



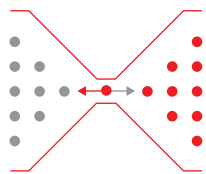
Toshiba GridDB™ NoSQL Database

Time Series Database that is Purpose-Built for Your IoT Needs

With billions of connected devices worldwide, the opportunities available in IoT and the big data it produces are innumerable. But the challenges can be significant, too. Toshiba's GridDB NoSQL Database has been specifically engineered to help you master those opportunities and challenges—and grow your business.

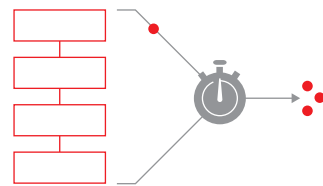
Discover...

An Innovative IoT-Specific Design



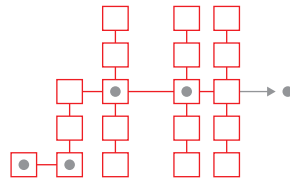
Generating enormous volumes of data every subsecond, and requiring absolute consistency across thousands of devices, IoT applications present unique challenges—ones that tax the limits of RDBMS and other NoSQL data models. Purpose-built for IoT, GridDB uses Toshiba's proprietary key-container data model that maintains consistency within a container, provides critical time-series data types and functions, and presents excellent performance.

High Performance



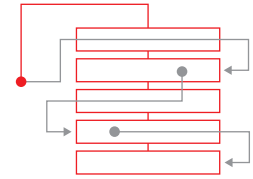
GridDB delivers better performance by surmounting I/O bottlenecks with a "memory first, storage second" design that retains critical data in memory and passes the rest to storage devices. This proprietary hybrid approach ensures that GridDB can manage large, persistent data volumes while delivering maximum performance—with average throughput 6x-10x higher and latency 3x-8x lower than a leading NoSQL database.¹

High Scalability



To provide the expandability IoT applications need, GridDB easily scales out to up to 1,000 nodes per cluster on commodity hardware. Yet it still maintains excellent performance, allowing nodes to be added on the fly without interrupting service. It does this while offering strong performance, data consistency and ACID-transaction guarantees at the container level.

High Availability & Reliability



By replicating data automatically in a clustered system, GridDB eliminates the risk of a single point of failure events, such as network partition and node failures. Its autonomous control cluster architecture also avoids the classic distributed computing problem of "split brain," integrating the advantages and removing the disadvantages of both master-slave and peer-to-peer approaches.

More GridDB benefits on the reverse →



Connect to unlimited IoT potential—with Toshiba GridDB

GridDB is purpose-built to help you master IoT opportunities, whatever your industry—transportation, manufacturing, utilities, consumer products and many others. It features an ingenious key-container model and time-series capabilities that deliver an unmatched combination of performance, scalability, availability and reliability.

Experience world-class Toshiba innovation

What makes GridDB superior to other IoT database solutions? Toshiba innovation. GridDB is purpose-built from the ground up for IoT. Reliability and security are central to its design that eliminates single point of failure, providing users the utmost in confidence. Plus, it can handle everything from small to massive data payloads while delivering excellent performance. For these and many other reasons, GridDB is superior to any other industrial-grade IoT database.

GridDB delivers average throughput 6x–10x higher and latency 3x–8x lower than that of a competing NoSQL database.¹

Groundbreaking Feature Set

- Supports Time Series, geometry and BLOB data types, plus temporal-based queries
- Hybrid in-memory and disk architecture optimized for max performance
- Scales linearly and horizontally as high as up to 1,000 nodes per cluster on commodity hardware
- Advanced master-slave model eliminates SPOF and split brain
- Autonomous data distribution prevents data loss
- ACID transactions guaranteed at the container level
- Integrates with big-data products like Hadoop MapReduce, Spark & Kafka
- Native interfaces to Java®, C, Ruby, Python 2/3
- Rolling updates so that you can patch or update when the system is still running
- Flexible data management

Let Toshiba GridDB power your next IoT success.
griddb.toshiba.com

Features	Standard Edition	
Software Support	Maintenance release	
	Bug fixes, patches	•
	Rolling updates	
Basic	Distributed data management	•
	Transaction management	•
Types of data	Key-value data	•
	Time-series data	•
	Space (geometry) data	•
Query language	TQL (SQL-like query language)	•
Scale-out	Offline expansion	•
	Online expansion	•
Persistence	In-memory / disk combination	•
	Java®	•
API	C	•
	Ruby	•
	Python 2/3	•
	Offline backup	•
	Online backup	•
Operational / Administrative	Export / Import	•
	Differential backup function	•
	Management GUI	•
	Status acquisition	•

Multiply your IoT possibilities

Major companies around the globe are already providing breakthrough IoT solutions by harnessing the power of Toshiba's GridDB NoSQL Database. Don't risk your next project to anything less. Take advantage of our global presence plus world-class technology and expertise to help you realize the potential of your next project.



1. Based on Yahoo Cloud Serving Benchmark (YCSB)