

TencentDB for DBbrain

Product Introduction

Product Documentation



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Product Introduction

Overview

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TencentDB for DBbrain (DBbrain) is a database self-management service provided by Tencent Cloud, helping you with database management, and the optimization of performance and security.

It leverages machine learning and big data technologies to replicate the best industry practices and automate manual database OPS tasks, ensuring the security, stability and efficiency of your database services, both in and off the cloud.

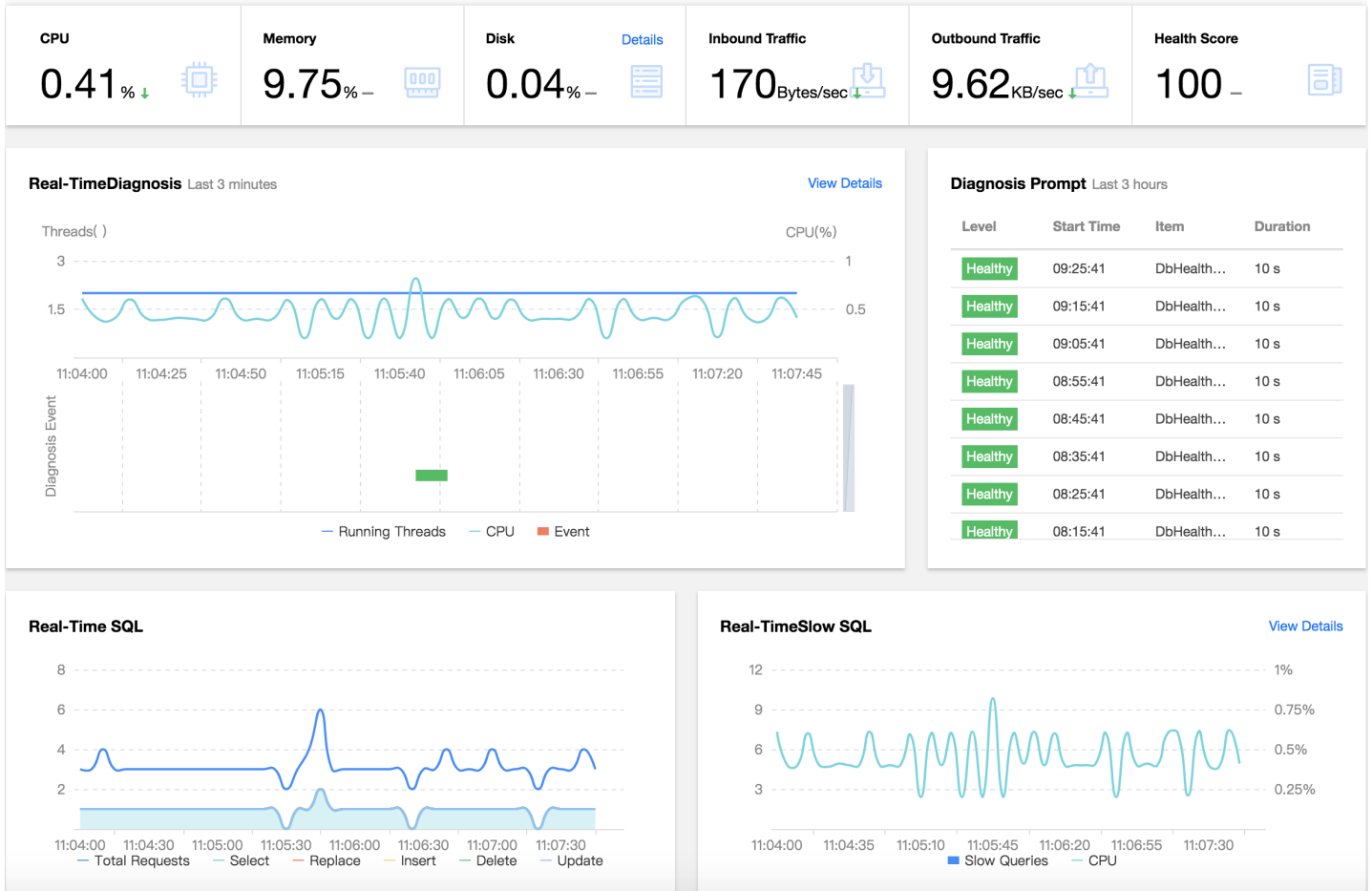
Key Features

- **Intelligent optimization:** By leveraging machine learning and big data, DBbrain can quickly replicate the best industry practices and automate a large number of database diagnosis and optimization tasks, which facilitates the operations of your database services both on and off the cloud.
- **Security protection:** DBbrain provides multiple data security services for user behavior, SQL statements, and data storage encryption. DBbrain is also compliant with cybersecurity classified protection requirements.
- **Database management:** DBbrain provides an installation-free, OPS-free, and out-of-the-box web database management platform that supports multiple database types and environments.

Benefits of DBbrain

- **Improved database stability**
 - Your database is under 24/7 autonomous protection. On call personnel is not needed.
 - DBbrain can intelligently detect exceptions and perform corresponding optimization in real time, improving the self-healing capabilities of your databases.
 - Health checks are performed to reduce risk and prevent problems.
- **Improved management efficiency**
 - Intelligent services are conveniently provided for your use, effectively shortening the OPS response time.
 - DBbrain offers unified multidimensional batch management to help you easily manage a massive amount of instances.
- **Enhanced database security**
 - Data encryption and CCPCS-compliant protection ensure your databases operate securely.
 - Standardized and normalized operations reduce the number of required server logins and thus minimize the probability of faulty operations.
 - Audit logs of all operations are retained for future review.
- **Reduced OPS costs**

- DBbrain enables one-click OPS management operations and performance optimization, which greatly reduce OPS costs.
- DBbrain enables proactive failure location and intelligent optimization, which greatly reduce the threshold of database OPS management.



Features

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Intelligent optimization

Note :

Included features: Exception diagnosis, real-time session, slow SQL analysis, space analysis, SQL optimization, audit log analysis (formerly SQL Pivot), key analysis (for Redis only), tiered delayed request type distribution, and health report.

DBbrain provides intelligent analysis for database instances throughout the Ops lifecycle, helping you intuitively understand their real-time operating statuses. You can also locate exceptions in real time, and optimize your system based on suggestions.

Intelligent optimization consists of the following features:

- **Intelligent check**

Intelligent check routinely performs health checks on database reliability, availability, performance, and maintainability, while generating optimization suggestions accordingly. You can get a full picture of the operating status of database instances, and troubleshoot problems to improve performance.

- **Intelligent monitoring**

Intelligent monitoring offers more focused monitoring dimensions and metric combinations by integrating the best practices of TencentDB technical experts. It can display the performance of TencentDB instances intuitively, while featuring real-time monitoring metrics.

- **Intelligent diagnosis**

Intelligent diagnosis diagnoses and analyzes database exceptions 24/7 in real time based on metric data collected by intelligent monitoring. For performance issues, it provides optimization measures with regard to specification configuration, SQL analysis, business logic, and usage by analyzing the results from SQL query optimizer, performance analysis engine, and rules engine.

- **Intelligent alarm**

Intelligent alarm adapts to your custom alarms and intelligently diagnose potential exceptions and risks. It can notify you of the exception promptly, provide optimization suggestions, and support automatic quick fix.

- **Intelligent optimization**

Intelligent optimization analyzes the performance problems of SQL statements, gives optimization suggestions, and provides SQL rewriting capabilities. It can also help you better understand the causes and details of performance differences through visual execution plans.

Database management

Note :

Included features: Instance overview, instance management, full instance monitoring, and database management center (DMC).

DBbrain features a unified management platform that supports user-level database management, monitoring, and visual interaction. It can reduce your management cost by over 50% and greatly improve the Ops efficiency.

Strengths

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Real-time diagnosis and optimization

DBbrain provides 24/7 diagnosis of database exceptions based on real-time information, ensuring their timely detection and troubleshooting. This helps build a new database health protection mechanism that features regular check, proactive detection, instant analysis and optimization.

Security and efficiency

With non-intrusive design and encrypted transfer, it will not impact the database environment and performance.

Measurable optimization

DBbrain provides highly accurate data collection, exception analysis, diagnosis and optimization. Its suggestions are based on theoretical analysis of exceptions, and comparisons with the simulated optimization results. You can gauge the optimization effect more precisely.

Versatility

DBbrain supports relational, NoSQL, NewSQL and many other types of databases, making it suitable for both in and off-cloud databases. It offers diagnosis and analysis not only for database instances in Tencent Cloud, but also those deployed in other clouds or on-premise databases, which facilitates hybrid cloud database management.

One-tap mobile management

DBbrain can be used on mobile devices through the WeChat Mini Program ecosystem. You can easily track, manage and optimize your databases anytime, anywhere.

AI support

DBbrain is backed by Tencent Cloud's deep learning algorithms and training environments with high numbers of samples. Its services include automated optimization of database performance, highly accurate threat analysis, security governance suggestions, and more.

Use Cases

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Daily database OPS

DBbrain provides 24/7 database exception detection, diagnosis, analysis, and intelligent alarm service. It also features recommendations, one-click optimization, AI-powered automatic optimization of database performance, and optimal configurations based on your business characteristics to greatly improve OPS efficiency.

Security threat identification

Backed by Tencent Cloud's deep learning algorithms and training environments, DBbrain can monitor and trigger alarms for various types of attacks and risky operations. Based on data asset and sensitive data discovery information, it can trigger alarms and rate security levels for users, behaviors, and data that severely deviate from the models. This helps administrators discover malicious operations and provides more accurate threat analysis as well as security governance suggestions for database operations.

Hybrid cloud database management

DBbrain is suitable for both in-cloud and off-cloud database scenarios. It provides diagnosis and optimization not only for database instances in Tencent Cloud, but also those deployed in other clouds or on-premise databases. It adopts a non-intrusive design and protected data transfer to ensure security, helping you build a unified platform for hybrid cloud database management.

Mobile database OPS

DBbrain is integrated within the WeChat Mini Program ecosystem and accessible on both PCs and mobile devices. Features such as mobile alarms, daily health report subscription, exception diagnosis, and one-tap optimization are available on mobile devices for your convenience.

Feature List

Last updated : 2021-04-02 16:39:19

Currently, TencentDB for DBbrain is supported for TencentDB for MySQL (excluding the basic single-node instances).

Features		TencentDB for MySQL
Database management	Instance overview	✓
	Instance management	✓
Monitoring and alarms	Database inspection	✓
	Exception alarms	✓
	Monitoring dashboards	✓
	Full instance monitoring	✓
Diagnosis and optimization	Exception diagnosis	✓
	Performance trends	✓
	Real-time sessions	✓
	SQL throttling	✓
	Hotspot update protection	✓
	Slow SQL analysis	✓
	Space analysis	✓
	SQL optimization	✓
	Audit log analysis	✓
	Health reports	✓
Database security	Sensitive data discovery	✓
	Data masking	✓
	Compliance audit	✓
	Security governance	✓

Features		TencentDB for MySQL
Message notification	Alarm notification	✓
	Health reports email push	✓

Region List

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DBbrain is currently supported for TencentDB for MySQL (excluding basic single-node instances), TDSQL-C for MySQL, self-built MySQL, TencentDB for Redis, and TencentDB for MongoDB.

Region	TencentDB for MySQL	TDSQL-C for MySQL	Self-Built MySQL	TencentDB for Redis	TencentDB for MongoDB
China	Guangzhou, Shenzhen, Beijing, Shanghai, Nanjing, Hangzhou, Tianjin, Chengdu, Chongqing, and Hong Kong	Guangzhou, Shenzhen, Beijing, Shanghai, and Nanjing	Guangzhou, Beijing, Shanghai, and Chengdu (the DBbrain service is deployed in Chengdu. If your database doesn't reside in any of the above regions, we recommend you choose a nearby region.)	Guangzhou, Shenzhen, Beijing, Shanghai, Nanjing, Tianjin, Chengdu, Chongqing, and Hong Kong	Guangzhou, Shenzhen, Beijing, Shanghai, Nanjing, Tianjin, Chengdu, Chongqing, and Hong Kong
Other countries/regions	Singapore, Bangkok, Mumbai, Seoul, Tokyo, Silicon Valley, Virginia, Toronto, Frankfurt, Moscow	Tokyo, Silicon Valley, Virginia, Frankfurt	-	Singapore, Bangkok, Mumbai, Seoul, Tokyo, Silicon Valley, Virginia, Toronto, Frankfurt, Moscow	Singapore, Bangkok, Mumbai, Seoul, Tokyo, Silicon Valley, Virginia, Toronto, Frankfurt, Moscow