Couchbase

Couchbase Mobile

TAKE DATA STORAGE AND SYNC FROM THE CLOUD TO THE EDGE TO THE DEVICE

Key benefits

- Fast, efficient bidirectional synchronization of data from the edge to the cloud and between edge devices via peer-to-peer

- SQL++ Scopes and Collections 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

Couchbase Mobile 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, SQL, full-text search, scopes and collections, predictive queries that leverage pretrained machine learning models, and asynchronous eventing capabilities, Couchbase Mobile 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.
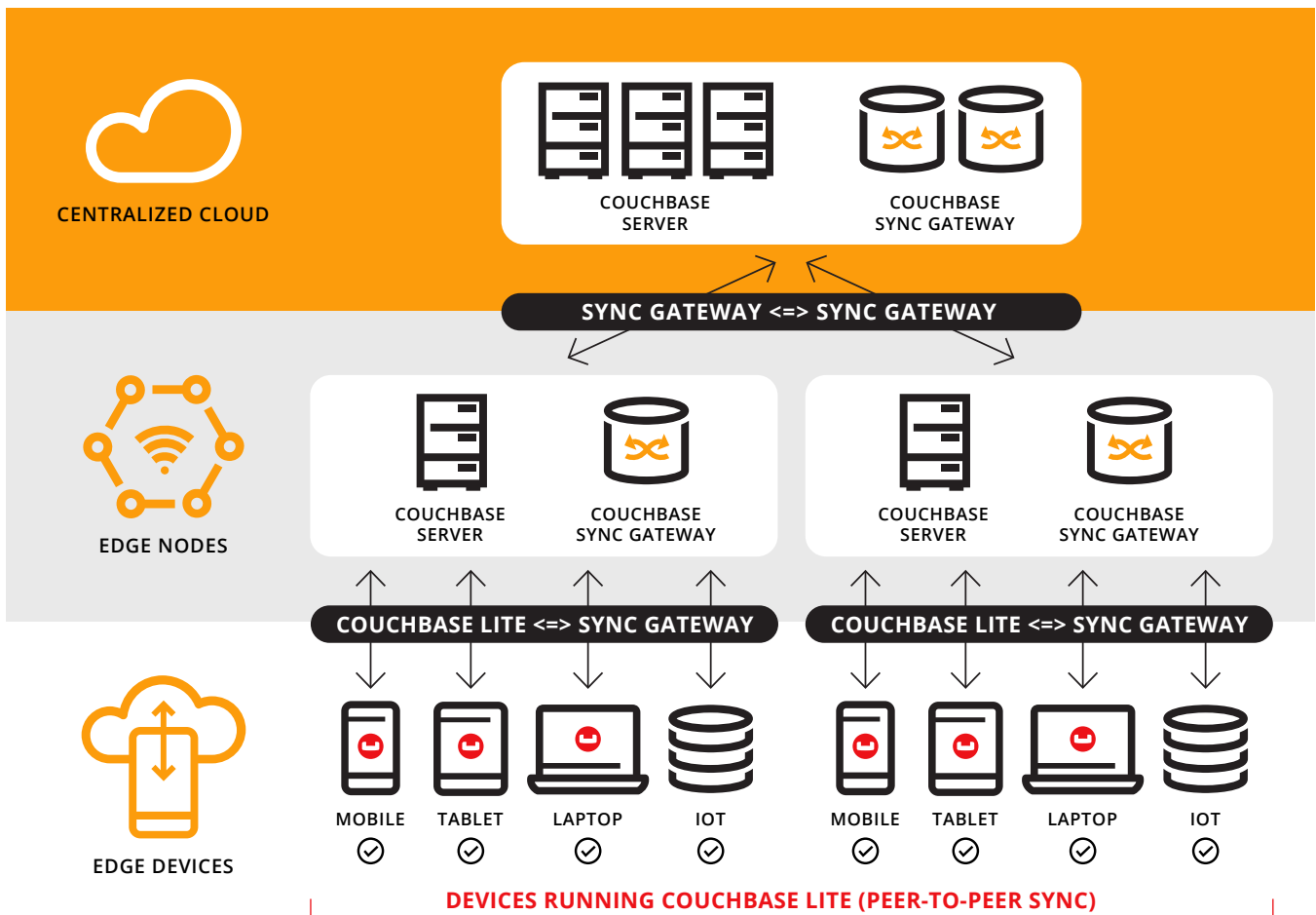
Architecture

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

SECURE SYNCHRONIZATION GATEWAY
A secure gateway for synchronization of data between edge devices and the backend data store. Choose from fully managed sync with **Capella App Services**, or deploy and host **Couchbase Sync Gateway** yourself.

COUCHBASE DATABASE
A distributed JSON document database in the cloud. Choose from **Couchbase Capella**, the fully managed and hosted Database-as-a-Service, or deploy and host **Couchbase Server** yourself on premises or in any public or private cloud.

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 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/products/capella/app-services/

Real-time crew management, scheduling, and resources

Lotum uses Couchbase Mobile to provide a consistent and always-on experience for the millions of monthly active users of their most popular game title. Gamers can play wherever they go, even without internet.

Global digital showroom

Offline-first order-to-cash application

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.