Couchbase

Couchbase Mobile for Edge Computing

TAKE STORAGE AND SYNC FROM THE CLOUD TO THE EDGE

Key benefits

- Fast, efficient bidirectional synchronization of data from the edge to the cloud via a distributed micro-data center architecture

- Powerful query language and full-text search support on the edge

- Always-on experience even with spotty network availability

- Scalability from hundreds to millions of users

- Built-in enterprise-grade security to safeguard data

Enable modern mobile and edge apps that are always fast and always on

Couchbase Mobile can help your developers meet end-user expectations by addressing the demands of business-critical apps. Build applications that seamlessly sync data between the cloud and edge devices, between the cloud and edge data centers, and directly between mobile devices, while automatically resolving data conflicts. Save transfer costs by using delta sync technology to sync only data that has changed. With Couchbase's full-featured Sync Gateway and embedded database, you can deliver an always-on experience with guaranteed data availability, even when network connectivity is intermittent.

With support for key-value, SQL++, full-text search, predictive queries with machine learning models, and eventing, Couchbase Mobile allows developers to build secure, resilient applications that provide real-time responsiveness and guaranteed business uptime. Built-in end-to-end data encryption and fine-grained access control help safeguard data while a consistent programming model for building web and mobile applications simplifies development. You can also add capacity at every tier (on the device, at the edge, and in the cloud) to easily scale to millions of users as demand grows.
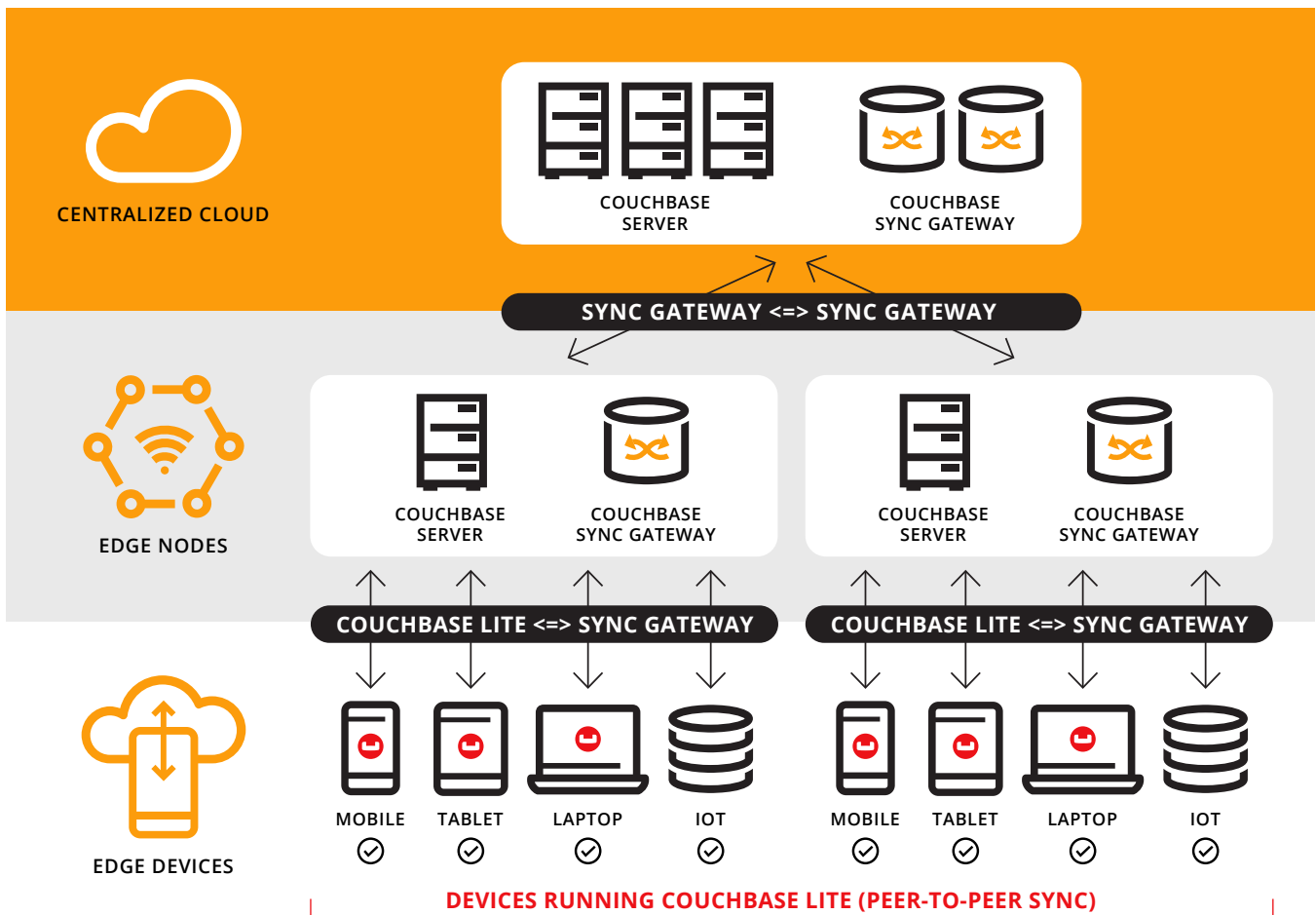
Architecture

COUCHBASE LITE
A full-featured embedded NoSQL JSON document database that enables offline-first business-critical applications with key-value, query, full-text search, eventing, and database encryption capabilities.

SYNC GATEWAY
A middle-tier gateway component that manages the synchronization of data between the edge (Couchbase Lite) and the backend data store (Couchbase Server) while enforcing access control to prevent unauthorized data access.

COUCHBASE SERVER
A distributed NoSQL JSON document database for processing and analyzing data in any public or private cloud or on premises.

CENTRALIZED CLOUD

COUCHBASE
SERVER

COUCHBASE
SYNC GATEWAY

SYNC GATEWAY <=> SYNC GATEWAY

EDGE NODES

COUCHBASE
SERVER

COUCHBASE
SYNC GATEWAY

COUCHBASE
SERVER

COUCHBASE
SYNC GATEWAY

COUCHBASE LITE <=> SYNC GATEWAY

COUCHBASE LITE <=> SYNC GATEWAY

EDGE DEVICES

MOBILE   TABLET   LAPTOP   IOT   MOBILE   TABLET   LAPTOP   IOT

DEVICES RUNNING COUCHBASE LITE (PEER-TO-PEER SYNC)

Key enablers

- Ability to securely store and process data either locally embedded within devices or co-located in distributed data centers at the edge. Guarantee real-time responsiveness and business uptime by keeping data closer to the applications that consume it.

- Ability to securely sync data from any cloud-to-edge device or edge data center. Leverage comprehensive sync technology to guarantee data integrity.

- Ability to operate in environments with low/no internet connectivity for extended periods of time. Guarantee an always-on experience for users.

Enterprise-grade security
Safeguard data and alleviate privacy concerns with built-in enterprise-grade encryption at rest and in transit. Isolate and secure data to comply with privacy and sovereignty regulations, sensitive data never has to leave the edge.

Speed and responsiveness
Guaranteed low latency and sub-millisecond data access times, regardless of internet bandwidth.

Deploy on premises, in any cloud, or at the edge
Deploy edge computing applications easily on any public cloud to gain greater agility. Enterprise users can deploy the same stack on premises so developers and QA teams can be more productive in their software development life-cycle.

RYANAIR

"Over the last 30 years, Ryanair has experienced exponential growth. Since we launched our new mobile app supported by Couchbase, we have increased app performance and decreased flight booking times from 5 minutes to 2 minutes. Couchbase Mobile has helped us achieve our user experience goals."

— VLADIMIR ATANASOV,
  LEAD DEVELOPER, RYANAIR

Carnival

Highly personalized
travel application

LOUIS VUITTON

Real-time product
catalog application

Maccabi

Transforms patient
experience

SYNCTHINK®

Gaining new insights
in brain injury

BD

Real-time health
diagnostics and care

Gain unequaled flexibility, scalable performance, and end-to-end security

UNMATCHED AGILITY AND FLEXIBILITY
Build seamless data sharing across multiple users and devices—online and offline. Capitalize on fast, efficient bidirectional synchronization of data from the edge to the cloud. Flexible data modeling lets you build applications that easily evolve over time. SQL++ means developers leverage familiar syntax, and can reuse the same queries across platforms and Couchbase Server and Couchbase Lite.

UNPARALLELED PERFORMANCE AT ANY SCALE
Deliver an always-on experience even with unreliable networks and dropped connections. Scale from hundreds to millions of users with the flexibility to add capacity at every tier—including the client tier (Couchbase Lite), middle tier (Sync Gateway), and storage tier (Couchbase Server).

EASE OF MANAGEMENT
Safeguard data with built-in enterprise-grade security for the full stack. Encrypt data at rest as well as in transit. Apply fine-grained access control policies to ensure that only authorized users have access to relevant subsets of data.

Learn more

To learn more, contact your Couchbase sales representative today or visit:
www.couchbase.com/products/mobile
www.couchbase.com/downloads#extendwith-mobile

Couchbase

Modern customer experiences need a flexible database platform that can power applications spanning from cloud to edge and everything in between. Couchbase's mission is to simplify how developers and architects develop, deploy and consume modern applications wherever they are. We have reimagined the database with our fast, flexible and affordable cloud database platform Capella, allowing organizations to quickly build applications that deliver premium experiences to their customers—all with best-in-class price performance. More than 30% of the Fortune 100 trust Couchbase to power their modern applications.

For more information, visit **www.couchbase.com** and follow us on Twitter.