Couchbase

Vodafone
Streamlining personalized communications for all customers

Industry
- Telecommunications

Customer application
Client communication platform

NoSQL solution
- Customer 360

Use case
- Omnichannel communications
- Caching

Product
- Couchbase Server

Key features
- Cross datacenter replication

Vodafone Spain serves over 14 million mobile customers and 3 million fixed-service customers, sending them thousands of emails, hundreds of thousands of push notifications, and millions of SMS messages over the course of a year. In order to eliminate unnecessary and redundant communications, Vodafone created a unified platform that manages all communications across all departments and personalizes the communication methods according to each customer's preferences. Couchbase on Amazon Web Services provides Vodafone Spain with the data security they require to be GDPR compliant and the flexibility to scale on demand.

CHALLENGES

- Required a unified platform to manage all customer communications
- Needed scalability to accommodate additional communication methods without compromising performance
- Business-critical applications require auto-failover if a node fails

OUTCOMES

- Unified customer SMS, email, and push notifications onto one platform
- XDCR facilitates easy scalability as users and data volume increase
- Couchbase's automatic failover raises a replica without losing data
- Even at peak demand Couchbase does not exceed 10% of total capacity

"Couchbase and AWS provide blazing speed thanks to its in-memory processing. Its scalability is easy to manage. And Couchbase's auto-failover raises a replica without losing data if a node fails."

— Yolanda Fernandez
Product Owner, Project Dracarys, Vodafone Spain

How Vodafone is building a 100% cloud communications platform

Since making the first mobile phone call in the U.K. in 1985, Vodafone has grown into a multinational telecommunications company with over 625 million mobile customers and nearly 50 million broadband and TV customers. Today, Vodafone Spain is working on Project Dracarys, a new client communications platform that will operate 100% on AWS. When complete, Dracarys will be the only tool Vodafone uses globally to send communications to its customers.

Couchbase on AWS is the center of a complex system

Every year, Vodafone Spain sends its customers 36,000 emails, hundreds of thousands of push notifications, and millions of SMS messages. The objective of Dracarys, explained Yolanda, is to have all those communications unified and identified for all Vodafone departments. This will allow Vodafone to avoid over-communicating with customers and give each department better control over the communications the company sends. In addition, Vodafone will be able to personalize their communications according to each customer's preferences for SMS, RCS, email, and push notifications.

While Dracarys is intended primarily as a communications management tool, in reality, it's a whole lot more. It's also a web manager with distinct access profiles for each area of the business. It's an API for external public services. It's a data storage and analytics database that enables Vodafone to learn from customers what communications they like and don't like to receive. And it's a single monitoring dashboard that allows the team to visualize the status of the platform in real-time.
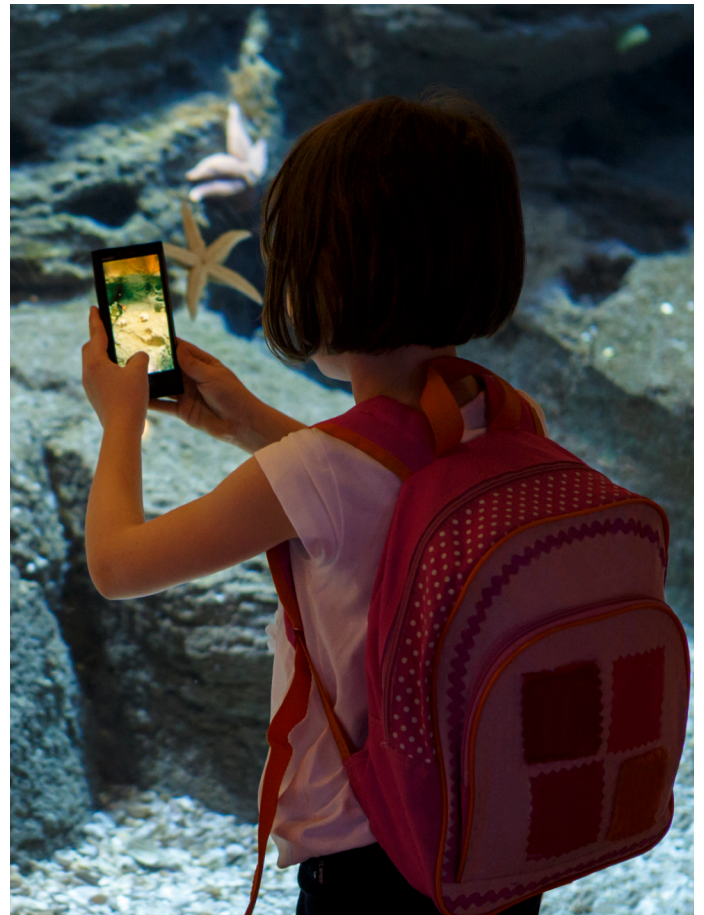
At the center of this very complex and interconnected system sits the database, so it was critical to choose one carefully. There were three main reasons Couchbase was the right NoSQL database for us:

- Couchbase provides **blazing speed** thanks to its in-memory processing

- **Scalability** is easy to manage with Couchbase on AWS

- Couchbase's **auto-failover** raises a replica without losing data if a node fails

Couchbase and AWS, better together

Couchbase on Amazon Web Services provides Vodafone Spain supports their best practices for flexible application development, data security, scaling, and resource usage. Since Vodafone is handling customer data, security is of paramount importance, Couchbase on AWS ensures that they are GDPR compliant. flexibility to scale on demand. Couchbase on AWS provides Vodafone with excellent value based performance.

Agile development for rapid growth

Vodafone launched Project Dracarys with Couchbase in October 2017 and went live with SMS and push notifications in the spring of 2018. Between August and October of that year, they re-engineered their indexes, and in October they added an email channel to the platform. **By October 2019, the Dracarys team added two additional nodes to their Couchbase on AWS cluster in order to handle exponential growth in their customer communications.** That raised their total number of nodes to 6, split evenly between data nodes and indexing nodes. Now, the team is hard at work adding additional communications channels to the platform.

Project Dracarys has been so successful that **Vodafone now considers the use of Couchbase on AWS a best practice.** And for other businesses considering Couchbase for their use cases, Yolanda has two simple pieces of advice. "Couchbase is ideal for projects that need a fast read/write database," she said. "And I also recommend taking advantage of the distributed database for scaling products and projects that are expected to experience rapid growth in data volume."

Couchbase

At Couchbase, we believe data is at the heart of the enterprise. We empower developers and architects to build, deploy, and run their mission-critical applications. Couchbase delivers a high-performance, flexible and scalable modern database that runs across the data center and any cloud. Many of the world's largest enterprises rely on Couchbase to power the core applications their businesses depend on. For more information, visit www.couchbase.com.