DBMS > Apache IoTDB vs. InfluxDB vs. TDengine

System Properties Comparison Apache IoTDB vs. InfluxDB vs. TDengine

Please select another system to include it in the comparison.

Editorial information provided by DB-Engines

Name	**Apache IoTDB** X	**InfluxDB** X	**TDengine** X
Description	An IoT native database with high performance for data management and analysis, deployable on the edge and the cloud and integrated with Hadoop, Spark and Flink	DBMS for storing time series, events and metrics	Time Series DBMS and big data platform
Primary database model	Time Series DBMS	Time Series DBMS	Time Series DBMS
Secondary database models		Spatial DBMS	Relational DBMS
DB-Engines Ranking Trend Chart	Score 1.19 Rank #183 Overall #15 Time Series DBMS	Score 26.89 Rank #28 Overall #1 Time Series DBMS	Score 2.63 Rank #116 Overall #9 Time Series DBMS
Website	iotdb.apache.org	www.influxdata.com/products/-influxdb-overview	github.com/taosdata/TDengine tdengine.com
Technical documentation	iotdb.apache.org/UserGuide/-Master/QuickStart/-QuickStart.html	docs.influxdata.com/influxdb	docs.tdengine.com
Developer	Apache Software Foundation		TDEngine, previously Taos Data
Initial release	2018	2013	2019
Current release	1.1.0, April 2023	2.7.5, January 2024	3.0, August 2022
License	Open Source	Open Source	Open Source
Cloud-based only	no	no	no
DBaaS offerings (sponsored links)			
Implementation language	Java	Go	C
Server operating systems	All OS with a Java VM (>= 1.8)	Linux OS X	Linux Windows
Data scheme	yes	schema-free	yes
Typing	yes	Numeric data and Strings	yes
XML support	no	no	no
Secondary indexes	yes	no	no
SQL	SQL-like query language	SQL-like query language	Standard SQL with extensions for time-series applications
APIs and other access methods	JDBC Native API	HTTP API JSON over UDP	JDBC RESTful HTTP API
Supported programming languages	C C# C++ Go	.Net Clojure Erlang Go	C C# C++ Go

	Java Python Scala	Haskell Java JavaScript JavaScript (Node.js) Lisp Perl PHP Python R Ruby Rust Scala	Java JavaScript (Node.js) PHP Python Rust
Server-side scripts	yes	no	no
Triggers	yes	no	yes, via alarm monitoring
Partitioning methods	horizontal partitioning (by time range) + vertical partitioning (by deviceId)	Sharding	Sharding
Replication methods	selectable replication methods; using Raft/IoTConsensus algorithm to ensure strong/eventual data consistency among multiple replicas	selectable replication factor	yes
MapReduce	Integration with Hadoop and Spark	no	
Consistency concepts	Eventual Consistency Strong Consistency with Raft		
Foreign keys	no	no	no
Transaction concepts	no	no	
Concurrency	yes	yes	yes
Durability	yes	yes	yes
In-memory capabilities	yes	yes	
User concepts	yes	simple rights management via user accounts	yes

More information provided by the system vendor

	Apache IoTDB	InfluxDB	TDengine
Specific characteristics		InfluxData is the creator of InfluxDB , the open source time series database. It... » more	TDengine™ is a next generation data historian purpose-built for Industry 4.0 and... » more
Competitive advantages		Time to Value InfluxDB is available in all the popular languages and frameworks,... » more	High Performance at any Scale: TDengine is purpose-built for handling massive industrial... » more
Typical application scenarios		IoT & Sensor Monitoring Developers are witnessing the instrumentation of every available... » more	TDengine is designed for Industrial IoT scenarios, including: Manufacturing Connected... » more
Key customers		InfluxData has more than 1,900 paying customers, including customers include MuleSoft,... » more	
Market metrics		Fastest-growing database to drive 25,500 GitHub stars Over	TDengine has garnered over 22,500 stars on GitHub and is

		750,000 daily active instances » more	used in over 50 countries... » more
Licensing and pricing models		Open source core with closed source clustering available either on-premise or on... » more	TDengine OSS is an open source, cloud native time series database. It includes built-in... » more
News		Tale of the Tape: Data Historians vs Time Series Databases 13 March 2024 Mastering Time Series Data Querying: New InfluxDB University Courses on SQL and InfluxQL 11 March 2024 Powering the Future: How ju:niz Energy Leveraged InfluxDB to Optimize Renewable Energy Systems 8 March 2024 An Introduction to Microservices Monitoring—Strategies, Tools, and Key Concepts 6 March 2024 Telegraf Configuration Migration 4 March 2024	Modernize Your Wonderware Sites with TDengine 12 March 2024 TDengine 3.2.3.0 Release Notes 5 March 2024 Monitor Your TDengine Deployment with TDinsight 25 January 2024 Unlock the Value of Your Data with Power BI 23 January 2024 Nevados Streamlines Solar Tracker Data Operations with TDengine 10 January 2024

We invite representatives of system vendors to contact us for updating and extending the system information, and for displaying vendor-provided information such as key customers, competitive advantages and market metrics.

Related products and services

We invite representatives of vendors of related products to contact us for presenting information about their offerings here.

More resources

	Apache IoTDB	InfluxDB	TDengine
DB-Engines blog posts		Why Build a Time Series Data Platform? 20 July 2017, Paul Dix (guest author) Time Series DBMS are the database category with the fastest increase in popularity 4 July 2016, Matthias Gelbmann Time Series DBMS as a new trend? 1 June 2015, Paul Andlinger show all	
Recent citations in the news	Linux 6.5 With AMD P-State EPP Default Brings Performance & Power Efficiency Benefits For Ryzen Servers 21 September 2023, Phoronix	How Apache Arrow accelerates InfluxDB 21 November 2023, InfoWorld Install the InfluxDB Time-Series	TDengine Expands Industrial Data Source Support with Wonderware Historian Connector 12 March 2024, China Money Network

21 September 2023, Phoronix

AMD EPYC 8324P / 8324PN Siena 32-Core Siena Linux Server Performance Review
10 October 2023, Phoronix

IoTDB Provides Data Management for Industrial Edge IT
15 October 2020, The New Stack

Intel Xeon Max Enjoying Some Performance Gains With Linux 6.6
12 October 2023, Phoronix

Apache Promotes IoT Database Project
25 September 2020, Datanami

provided by Google News

Database on Ubuntu Server 22.04
21 October 2023, The New Stack

Time-series database startup InfluxData debuts self-managed version of InfluxDB
6 September 2023, SiliconANGLE News

Inside InfluxDB 3.0: Exploring InfluxDB's Scalable and Decoupled Architecture
15 August 2023, InfoQ.com

InfluxData apologizes for deleting cloud regions without performing 'scream test'
11 July 2023, The Register

provided by Google News

Network

TDengine Supercharges Industrial Data Processing with New OPC-UA, OPC-DA, and MQTT Connectors
11 October 2023, GlobeNewswire

Startups of the Year 2023: TDengine - A Open-Source Time-Series Database
17 August 2023, hackernoon.com

TDengine named Top Global Industrial Data Management Solution
4 January 2024, IT Brief Australia

TDengine debuts cloud-based time-series data processing platform for IoT deployments
20 September 2022, SiliconANGLE News

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