

Couchbase Capella for Energy

ENABLE ALWAYS-FAST, ALWAYS-ON APPS AT THE EDGE

Key technical benefits

- Provides uninterrupted, real-time access to data and 100% business uptime regardless of connectivity
- Integrates with your existing tools, solutions and developer skill sets
- Consolidate with a robust platform of tightly integrated data services
- Delivers low latency, sub-millisecond access times regardless of internet bandwidth
- Reduces costs with less bandwidth and load on cloud servers by lowering the volume of data transferred over the internet
- Makes network costs more predictable by estimating bandwidth needs based on the distribution and throughput of edge devices

Optimize operations with real-time data processing and analysis, remove dependencies on the internet, and eliminate latency

Energy companies are under more pressure than ever to cut costs and modernize in order to optimize operations, stay relevant, and outperform their competition. To do so, they must focus on reducing emissions, automating rig and well site operations, and driving cost savings that can fund other strategic priorities. But when setting out to modernize, where should an organization focus its efforts? Increasingly, we're seeing our clients have success by focusing on a few key areas, such as data.

Being able to access and distribute the right information when it matters most is critical, but often, a lack of access to information is a major factor that erodes operational effectiveness, impacting production capacity and ultimately revenue. Companies managing remote operations without real-time insight to their resources can suffer from inefficiency that increases safety risks, lowers productivity, and drives up expenses. In response, organizations should think about enabling real-time data access by moving it to the edge, closer to where it is generated and captured. And when approaching edge computing, we encourage an organization to make the right architectural decisions early on and identify the best long term strategic partners to realize the vision.

By providing a fast and reliable flow of critical information, Couchbase Capella™ enables better decision making in real-time by processing data at the source, regardless of connectivity. It can dramatically help an energy company improve efficiency and reduce costs in areas such as drilling rig maintenance,

Fortune 100 – Oil Field Services Customer



The Drilling, Completions and Fluids division uses Couchbase Lite embedded in apps on laptops carried on drilling rigs, making them available even without network connectivity. When the internet is available, data is synchronized to the cloud.

Results:

- Reduced costs by automating manual remote operations
- Improved overall pipeline performance; deploying real time analytics reducing time to insight and action
- Secure data synchronization at the edge allows teams to access and distribute data closer to where it is generated and captured

pipeline monitoring, well maintenance, asset tracking, inspections, workforce management, and more. Couchbase Capella is purpose-built to support the distributed edge computing architecture, from the cloud to the edge to the device.

Data Challenges at the Edge

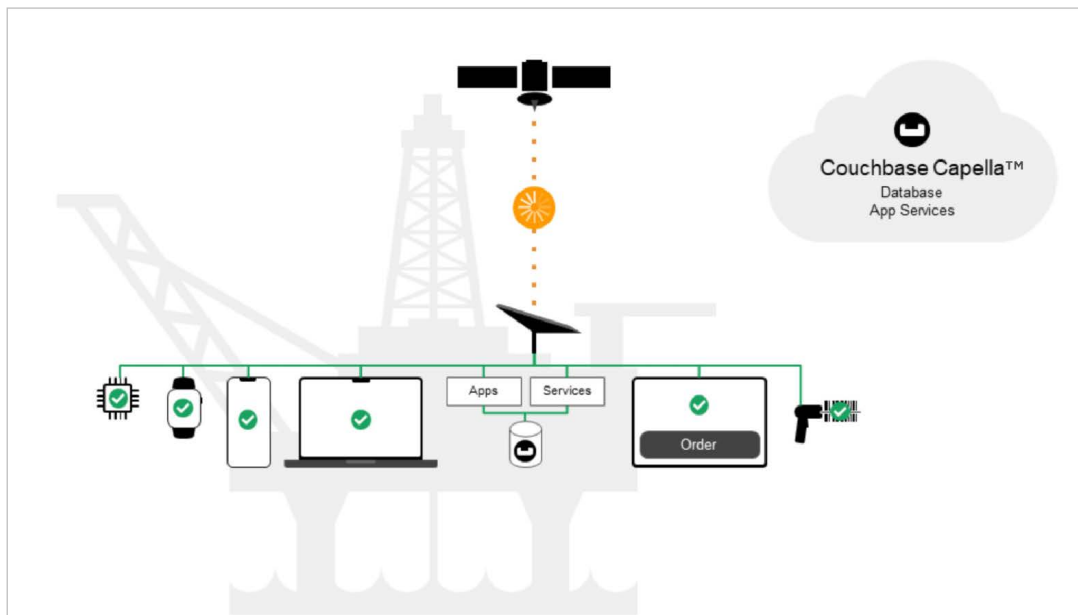
The remote nature of oil and gas operations makes relying on the cloud for data risky, if the internet slows or becomes unavailable, so do the applications using it. By moving data and computing to the edge, closer to where the data is captured, upstream, midstream and downstream operations can gain real-time insights that increase efficiency, safety, and profitability.

The Couchbase Edge stack:

[Couchbase Capella](#) – A fully managed cloud database-as-a-service (DBaaS)

[Capella App Services](#) – Fully managed services for file storage, bidirectional sync, authentication, and access control for mobile and edge apps

[Couchbase Lite](#) – An embedded mobile database



On-platform apps powered by Capella™ App Services work even when the internet is slow or disrupted





Learn more

To learn more, visit:

couchbase.com/products/capella

or sign up for a free test drive at

cloud.couchbase.com/sign-up

The value of Couchbase Capella for Energy

In disconnected environments

Applications in use on pipelines, compression stations, production wells, and underground storage facilities can act upon data “as it happens” to make better decisions, reducing safety risks and increasing efficiency.

In minimally connected environments

Mobile and IoT applications in use in construction yards, on offshore rigs, and on vessels can process and analyze data without reliance on the internet, and sync to the cloud as connectivity permits.

For real-time monitoring

Track the upstream, midstream, and downstream flow of moving assets in real time, from wellheads to pipelines to processing and distribution.

The Couchbase Capella advantage

Edge computing has the potential to transform the energy industry with a model for future innovation through a simple concept: bring data processing closer to where it is produced and used.

Couchbase Capella supports edge computing from the cloud to the edge to the device, ensuring that critical information is always fast and available for the applications and users that need it.



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.

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