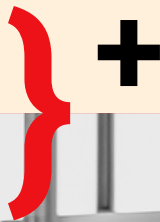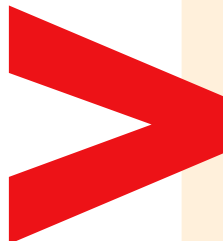# Migrating to the cloud with Couchbase and AWS

Learn why large enterprise companies run their businesses, architecture, and applications on Couchbase.

Contents

Pave the way for more innovation

The cloud has transformed how we do business, with DBaaS at the forefront

The database-as-a-service (DBaaS) market is experiencing significant growth. According to recent reports, the global DBaaS market is expected to grow from $21.3 billion in 2023 to $57.5 billion by 2028, with a compound annual growth rate (CAGR) of 22 percent. This growth is driven by the increasing need for digitalization, innovation, and the rising demand for mobile devices and social media.

Software-as-a-service (SaaS) applications rely on DBaaS solutions to persist their data. And the most demanding applications need powerful NoSQL databases to provide the speed, agility, flexibility, personalization, and security that organizations lack with traditional, on-premise database solutions. Migrating to the cloud helps organizations focus on feature innovation while accelerating time to value. By migrating, they eliminate time-consuming activities, such as managing databases, provisioning hardware, and maintaining expensive on-premises networks and systems.

In this ebook, you'll discover how using Couchbase on Amazon Web Services (AWS) can help you lower application management and IT costs, improve user experiences, and gain operational resilience. You'll learn more about the benefits of cloud-based services, why now is the best time to migrate to AWS, and how Couchbase is well-equipped to power your important cloud-based applications.

> **$21.3 billion to $57.5 billion**
> The global DBaaS market is anticipated to more than double by 2028.[1]

[1] "Cloud Database as a Service (DBaaS) Market - Global Forecast to 2026," MarketsandMarkets, July 2023.

Deliver higher-value applications with Couchbase and AWS

Let your move to the cloud transform your applications with improved performance and flexibility

Couchbase is the database backbone of applications you touch every day, from scrolling your business feed to booking travel and protecting your credit cards accounts from fraud. More than 30 percent of the Fortune 100 companies rely on Couchbase as a versatile, multipurpose operational and analytical DBaaS that excels in handling a wide range of functionality. This allows organizations to streamline their database technology stacks without sacrificing data access when moving to AWS. By consolidating multiple data access patterns into a single platform, Couchbase reduces the complexity and overhead associated with managing multiple in-house, purpose-built databases while providing application flexibility and scalability.

Couchbase's cloud-based NoSQL database, Couchbase Capella, relies on the scalable infrastructure of AWS for high availability and fault tolerance. This protects against data loss and downtime, providing the reliability needed for mission-critical applications. Additionally, AWS features like performance analytics, artificial intelligence (AI), and machine learning (ML) can be used with Couchbase data to improve productivity and reduce operational complexity. Couchbase's robust transactional data and replication features ensure consistency across different nodes and regions, enhancing data durability and availability. Security and compliance are fortified with comprehensive security features from AWS to protect your data and adherence to global compliance protocols.

Couchbase Capella relies on the scalable infrastructure of AWS

These services allow Couchbase to optimize costs through efficient resource use while offering impressive data access functionality.

- Amazon Elastic Compute Cloud (Amazon EC2)
- Amazon Elastic Block Store (EBS)
- Amazon Simple Storage Service (Amazon S3)
- AWS Lambda
- AWS Identity and Access Management (IAM)

Experience the most comprehensive cloud platform

Get a head start on innovation by migrating to AWS

Deciding to adopt DBaaS-based solutions often starts with a desire to cut costs and reduce IT burdens. However, many organizations find that the value of running workloads on AWS extends well beyond the cost savings of retiring legacy infrastructure. AWS is the world's most comprehensive and broadly adopted cloud, offering more than 200 fully featured services. It's the destination for organizations—both large and small—to innovate and gain business agility.

Key benefits of AWS

Cost savings

Enjoy reduced costs, simplified management, and ease of use while only paying for what you need.

Improved operational resilience

Increase service availability and reliability, gaining the ability to respond to rapidly changing levels of demand.

Scalability and high performance

Scale your application up or down, as needed, without needing to worry about provisioning underlying infrastructure—all while maintaining high performance.

Innovative services

Integrate with more than 200 native AWS services, including generative AI, ML, analytics, storage, and more.

Comprehensive security and compliance

Strengthen your security posture with comprehensive, industry-leading security and compliance controls.

Accelerated time to value

Follow proven migration paths, speeding time to value. Use the global cloud infrastructure of AWS to access new markets and buyers around the world.

Achieve better business outcomes

Start your migration today with industry solutions from Couchbase and the AWS ISV Workload Migration Program

Migrating mission-critical operational workloads to the cloud is no longer just a strategic initiative—it's imperative for driving innovation and scalability. Couchbase and AWS have joined forces through the AWS ISV Workload Migration Program (WMP) to deliver seamless cloud migrations. The AWS WMP offers a proven methodology to help organizations migrate workloads securely and efficiently, reducing risk, cost, and complexity. This is complemented by Couchbase's multipurpose NoSQL database, which excels in handling mission-critical workloads, offering high performance, real-time distributed processing, mobility, and unparalleled scale.

Explore how key industries are benefiting from this partnership to revolutionize their operations:

Media and entertainment

Powering real-time content delivery

Media and entertainment companies process large data siloes that need to be aggregated for strategic insights, for real-time streaming, user engagement analytics, and content distribution. With Couchbase Capella's in-memory architecture and low-latency infrastructure from AWS, companies can seamlessly scale streaming workloads to avoid delays during peak traffic. They can also deliver personalized, interactive experiences for millions of consumers while reducing operational overhead.

Financial services

Ensuring security, compliance, and performance

Financial institutions use Couchbase's in-memory account management to handle fraud detection, transactions, and customer insights in real-time. AWS provides the global infrastructure necessary to meet compliance across regions. This partnership empowers financial organizations to innovate with new products and services, delivering personalized financial experiences at scale while minimizing risks and downtime.

Travel and hospitality

Enhancing personalization and operational agility

The travel and hospitality industry faces fluctuating demands, requiring real-time data processing for bookings, crew scheduling, inventory management, and customer personalization. Couchbase and AWS provide the agility needed to manage peak travel seasons with ease. This enables airlines, hotels, and cruises to enhance customer service, even during high-demand, and deliver seamless, end-to-end experiences that drive loyalty and operational efficiency.

Migrate with Couchbase

Couchbase is ready to help you maximize AWS

Couchbase's migration approach is designed to facilitate smooth transitions from traditional relational databases or other NoSQL solutions to Couchbase's modern, scalable platform. You can avoid the most common, costly pitfalls of cloud migration using the following steps.

Assessment
Evaluate your current IT infrastructure, applications, and data to determine which systems and workloads are suitable for migration to the cloud. Identify any dependencies, security requirements, and compliance considerations.

Planning
Develop a detailed migration plan, including the timeline, budget, and resources required. Consider the most appropriate migration method for each system and workload.

Preparation
Back up all data and systems to ensure the migration can be easily rolled back in case of issues. Review and update security measures to protect data throughout the migration process.

Migration
Begin migrating systems and workloads to the cloud. Test systems and applications in the cloud environment and make sure they're functioning as expected.

Integration
Integrate the cloud environment with existing systems and applications, including security measures and data management. Confirm that data is flowing smoothly between systems and that any dependencies are resolved.

Optimization
Optimize the cloud environment for performance, scalability, and cost-effectiveness. Monitor systems and applications to check that they're running smoothly.

Maintenance
Establish ongoing management and maintenance processes for the cloud environment, including monitoring and updating systems and applications as needed. Ensure security measures are up to date and that data is backed up regularly.

Wibmo achieves sub-second transaction speeds with Couchbase on AWS

Challenge

Wibmo Inc., a global leader in payment security and digital payments, needed to provide safe, secure transaction processing without sacrificing speed for over a billion annual transactions. As its business scaled, Wibmo's legacy relational database systems couldn't meet the high availability and performance needs of customers who had strict service level agreements (SLAs). Different customer requirements further complicated the situation, demanding a flexible and reliable solution.

Solution

Wibmo turned to Couchbase's NoSQL database on AWS to address these challenges. The decision was driven by Couchbase's scalability, reliability, fast response times, and data availability. Couchbase's in-memory database allowed Wibmo to store transaction data and profile information for real-time risk assessments. This setup enabled the company to identify and act on suspicious transactions within sub-second speeds, which is crucial for maintaining the required SLAs. Additionally, Couchbase's elasticity allowed Wibmo to scale its operations up or down to handle peak times efficiently, optimizing costs.

Results

Implementing Couchbase on AWS enabled Wibmo to ensure reliable high performance and compliance with SLA requirements for over 160 banks in India. The solution achieved remarkable processing speeds, handling 4-5 million real-time payment transactions per day with response times ranging from 50 milliseconds to one second. The flexibility of Couchbase allowed Wibmo to tailor its solution to the specific needs of each bank, storing sensitive data both on premises and in the cloud as needed. This dynamic environment also facilitated the development of cutting-edge fraud detection solutions using AI and ML, further enhancing its fraud management capabilities.

With Couchbase on AWS, Wibmo not only met but exceeded customer expectations, providing a fast, secure, and scalable payment processing solution that supports rapid growth and a superior user experience for cardholders.

Start your journey today

A cloud-based architecture on AWS is closer than you think

Through the WMP, Couchbase and AWS have collaborated to simplify the migration process and reduce costs while migrating on-premises workloads to the cloud. **Contact Couchbase** or **get started for free** today to jumpstart your migration.

To learn more, check out these Couchbase resources

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