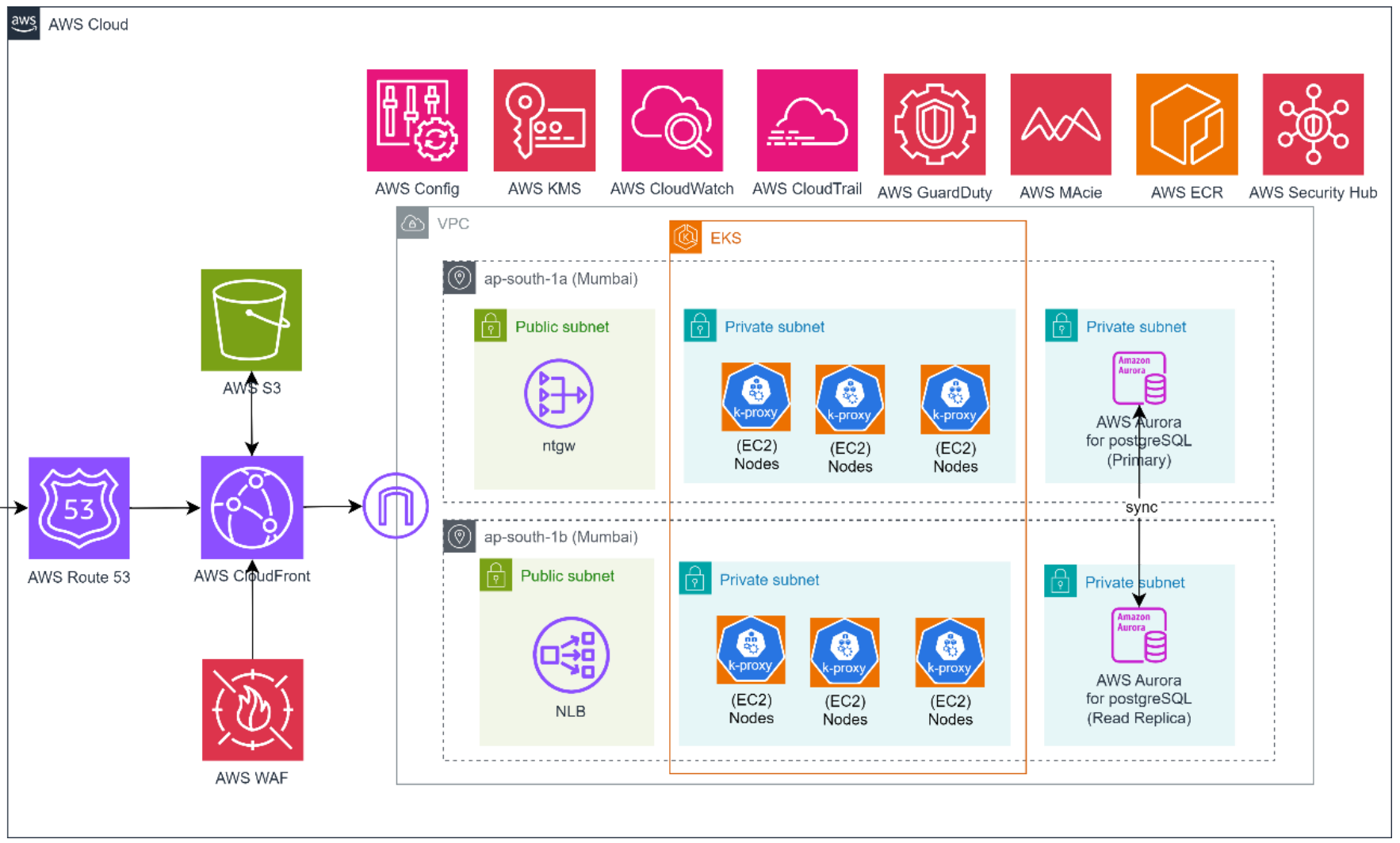
To overcome these challenges, AceCloud, an Advance Consulting and Certified AWS Well-Architected Partner, strategically migrated 350 GB of their on-premises MySQL database to Amazon Aurora PostgreSQL. This transition was not merely a technical upgrade but a carefully considered move to leverage the advanced capabilities of a managed relational database service.

Amazon Aurora PostgreSQL is well-regarded for its exceptional performance, allowing the company to handle larger workloads and increase traffic more efficiently. Additionally, its scalability features provided the flexibility needed to accommodate future growth without compromising infrastructure stability.

Perhaps most importantly, Amazon Aurora PostgreSQL's robust disaster

recovery features offered a critical safeguard against potential data loss and downtime, ensuring the company could maintain high availability and data integrity despite unforeseen disruptions.

Architectural Diagram



Decision to use Amazon Aurora PostgreSQL

1. Scalability

- **Auto-Scaling Capabilities:** Amazon Aurora PostgreSQL automatically scales storage and compute resources, allowing the organization's database to handle increased loads effortlessly without manual adjustments or extensive.

- **Read Replicas:** Aurora supports multiple read replicas, enhancing performance by distributing read traffic and improving application responsiveness.

2. Performance

- **High Performances:** Aurora PostgreSQL is built for high throughput and low latency, providing superior performance compared to traditional MySQL databases. This enhancement is critical for the organization as it continues to expand and requires faster data processing and retrieval.

- **Optimized Architecture:** Aurora's architecture features a distributed storage engine that separates compute and storage, ensuring high availability and durability.

3. Disaster Recovery

- **Automated Backups:** Aurora offers automated backups and point-in-time recovery, minimizing data loss and ensuring they can quickly recover from any data issues or failures.

- **Multi-AZ Deployments:** Aurora provides high availability with automatic failover across multiple Availability Zones (AZs), strengthening their disaster recovery strategy and minimizing downtime.

4. Cost Efficiency

- **Managed Service:** The client benefits from a fully managed database service by moving to Aurora PostgreSQL, reducing the operational burden of maintaining on-premises hardware and software.

- **Pay-As-You-Go Pricing:** Aurora's flexible pricing model allows the client to pay only for the resources they use, resulting in cost savings and financial flexibility.

Results and Benefits

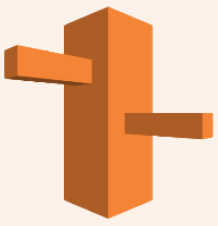
- **Enhanced Performance:** Following the migration, query execution speed increased by 35%, leading to quicker data retrieval and processing. Aurora PostgreSQL's optimized read and write operations have reduced latency, greatly improving application responsiveness.

- **Scalability:** With Aurora's capacity to automatically scale storage up to 128 TB, the client's system is now well-equipped to handle future growth. This has reduced the need for manual storage management, saving an estimated 15% in operational overhead.

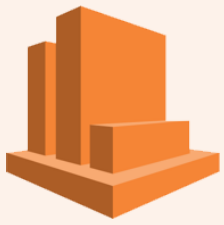
- **Cost Efficiency:** By transitioning to Aurora's pay-as-you-go pricing model, they have achieved a 20% reduction in monthly database costs. Additionally, consolidating their database instances has reduced infrastructure expenses and simplified management.

- **High Availability and Disaster Recovery**: Aurora's multi-AZ deployment and automated backups have significantly strengthened their disaster recovery capabilities, resulting in a 99.99% uptime guarantee and a 70% reduction in recovery time in the event of failures.

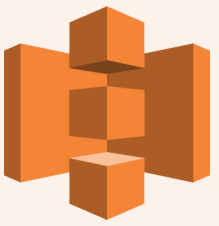
AWS Services Used



AWS Route 53



Amazon CloudWatch



Amazon S3

AWS Aurora for PostgreSQL

AWS WAF

AWS KMS

Conclusion

The migration from MySQL to Amazon RDS Aurora PostgreSQL has been a pivotal move in strengthening the company's database infrastructure. This transition has resulted in substantial performance improvements, allowing the system to easily handle increased workloads. Additionally, the enhanced scalability has provided the flexibility to support future growth, while the cost-efficiency of the managed service has contributed to more effective resource allocation. Overall, this migration has proven to be a critical step in optimizing the company's operations and ensuring long-term success.

About Us

Years of Exp
15+

Data Center
10+

Awards
100+

AceCloud is a leading provider of end-to-end cloud computing solutions to global organizations across industries at scale. It offers a full spectrum of cloud services, including Public Cloud, Application Hosting, AWS Services, Managed Security Services, and Hosted Virtual Desktop Solutions.

AceCloud is a brand of Real Time Data Services (RTDS) group of companies - a leading provider of information technology capabilities specializing in Cloud Computing and Cloud Telephony. RTDS Group has an employee base of 600+ across India, the US, and the UK, supporting over 20,000+ customers and IT infrastructure in 10+ data centers spanning the globe. It offers industry-leading technological solutions that help customers streamline their operations and enhance efficiency.

As an advanced consulting and certified AWS Well-Architected Partner, AceCloud recently achieved the prestigious AWS Storage Competency and is also recognized as an Amazon RDS Service Delivery Partner. These achievements underscore its deep expertise in AWS technologies and commitment to delivering high-quality cloud solutions.

aws PARTNER Advanced Tier Services

- Public Sector
- Amazon RDS Delivery
- Storage Services Competency
- Well-Architected Partner Program

Contact Us

Are you ready to cut down your cloud spending? Contact AceCloud Experts today to get a customized quote.

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