

Couchbase Mobile

TAKE STORAGE AND SYNC TO THE EDGE

Key benefits

- Fast, efficient bidirectional synchronization of data from the edge to the cloud and between edge devices via peer-to-peer
- SQL++ and full-text search support on the edge
- Always-on experience even without network availability
- Scalability from hundreds to millions of users
- Built-in enterprise-grade security to safeguard data

Addressing the needs of business-critical mobile and edge applications

The Couchbase platform helps developers meet the demands of business-critical mobile applications. Build fast and resilient mobile apps that seamlessly sync data between the cloud and any connected device while automatically resolving data conflicts and ensuring data integrity. Save transfer costs by using delta sync technology to sync only data that has changed. The Couchbase solution for mobile includes a full-featured embedded database that enables an always-on experience with guaranteed data availability, even without internet connectivity. It also includes a synchronization gateway that allows for secure data sync between mobile devices and the backend data store.

With support for key-value and SQL, full-text search, predictive queries that leverage pretrained machine learning models, and asynchronous eventing capabilities, the Couchbase Lite embedded database allows developers to build compelling user experiences that run right within mobile and edge apps. Built-in data synchronization, end-to-end data encryption, and fine-grained access control help safeguard data from unauthorized access. Also, you can add capacity at every tier – on the device, over the internet, and in the cloud – to easily scale to millions of users as demand grows.

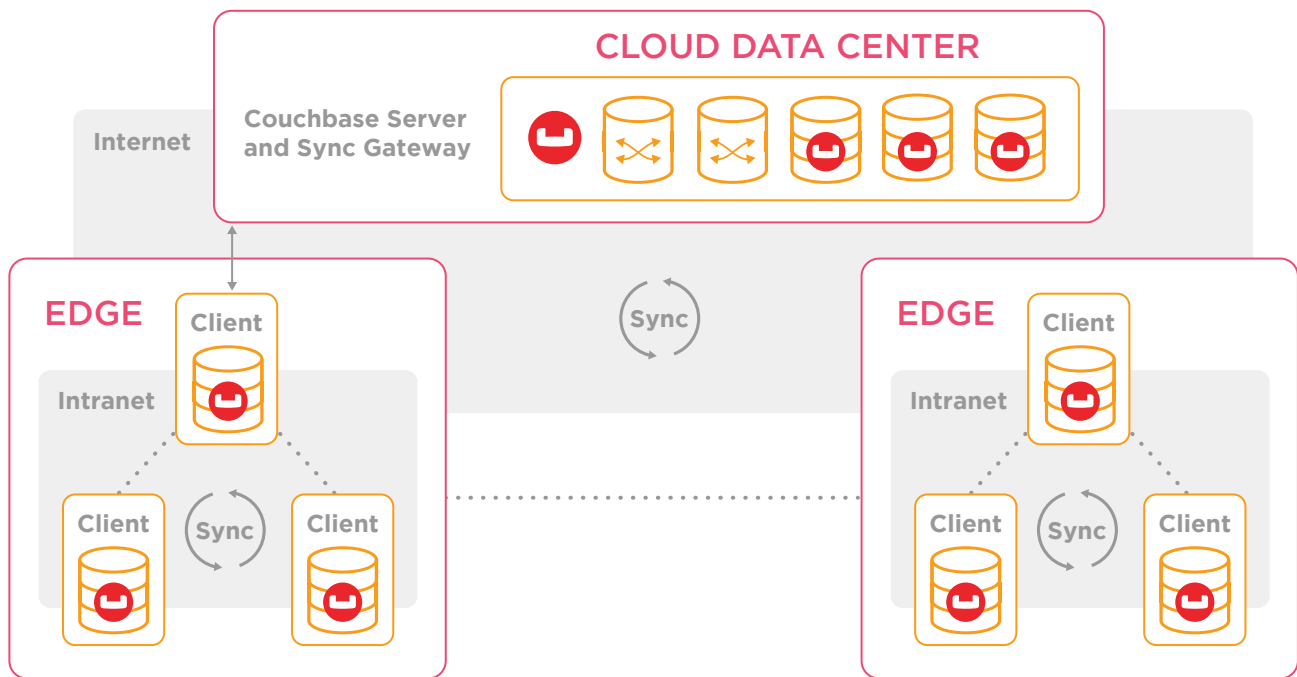


Architecture

- **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 managing data in any public or private cloud or on premises.



Key features

- **Comprehensive platform support:** Build offline-first experiences for apps running on mobile (iOS, Android, Windows), desktop and custom embedded platforms.
- **Peer-to-peer synchronization:** Securely sync devices directly with one another in disconnected environments without the need for a centralized cloud-based control point.
- **Predictive queries:** Run predictions locally against data in your local database using pretrained machine learning models bundled with your mobile apps.
- **C-API support:** Allows embedding on any embedded application (Embedded Linux, ARM32, ARM64). Developers use FFI to bind to C API for any language (Dart, Rust, Python, Node, etc).
- **On-device encryption:** Secure sensitive data at rest by encrypting the local embedded database.
- **Delta sync:** Significantly reduce bandwidth consumption by synchronizing only data that has changed. Can be used between clients and Sync Gateway, or directly between clients using peer-to-peer synchronization.
- **Enhanced conflict resolution:** Resolve data conflicts that result from concurrent updates to data. The system can automatically resolve conflicts using built-in policies or custom user-defined policies.

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. A powerful SQL-based query language offers flexible data access using concise declarative queries.

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).

END-TO-END SECURITY

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 a relevant subset of data. Comply with data privacy regulations by ensuring that sensitive data never has to leave the edge.

Learn more

To learn more, contact your Couchbase sales representative today or visit:

www.couchbase.com/products/mobile
www.couchbase.com/downloads





Real-time crew management, scheduling, and resources



Global digital showroom



Real-time IoT health diagnostics and care



“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





Unlike other NoSQL databases, Couchbase provides an enterprise-class, multicloud to edge database that offers the robust capabilities required for business-critical applications on a highly scalable and available platform. As a distributed cloud-native database, Couchbase runs in modern dynamic environments and on any cloud, Couchbase is built on open standards, combining the best of NoSQL with the power and familiarity of SQL, to simplify the transition from mainframe and relational databases.

For more information, visit www.couchbase.com.

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