



SurrealDB

The next-generation serverless cloud database



SurrealDB is a highly-scalable, highly-performant NewSQL database system for developers building web, mobile, and server-side applications.

With an easy-to-use SQL-style query language, data can be stored, synced, and queried in real-time, directly from end-user devices. SurrealDB is fully built and production tested, with highly-efficient related data retrieval, advanced easily-defined security permissions for multi-tenant access, and support for performant analytical workloads.

SurrealDB is the next generation serverless cloud database.



The background...

SurrealDB was built due to a frustration with traditional API development and database technologies. While building a number of B2B SaaS tools we were working with multiple databases (InfluxDB, DynamoDB, OrientDB, MySQL), sitting behind an advanced API layer. In addition to complicated backend development, the management of the database layers and API layers was time-consuming and costly.

SurrealDB solved these problems by consolidating all of the different databases and the API code into one platform, which was configurable for each product, cutting out more than 70% of the product development lifecycle, and simplifying ongoing product maintenance.



The problem...

- ⬡ Organisations need to develop applications as quickly as possible
- ⬡ Complicated backend services and API development are time-consuming and complex, with each additional feature introducing further security concerns
- ⬡ Developers need a fast, flexible backend that lets them focus on the client-side application, without needing to re-architect the backend for each additional feature
- ⬡ Applications need to access data in many different ways:
 - connected, linked, related data
 - custom analytical queries
 - collaborative access and data versioning
 - full-attribute searching of data
 - geospatial querying of data
 - real-time live data



The SurrealDB solution...

- ⬡ Faster app development times compared with other technologies
- ⬡ Secure backend with no development time
- ⬡ Easy-to-use SQL-style query language
- ⬡ Data can be stored, synced, and queried in any way, directly from end-user devices
- ⬡ Easily-defined advanced security permissions

Developers
save time

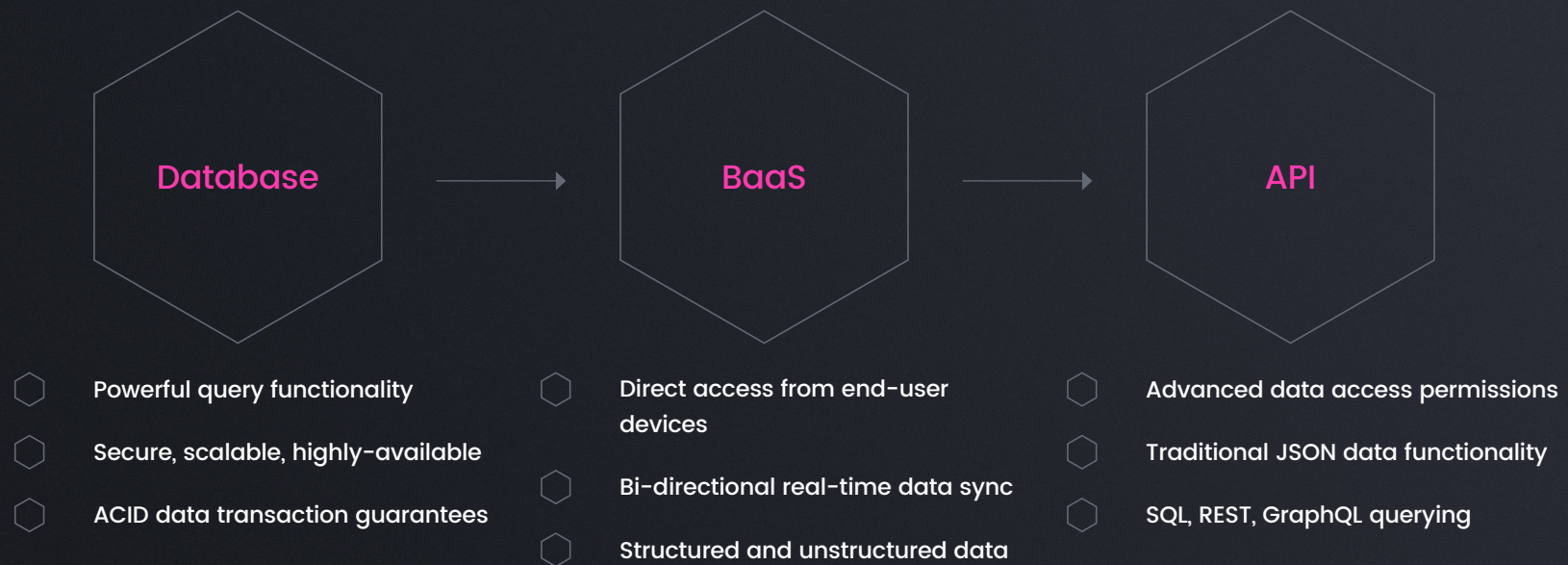
Businesses
save money

Faster product
iteration

Full control
over data
design and
querying



The product...



SurrealDB encompasses a traditional database, a Backend-as-a-Service, and a traditional API layer.

It is able to be run as a single instance on a single device, or as a highly-scalable cloud database.



Business model...

Community Edition

FREE

- Single-instance
- Realtime functionality
- Up to 500mb data storage
- No data encryption
- Run locally, in Docker, or in the cloud

Cloud Edition

Starting at \$30 per month

- Highly-scalable
- Highly-available
- Unlimited storage
- Data encryption
- Automatic backups
- Managed and optimised

Pay per data storage used, and total concurrent users

Enterprise Edition

Price on Application

- Highly-scalable
- Highly-available
- Unlimited storage
- Data encryption
- Automatic backups
- Deploy in private cloud/data center

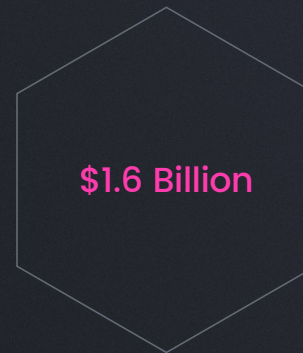
Pay per database cluster size



The market...



DBMS (Database management systems)
Global market size 2021



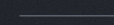
BaaS (Backend as a Service)
Global market size 2021



BaaS (Backend as a Service)
Forecast global market size 2026



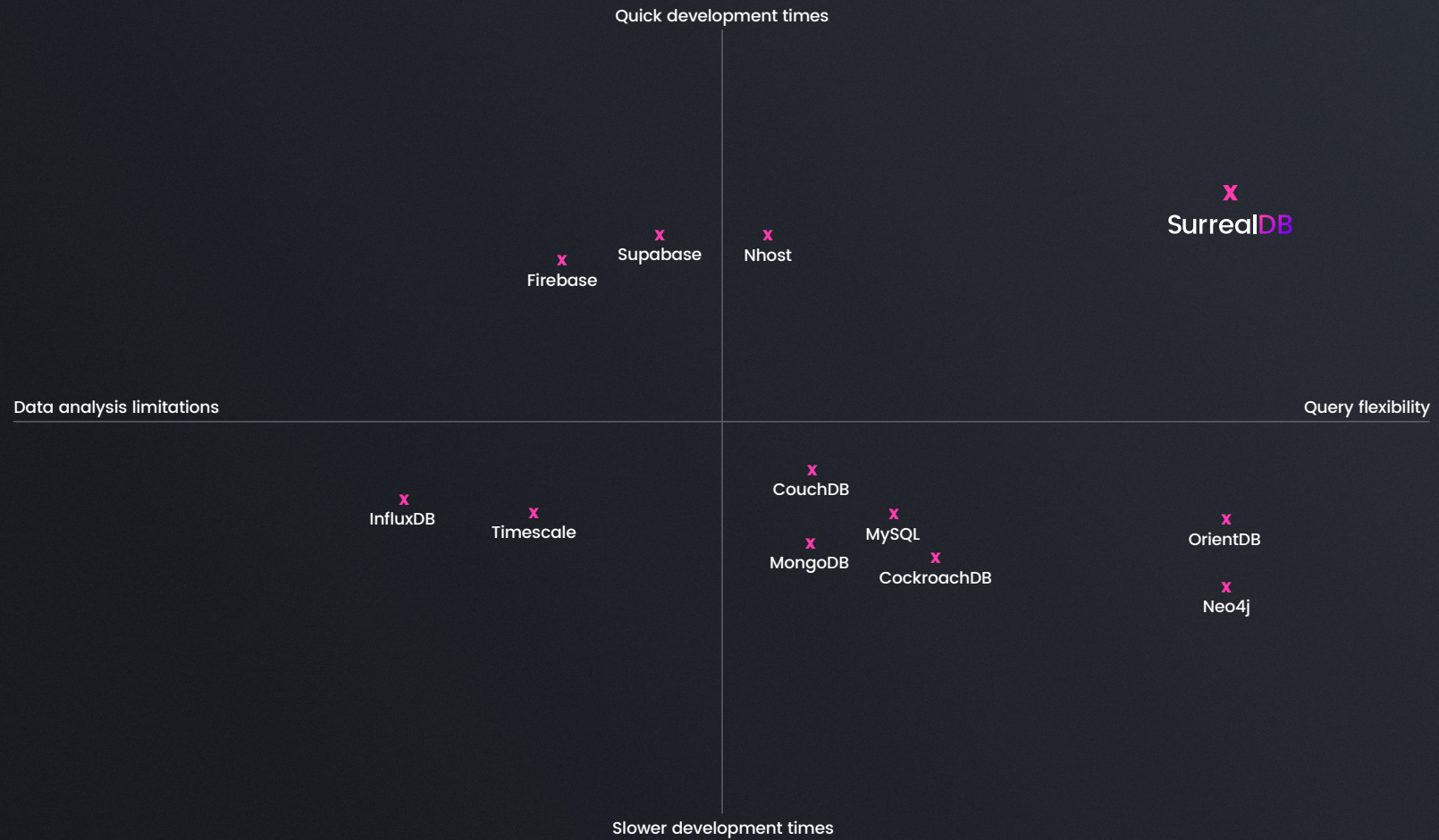
DBaaS (Cloud database as a Service)
Global market size 2021



DBaaS (Cloud database as a Service)
Forecast global market size 2026



The competition...





Comparisons...

	SurrealDB	Firebase	OrientDB	MongoDB	InfluxDB	CouchDB	MySQL	Oracle
Self-hosting, co-location, local hosting	X		X	X	X	X	X	X
Fully distributed, scalable and highly-available	X	X	X	X	X	X		X
SQL-style querying	X		X		X		X	X
Support for multi-row, multi-table transactions	X		X				X	X
Storage of structured and unstructured data	X	X	X	X	X			
Suitable for highly-connected data	X		X					X
Suitable for time-series data analytics	X				X			
No need for complex back-end servers and APIs	X	X						
Online and offline data syncing	X	X				X		
Multitenancy support without backend servers	X	X						
Direct data querying from servers, browsers, and customer devices	X	X						
Real-time synchronisation of data with end-user devices	X	X						
In-built permissions for secure connections direct from end-user devices	X	X						
Available as a Backend-as-a-Service	X	X		X		X		



Market validation...

- ⬡ GoInstant – sold to Salesforce for \$70m in 2012
- ⬡ Parse – sold to Facebook for \$85m in 2013
- ⬡ Firebase – sold to Google in 2014, now available as a Database-as-a-Service
- ⬡ FoundationDB – sold to Apple in 2015
- ⬡ OrientDB – sold to CallidusCloud and SAP in 2019, now available as a Database-as-a-Service
- ⬡ CockroachDB – raised \$355.1M over 7 rounds, with a current valuation of \$2B+
- ⬡ Neo4j – raised \$515.1M over 9 rounds, with a current valuation of \$2B+



Growth strategy...

Community building

- Online forums and communities, including Hacker News, Product Hunt, Indie Hackers
- Running in-person meetups and hackathons
- Speaking at third-party meetups (Ember.js, Angular.js, React.js, Vue.js, NoSQL, Golang, Rust)
- Injecting SurrealDB within the RethinkDB / OrientDB / Parse communities

Marketing

- Product demonstration videos, demonstrating the ease-of-use of building an app using SurrealDB
- Podcasts and review sites
- DevTech influencers
- Content generation, including blog posts

Product development

- Launch super-simple user-interface to help users with getting started on the database
- Database connector SDKs for Python, Angular.js, React.js, and Vue.js (Javascript, Ember.js, Golang already supported)
- Syncing mechanism to pull data from traditional PostgreSQL and MySQL databases -enabling developers to get started quickly and easily



The team...



Tobie Morgan Hitchcock

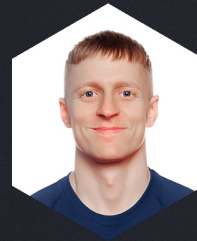
University of Oxford, Software Engineering MSc

Distinction Masters Thesis on the subject of SurrealDB

15 years of experience building advanced cloud applications

Founder of Brandsafe + Hire Insight

Extensive experience with DynamoDB, MongoDB, OrientDB, CockroachDB, RethinkDB, Firebase, MySQL



Jaime Morgan Hitchcock

Warwick University, History of Art BA

Board director of British Para Table Tennis

Founder of Wisque

Expertise lies in designing breathtakingly simple user interfaces for complex problems



Our advisors...

Nick Lavezzo

Co-founder and former COO FoundationDB

Currently advisor and investor to multiple startups

Michael Walter

Former worldwide Marketing Director Dunhill Plc.

Former Managing Director Aquascutum Plc.

Awarded Queen's Award to Industry for marketing five times

David Walter

Former KPMG Partner, and head of UK marketing

Non-executive director at Holiday Extras Ltd.

Thomas Cope

Head of Product Security at Ava Security

Former IBM Cloud Cyber Security Architect

Specialism within cloud and DevSecOps (Docker, Kubernetes)

CiSSP and CompTIA Security+ certified



Frequently asked questions...

What is SurrealDB written in?

SurrealDB prototype was written in Golang. We learnt a lot from the issues with using Golang, and built the next version in Rust.

Is it quick?

Definitely! Built in Rust, it's designed from the get-go to be quick. Predefined views can be used for super-quick analytics queries, and graph relations enable connections between data records to be traversed at lightning speed.

Is it distributed?

SurrealDB nodes sit on top of a distributed underlying KV store, which enables it to be globally distributed. SurrealDB can also be used with RocksDB for single-node, or embedded use-cases.

Does it support transactions?

Yes. We've hated working with databases which don't support transactions. SurrealDB has full multi-row, multi-table ACID transaction support.

Is it secure?

SurrealDB allows for each application to specify its own expressive permissions depending on developers' needs. Permissions can be as open or as closed as desired. All data access is run through these permissions, preventing traditional database attacks such as SQL injection.

Can I run queries from the client?

SurrealDB enables applications to run the SQL queries they need directly from the client devices. Want to pull one record, or run analytics queries over the whole dataset? No problem!

How do I connect to SurrealDB?

Connections to SurrealDB are done over WebSockets. This bi-directional connection enables live queries and collaborative editing of data to be pushed both ways for a real-time view of data as it changes.



Technical specifications...

- ⬡ Highly-scalable, and highly-available distributed database system
- ⬡ Available as a hosted database-as-a-service
- ⬡ Able to be run locally, co-located, or self-hosted
- ⬡ Runs on Linux, Mac, Windows, and Docker
- ⬡ Built with Golang and Rust
- ⬡ Data consistency guarantees with multi-row, multi-table database transactions
- ⬡ Indexes, and incrementally computed views for efficient analytics workloads
- ⬡ Graph data relationships for highly efficient connected data querying (no table joins required)
- ⬡ In-built query permissions, and flexible authentication scopes for secure access from browsers and end-user devices



Example use cases...



Shorehill Golf Golf course analytics

No backend code or servers

Ad-hoc analytics queries over millions of data points

Connected and geospatial queries (find the 3rd shot from this shot, where the current shot is located in a particular area)



Brandsafe Digital Asset Management

No backend code or servers

Advanced permissions for asset access and visibility settings

Automatic security audit trails for understanding access and usage

Collaborative real-time editing of documents

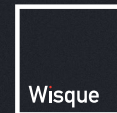


Hire Insight All-in-one platform for exec search

No backend code or servers

Full-featured CRM with multi-tenant separation of data

Complex relationship analysis surrounding contacts, organisations, and in-and-outbound communications



Wisque Ecommerce site for prints and cards

75m database queries each month

No custom database or servers

Google Cloud Functions and AWS Lambda used for processing payments



SurrealDB

www.SurrealDB.com