

# AI-Native Distributed SQL Database

## About TiDB

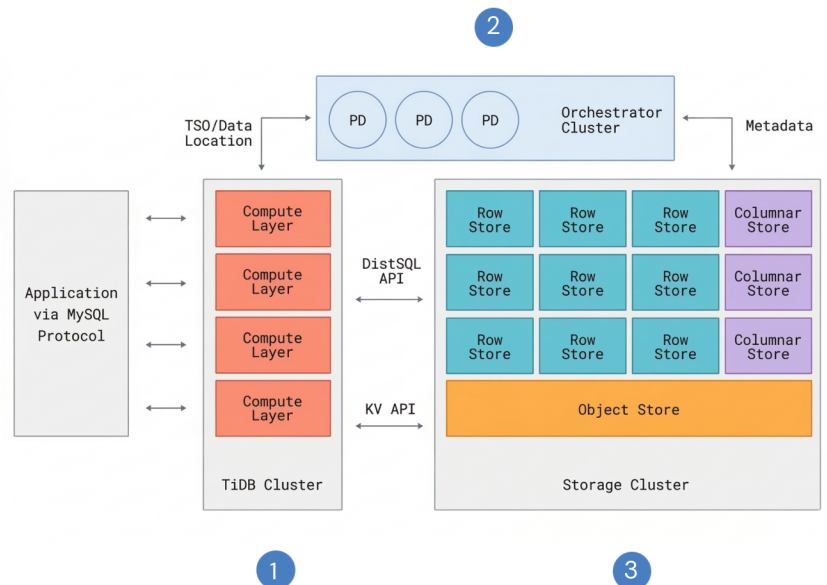
TiDB is built for agentic workloads that grow unpredictably, with ACID guarantees and native support for transactions, analytics, and vector search. No data silos. No noisy neighbors. No infrastructure ceiling.

- **Unified engine:** One engine replaces your vector store, warehouse, and transaction layer — SQL, analytics, and vector search with strong ACID consistency.
- **Elastic scale:** Autoscaling adapts to agent workloads automatically — from zero to peak, with dedicated throughput per agent.
- **Agentic memory & consistent state:** Purpose-built for agent memory, state, and multi-hop reasoning. Agent state stays ACID-consistent from one workflow step to the next.
- **Developer ready:** Build with the tools and syntax your agents and developers already know. MCP, pytidb, LangChain, and LlamaIndex integrations out of the box — plus *mem9* and *drive9* from the TiDB ecosystem.

## How TiDB Works

TiDB's cloud-native distributed SQL architecture is built for the AI era. Core layers:

- 1 **Compute layer:** A stateless SQL layer that's MySQL compatible and decouples compute from storage to simplify scaling. Each node can take both reads and writes.
- 2 **PD cluster:** A cluster manager that dynamically balances the data load in real time while mitigating hotspots and providing for the implementation of customized scheduling policies.
- 3 **Storage layer:** A distributed storage engine that offers built-in high availability and strong ACID consistency that can auto-scale to hundreds of nodes and petabytes of data.



## Security, Compliance & Certifications



## Use Cases

The Database for Production AI — TiDB Cloud on AWS unifies SQL, analytics, and vector search in one engine, with strong ACID consistency, MySQL compatibility, and elastic TB-to-PB scale.

- **Database for agentic AI:** Purpose-built for agent memory, state, and multi-hop reasoning. Power stateful agents that maintain context and operate reliably across multi-step workflows.
- **Vector search & RAG:** Build context-aware AI with semantic search, hybrid queries, and continuously fresh data — all in one database.
- **Modernize MySQL workloads:** Scale without limits on a distributed, MySQL-compatible database — zero-downtime schema changes and horizontal scale ready for anything.
- **Lower infrastructure costs:** Consolidate OLTP, OLAP, and vector workloads into one platform. Cut TCO, eliminate data silos, and run production AI without duct-taping databases together.

## Customer Success

See more customer stories at [tidb.io](https://tidb.io)


- **Manus:** Leading AI agent platform runs massive Context Engineering workloads on TiDB. Instant Branching and a unified data stack let Manus scale agents at extreme speed.
- **Flipkart:** Replaced 900 MySQL clusters with TiDB to overcome sharding complexity and scalability limits across India's largest e-commerce platform. This eliminated manual failover, reduced operational overhead, and enabled scaling to over 1 million QPS with zero downtime.
- **Pinterest:** Adopted TiDB to cut TCO by 80%, with a 50% reduction in hardware costs and 30% in engineering costs, while eliminating complex systems. This enabled hundreds of microservices to query three billion unique products at ultra-low latency.
- **Databricks:** Adopted TiDB to leverage horizontal scalability, decoupled compute and storage, and automated database operations. This delivered over 60% TCO savings while maintaining uninterrupted service across all environments for two years.





Built by PingCAP, TiDB powers unlimited scale for data-intensive businesses. Leading enterprises, SaaS providers, and digital-native companies rely on this distributed SQL database for PB-scale clusters, millions of tables, massive concurrency, and zero-downtime schema changes. With AI-native innovation and multi-cloud deployment on AWS, GCP, and Azure, TiDB delivers the agility, resilience, and security modern teams need.

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