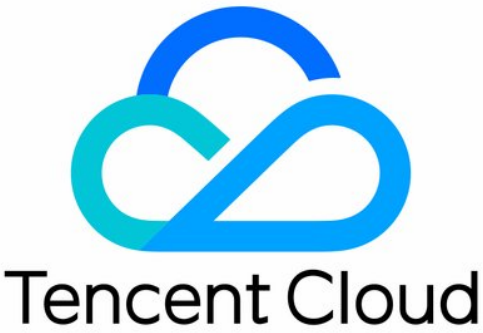
TencentDB for SQL Server

Product Introduction

Product Documentation



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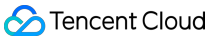

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Product Introduction

Overview

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TencentDB for SQL Server is licensed by Microsoft to continuously provide you with the latest features, so you can avoid any risks arising from unauthorized software use. It features out-of-the-box usage, high stability, reliability, and security, elastic scaling, data security protection, and failover in seconds, allowing you to focus on application development.

Note：

As one of the earliest commercial database products, SQL Server supports complex SQL queries with excellent performance. Thanks to its comprehensive support for applications based on the Windows .NET Framework, it is widely used in such fields as government services, finance, healthcare, retail, education, and gaming.

Deployment Architecture

TencentDB for SQL Server supports two deployment architectures:

Single-node (formerly Basic Edition)

It is deployed on a single node and based on premium cloud disks, with computing and storage separated.

Two-node (formerly High Availability/Cluster Edition)

SQL Server 2008 R2, 2012, 2014, 2016 Enterprise/Standard: The primary/replica architecture of a two-node instance consists of one primary database and one mirror database deployed across racks/AZs.

SQL Server 2017c2019 Enterprise/Standard, 2022 Enterprise: The primary/replica architecture of a two-node instance adopts the Always On architecture, including one primary and one replica deployed across racks/AZs by default.

Isolation Policy

TencentDB for SQL Server single-node (cloud disk) and two-node (cloud disk) instances are deployed based on CVM, where each instance has dedicated CPU, memory, and disk resources in one CVM instance and different instances are completely isolated from each other.

TencentDB for SQL Server two-node (local disk) instances are deployed based on local physical machines. Each physical machine sustains multiple instances and adopts isolation policies to ensure the complete isolation between different instances with dedicated CPU, memory, and disk resources.

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In addition, TencentDB for SQL Server also implements corresponding data isolation policies in multiple dimensions such as account, region, AZ, and network.

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Product Architecture
Single Node (Formerly Basic Edition)

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SQL Server supports two deployment architectures: single node and two-node. This document elaborates on the single node architecture.

Supported Versions

SQL Server 2008 R2, 2012, 2014, 2016, 2017, 2019, and 2022 Enterprise.

Architecture

The single node architecture is deployed using a solitary node, offering an affordable solution with impressive cost-effectiveness. Its distinguishing features include:
Decoupling of computational and storage units allows for quick recovery by switching nodes in case of computational node failures. The underlying data is stored in triplicate on cloud disks, ensuring reliable data safeguarding. In the event of disk failures, rapid restoration is made possible through disk snapshot mode.
Offering over 20 monitoring metrics, such as database connections, access, and resource usage, the single node architecture supports setting up corresponding warning strategies. This is considerably more convenient compared to a self-built CVM while also offering significant cost advantages. Deployed on a CVM, the database performance provided by a single node is superior than a user-built system.
The single node architecture leverages premium cloud disks as its underlying storage medium, making it suitable for 90% of I/O scenarios. This attribute coupled with its reliable performance and cost-effectiveness highlights its quality and value.

Note：

Single-node instances are suitable for personal learning, small-to-medium sized enterprise's ISV software (such as financial, CRM, ERP etc. software clients), web-based applications, non-core small enterprise systems, and TEST-IMAGE environments.
As the single node architecture comprises a singular node, the recovery time following a node failure would be slightly longer than a CVM, as this process involves instance startup and data restoration.
For businesses requiring high availability, it is recommended to use two-node instances (formerly High Availability/Cluster Edition).

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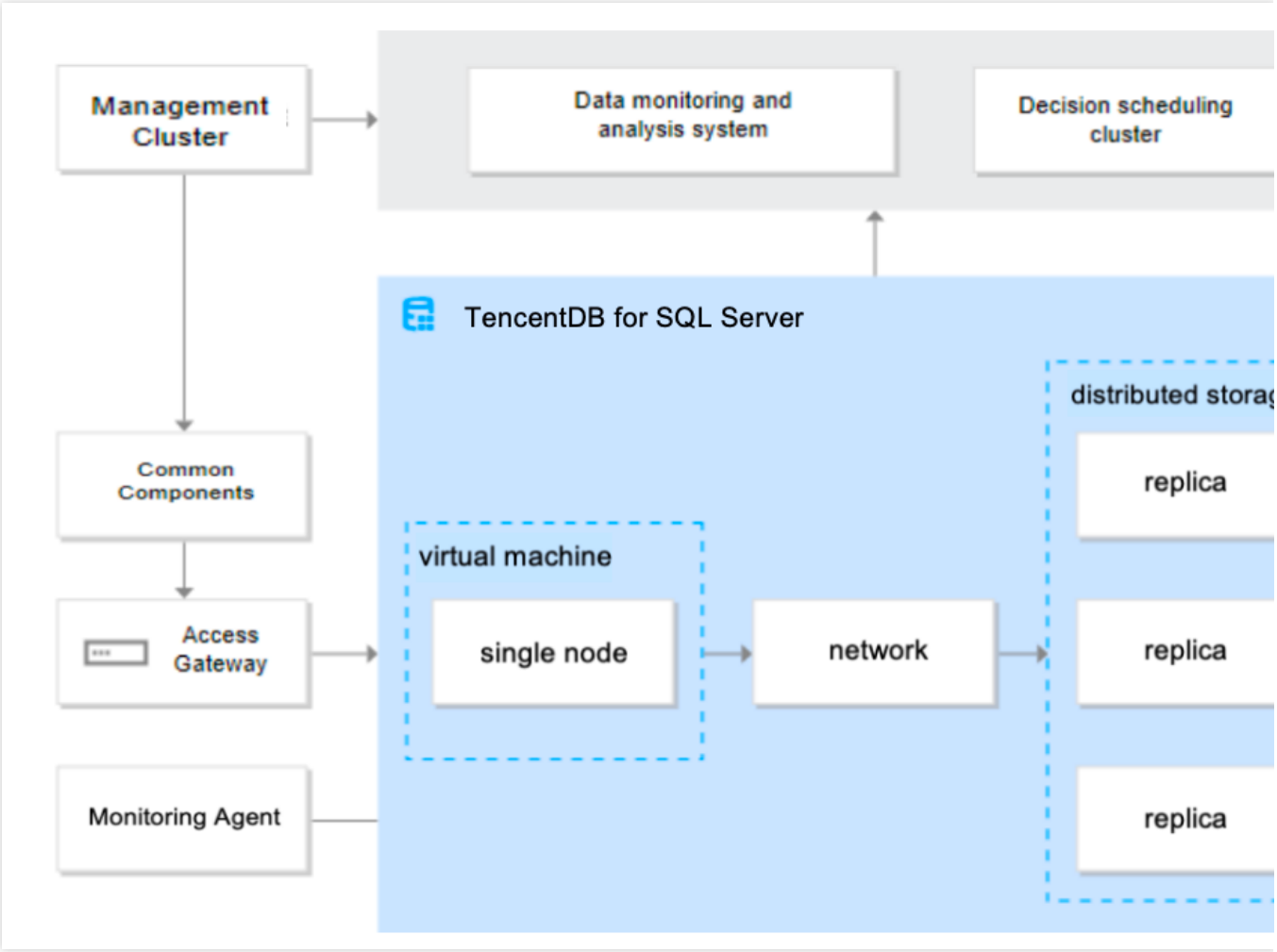

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Two-Node (Formerly High Availability/Cluster Edition)

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TencentDB for SQL Server two-node instances support SQL Server 2008 R2, 2012, 2014, 2016, 2017, 2019 Enterprise, The versions supported by the dual-node cloud disk instance encompass SQL Server 2008 R2, 2012, 2014, 2016, 2017, 2019, and 2022 Enterprise.The primary/replica architecture varies by version in the following two scenarios.

Scenario 1

SQL Server 2008 R2, 2012, 2014, 2016 Enterprise: The primary/replica architecture of a two-node instance consists of one primary database and one mirror database deployed across racks/AZs. Each database corresponds to a monitoring agent that monitors the database through heartbeat in real time.
Tencent Cloud management cluster: It consists of the independently deployed decision-making and scheduling cluster as well as configuration cluster. As the management and scheduling hub of clusters, it manages the normal operations of database node groups, access gateway clusters, and COS.
COS: It provides data disaster recovery and cold backup services.
Access gateway cluster: It provides a unique IP externally, so that even if data nodes are switched, the IP for users to connect to the instance stays unchanged.
The scaling of read-only instances is implemented through the publish/subscribe model.
Note：
A mirror has a complete copy of data but does not provide read/write services by itself; instead, it implements data sync by receiving update logs from the principal and allows the creation of snapshots for reporting. In a mirror cluster, data sync between the principal and mirror relies on transaction logs. SQL Server's transaction logs are at the database level rather than instance level, and each database has separate transaction logs, so SQL Server mirroring is implemented at the database level.

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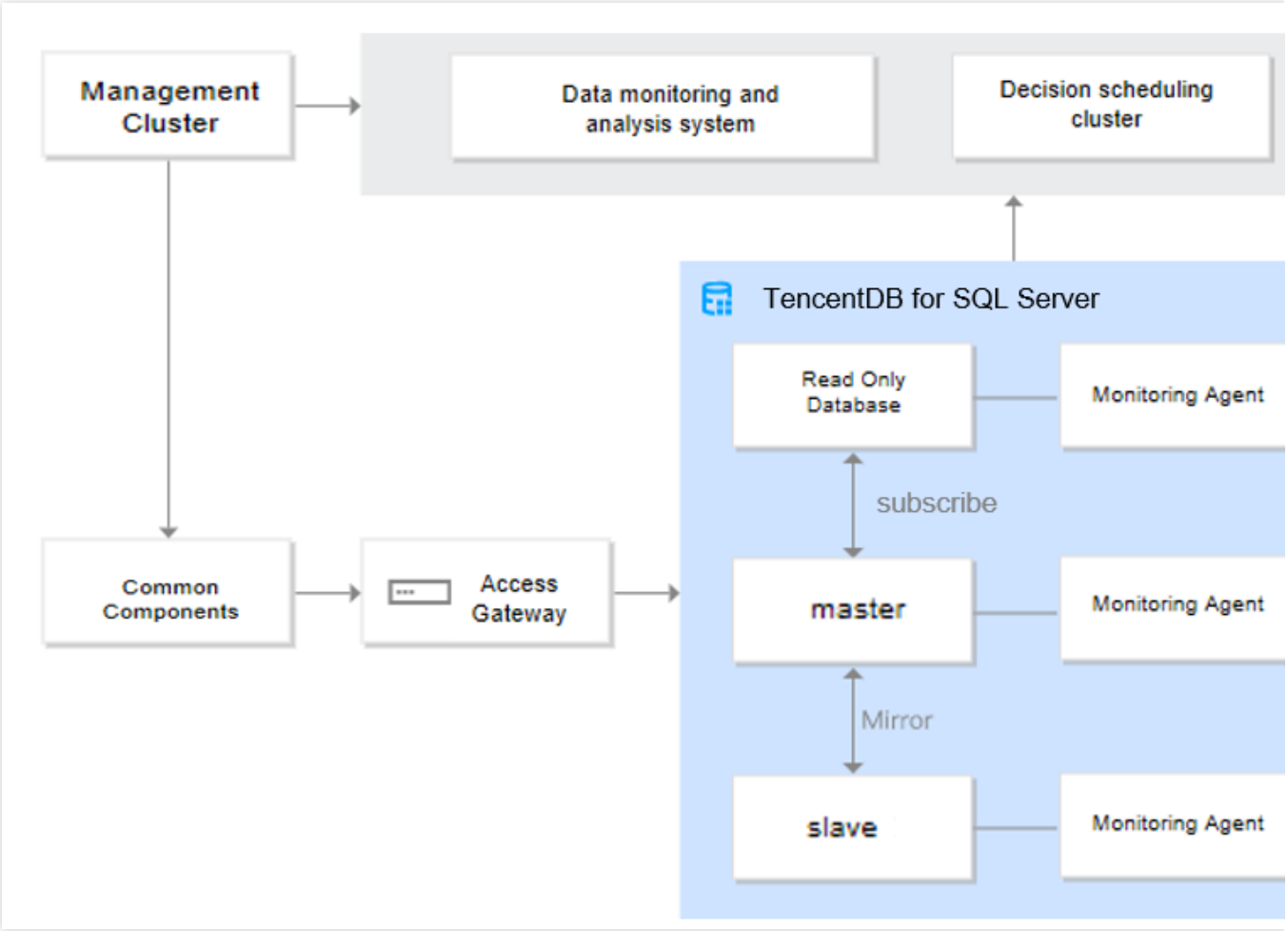

Scenario 2

SQL Server 2017, 2019, or 2022 Enterprise: The primary/replica architecture of a two-node instance adopts the Always On architecture, including one primary and one replica deployed across racks/AZs. Each database corresponds to a monitoring agent that monitors the database through heartbeat in real time.

Tencent Cloud management cluster: It consists of the independently deployed decision-making and scheduling cluster as well as configuration cluster. As the management and scheduling hub of clusters, it manages the normal operations of database node groups, access gateway clusters, and COS.

COS: It provides data disaster recovery and cold backup services.

Access gateway cluster: It provides a unique IP externally, so that even if data nodes are switched, the IP for users to connect to the instance stays unchanged.

Note：

Basic sync process of Always On:

The logs (commits and log block writes) of the primary node will be flushed from the log cache to the disk. At the same time, the Log Capture thread of the primary node will also send the logs to all other replica nodes, and the Log Receive threads of the corresponding nodes will also flush the received logs from the log cache to the disk. Eventually, the Redo thread flushes these logs to the data file.

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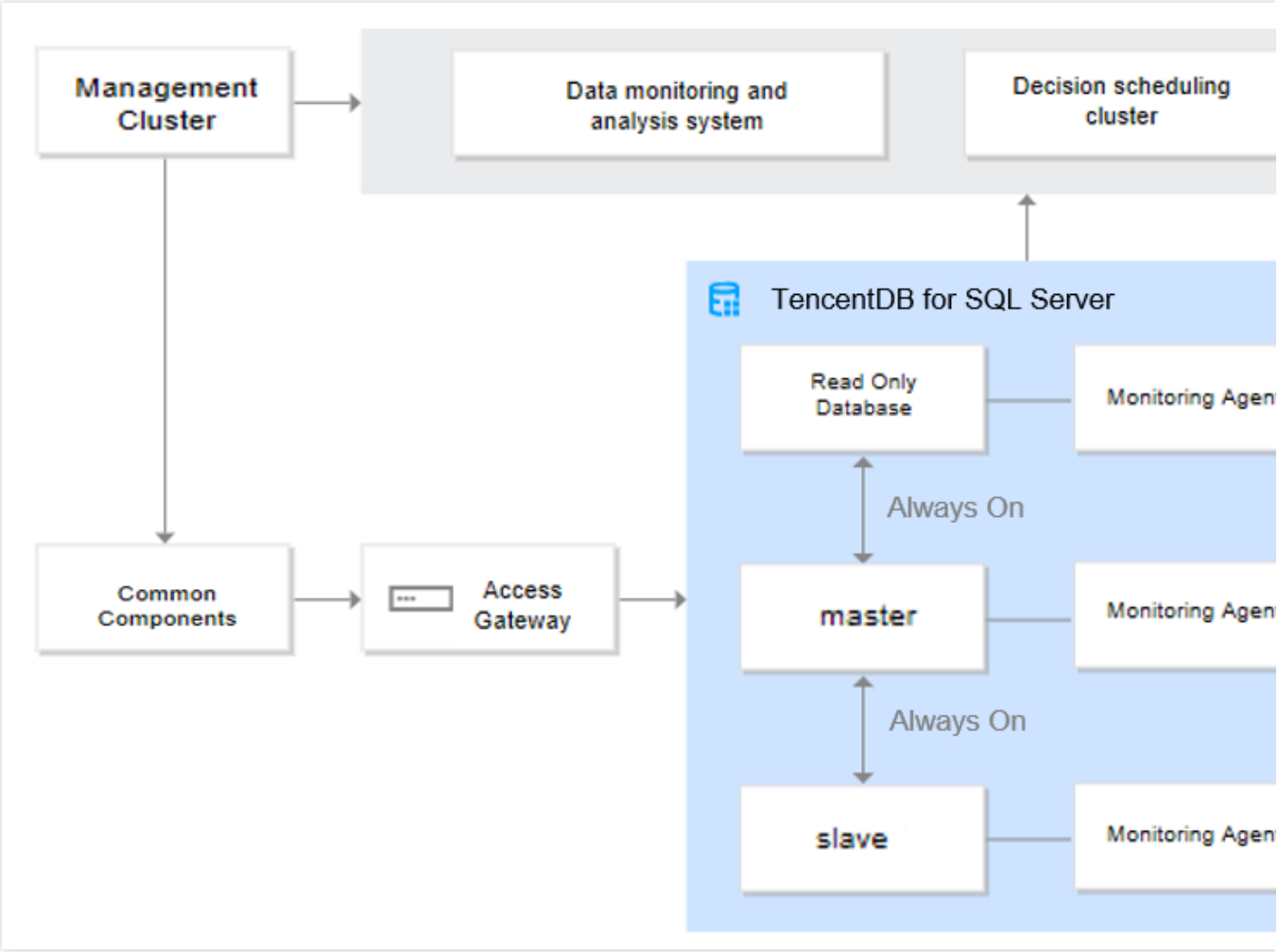

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Strengths

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Official license

Licensed by Microsoft, TencentDB for SQL Server continuously provides you with the latest features, helping you avoid the risks of using unauthorized software and enhancing the trustworthiness of your business in competitive markets.

High stability and reliability

TencentDB for SQL Server delivers a 99.9996% data reliability and 99.95% service availability. Its primary/replica two-node database architecture allows for switching from a faulty instance to a healthy one in a matter of seconds and enables automatic backup, so the database can be restored to a previous time point through rollback.

Best-in-class performance

TencentDB for SQL Server uses enterprise-grade PCI-E SSDs to deliver an industry-leading I/O throughput, outperforming self-built databases and supporting commercial-grade high-volume concurrent business requests.

Ease of management

Various management tasks can be finished with ease in the Tencent Cloud console or SQL Server Management Studio (SSMS), such as database management, permission configuration, and monitoring and alarming. This eliminates your concerns over database installation and Ops.

Performance monitoring

Dozens of key metrics can be viewed in the console, such as the number of connections and requests, disk I/O, and buffer hit rate, helping you comprehensively monitor database conditions and accurately understand the database load and system health.

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System alarming

User-defined resource threshold alarms are supported to help you discover database exceptions timely and resolve potential system problems quickly.

TencentDB for SQL Server's strengths over self-built SQL Server

Feature	TencentDB for SQL Server	Self-Built SQL Server
Service availability	For more information, see Service Level Agreement.	You have to guarantee the service availability and set up primary/replica replication and RAID capabilities on your own.
System security	Anti-DDoS is supported, and various database security vulnerabilities are fixed in time. The data security meets all mainstream national and international security standards.	You have to deploy security services and fix vulnerabilities on your own at high costs. Security compliance is not guaranteed, and the security requirements cannot be quickly met.
Database performance	High-performance devices with a TPM of up to 4.5 million are used. For more information, see Performance Test Report.	General devices without optimization and fine-tuning are used.
Software and hardware investment	No hardware or software investment is required, and the service is pay-as-you-go.	Database servers are costly.
System hosting	There are no hosting fees.	The hosting fees are high.
Deployment and scaling	The out-of-the-box service can be quickly deployed and elastically scaled.	You have to purchase hardware devices, host them in data centers, and deploy them on your own. You also have to solve stability problems and set up many supporting modules and management tools, which require heavy investments in technology and take a long period of time.
Resource utilization	The service is billed by the actual usage and supports elastic scaling to ensure a high resource utilization.	You have to consider traffic spikes, and the resource utilization is low.

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Data disaster recovery	Primary/replica replication and backup are configured by default. Both intra-region and cross-region disaster recovery schemes are supported, such as multi-AZ deployment and cross-region backup.	You have to find the backup storage space and regularly verify whether backups can be restored, which cost more money and time.
Control and management services	Comprehensive cloud-based instance lifecycle management capabilities are available for various objects, including monitoring and alarming, backup and restoration, instance, database, account, network, parameter, and log.	You have to implement all control and management capabilities on your own.
Procurement costs	Instances are priced transparently and even more cost-effective than CVM.	In addition to instances, you also have to set up disaster recovery, monitoring, and management systems on your own at totally uncontrollable costs.
License	Official licenses from Microsoft continuously provide you with the latest features, eliminating your need to purchase additional licenses.	Pirated services lead to legal risks, while official licenses are expensive.
Ops costs	Tencent Cloud provides a professional team to guarantee the service quality for key accounts 24/7, eliminating your need to manually perform Ops.	You have to hire dedicated DBAs for database maintenance, which incurs high labor costs.

TencentDB for SQL Server's high availability/disaster recovery capabilities

TencentDB for SQL Server provides disaster recovery capabilities at different levels, including instance, server, data center, AZ, and region, to ensure the business continuity on healthy systems with the minimum data loss in case of natural disasters, device failures, and maloperations. Backup is the basis of all disaster recovery systems and the last line of defense in the high data availability architecture. TencentDB for SQL Server features rich backup capabilities, ensuring that the data can be restored quickly even after a total system crash to guarantee the business continuity as much as possible.

TencentDB for SQL Server provides instances in various architectures with guaranteed high availability:

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Two-node (formerly high-availability/cluster edition) instance

SQL Server 2008 R2, 2012, 2014, 2016 Enterprise/Standard: The primary/replica architecture of a two-node instance consists of one primary database and one mirror database deployed across racks/AZs and supports automatic HA switch within seconds.

SQL Server 2017, 2019 Enterprise/Standard: The primary/replica architecture of a two-node instance adopts the Always On technology to build a cross-racks/AZs SQL Server cluster architecture that features high performance, high availability, high reliability, and easy maintenance and implements automatic HA switch within seconds.

Single-node (formerly basic edition) instance

The underlying layer is deployed in a CVM instance, storage and computing are separated, and data is stored in three copies in premium cloud disk to avoid data loss. In extreme cases where an instance fails, a new instance will be started to automatically restore the data from data and log backups. The specific restoration time is subject to the data volume. The servers of two TencentDB instances are usually on the same physical machine.

For intra-region disaster recovery, TencentDB for SQL Server provides multi-AZ deployment capabilities. Different AZs in the same region are interconnected over the private network, and failures can be isolated between AZs. For instances in the primary/replica two-node architecture, the primary and replica instances can be deployed in different AZs in the same region (for example, one primary instance in the primary AZ and one replica instance in the replica AZ). This improves the business continuity and guarantees the data availability in case of instance failures or AZ disconnections. You can also manually switch between the primary and replica instances in the console to verify the business robustness. Switches within the same AZ and between different AZs are imperceptible to the application.

For remote disaster recovery, cross-region backup capabilities are offered to store backup files in another region. You can set the cross-region backup retention period and multiple backup regions. After a cross-region backup policy is enabled, the instance backup files will be automatically stored in the target region. In this way, if an instance in a region fails, you can restore its backup files in the remote region to a new instance there for guaranteed business continuity. You can also create a cross-region cluster through a cross-region read-only instance, sync data between the primary and read-only instance, switch your business to a remote read-only instance if the region of the primary instance fails. By doing so, you can implement the high availability of database restoration and meet the requirements for data availability and security, remote backup and restoration, remote disaster recovery, long-term data archive, and regulation compliance.

In addition, TencentDB for SQL Server also has rich backup capabilities to guarantee the data security and prevent data loss or corruption. Specifically, you can configure automatic backup, manual backup, data backup, log backup, backup file format (unarchived files or archive file), instance backup, and multi-database backup. You can also customize the backup policy, backup retention period (7–1,830 days), and backup cycle.

Moreover, TencentDB for SQL Server comes with comprehensive disaster recovery capabilities at both the data and business management layers. Cross-region disaster recovery for databases is meaningful only if the business also features cross-region disaster recovery. However, cross-region distributed deployment of the business inevitably causes the split-brain problem. At the business management layer, the business is deployed in three AZs (two intra-region AZs and one remote AZ) to ensure the business continuity. Before an actual failover occurs, the system will always check whether the database sync status (database sync system table) is normal to avoid faulty failover.

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Use Cases

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Ecommerce, O2O, and tourism

TencentDB for SQL Server provides stable and high-performance database solutions for transaction and order systems based on Microsoft C# and ASP.NET. It is specially optimized for flash sales scenarios to break through the performance bottleneck during high-concurrency update of hotspot data.

Finance

TencentDB for SQL Server offers a high-availability primary/replica architecture and automated failover at the second level for core application databases for fund transactions, transfers, and accounting in banking, insurance, securities, funds, and internet finance that require extremely high data security.
It supports data encryption, network isolation, and access control to ensure data security and provides flexible data backup and restoration solutions to satisfy high data reliability requirements.

Gaming

Adapted to the characteristics of the gaming industry, TencentDB for SQL Server provides powerful elastic scalability of resources and enables deployment of databases for region-specific game servers in just minutes. Its high-availability primary/replica architecture and high-security linkage implement automated imperceptible failover for data rollback with higher stability and efficiency. All these advantages help deliver a smoother gaming experience to large numbers of online players.

Mobile work

TencentDB for SQL Server supports quick deployment of mobile work platforms such as office automation (OA), enterprise resource planning (ERP), and sales management, where the data is stored in cloud-based databases in Tencent Cloud's secure subnets for protection by multiple measures and improved reliability.

Data warehouse and data analytics platform

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TencentDB for SQL Server helps you create a cloud-based data warehouse and data analytics platform with SQL Server's built-in business intelligence, IT dashboards and collaboration with SharePoint.

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Regions and AZs

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Region

Overview

A region is the physical location of an IDC. In Tencent Cloud, regions are fully isolated from each other, ensuring cross-region stability and fault tolerance. When purchasing Tencent Cloud services, we recommend selecting the region closest to your end users to minimize access latency and improve download speed.

Characteristics

The networks of different regions are fully isolated from each other, and Tencent Cloud services in different regions **cannot communicate using private networks by default**.
Tencent Cloud services in different VPCs can communicate with each other over Cloud Connect Network which is fast and stable.
Cloud Load Balancer currently supports intra-region traffic forwarding by default. If cross-region binding is enabled, cross-region binding of CLB and TencentDB instances is supported.

AZ

Overview

An availability zone (AZ) is a physical IDC of Tencent Cloud with independent power supply and network in the same region. It can ensure business stability, as failures (except for major disasters or power failures) in one AZ are isolated without affecting other AZs in the same region. By starting an instance in an independent AZ, users can protect their applications from being affected by a single point of failure.

Characteristics

Tencent Cloud services in the same VPC are interconnected over the private network, which means they can communicate using private IPs, even if they are in different AZs of the same region.
Note:
Private network interconnection refers to the interconnection of resources under the same account. Resources under different accounts are completely isolated on the private network.

China

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Region	AZ
South China (Guangzhou) ap-guangzhou	Guangzhou Zone 1 (sold out) ap-guangzhou-1
	Guangzhou Zone 2 (sold out) ap-guangzhou-2
	Guangzhou Zone 3 ap-guangzhou-3
	Guangzhou Zone 4 (sold out) ap-guangzhou-4
	Guangzhou Zone 6 ap-guangzhou-6
	Guangzhou Zone 7 ap-guangzhou-7
South China (Shenzhen Finance) ap-shenzhen-fsi	Shenzhen Finance Zone 1 (only available for financial institutions and enterprises Submit a ticket to apply for activation.) ap-shenzhen-fsi-1
East China (Shanghai) ap-shanghai	Shanghai Zone 1 (sold out) ap-shanghai-1
	Shanghai Zone 2 ap-shanghai-2
	Shanghai Zone 3 ap-shanghai-3
	Shanghai Zone 4 ap-shanghai-4
	Shanghai Zone 5 ap-shanghai-5
East China (Nanjing) ap-nanjing	Nanjing Zone 1 ap-nanjing-1
	Nanjing Zone 2 ap-nanjing-2
North China (Beijing) ap-beijing	Beijing Zone 1 ap-beijing-1

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	Beijing Zone 2 ap-beijing-2
	Beijing Zone 3 ap-beijing-3
	Beijing Zone 4 ap-beijing-4
	Beijing Zone 5 ap-beijing-5
	Beijing Zone 6 ap-beijing-6
	Beijing Zone 7 ap-beijing-7
Southwest China (Chengdu) ap-chengdu	Chengdu Zone 1 ap-chengdu-1
	Chengdu Zone 2 ap-chengdu-2
Southwest China (Chongqing) ap-chongqing	Chongqing Zone 1 ap-chongqing-1
North China (Beijing Finance) ap-beijing-fsi	Beijing Finance Zone 1 (only available for financial institutions and enterprises Submit a ticket to apply for activation.) ap-beijing-fsi-1
Hong Kong/Macao/Taiwan (Hong Kong, China) ap-hongkong	Hong Kong Zone 1 (Hong Kong nodes cover services in the China regions of Hong Kong, Macao, and Taiwan) ap-hongkong-1
	Hong Kong Zone 2 (Hong Kong nodes cover services in the China regions of Hong Kong, Macao, and Taiwan) ap-hongkong-2
	Hong Kong Zone 3 (Hong Kong nodes cover services in the China regions of Hong Kong, Macao, and Taiwan) ap-hongkong-3

Other Countries and Regions

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Region	Availability Zone
Southeast Asia (Singapore) ap-singapore	Singapore Zone 1 (Singapore nodes can cover services in Southeast Asia) ap-singapore-1
	Singapore Zone 2 (Singapore nodes can cover services in Southeast Asia) ap-singapore-2
	Singapore Zone 3 (Singapore nodes can cover services in Southeast Asia) ap-singapore-3
	Singapore Zone 4 (Singapore nodes can cover services in Southeast Asia) ap-singapore-4
Southeast Asia (Jakarta) ap-jakarta	Jakarta Zone 1 (Jakarta nodes can cover services in Southeast Asia) ap-jakarta-1
	Jakarta Zone 2 (Jakarta nodes can cover services in Southeast Asia) ap-jakarta-2
Southeast Asia (Bangkok) ap-bangkok	Bangkok Zone 1 (Bangkok nodes can cover services in Southeast Asia) ap-bangkok-1
	Bangkok Zone 2 (Bangkok nodes can cover services in Southeast Asia) ap-bangkok-2
South Asia (Mumbai) ap-mumbai	Mumbai Zone 1 (Mumbai nodes can cover services in Southeast Asia) ap-mumbai-1
	Mumbai Zone 2 (Mumbai nodes can cover services in Southeast Asia) ap-mumbai-2
Northeast Asia (Seoul) ap-seoul	Seoul Zone 1 (Seoul nodes can cover services in Northeast Asia) ap-seoul-1
	Seoul Zone 2 (Seoul nodes can cover services in Northeast Asia) ap-seoul-2
Northeast Asia (Tokyo) ap-tokyo	Tokyo Zone 1 (Tokyo nodes can cover services in Northeast Asia) ap-tokyo-1
	Tokyo Zone 2 (Tokyo nodes can cover services in Northeast Asia) ap-tokyo-2

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US West (Silicon Valley) na-siliconvalley	Silicon Valley Zone 1 (Silicon Valley nodes can cover services in West US) na-siliconvalley-1
	Silicon Valley Zone 2 (Silicon Valley nodes can cover services in West US) na-siliconvalley-2
East US (Virginia) na-ashburn	Virginia Zone 1 (Virginia nodes can cover services in East US) na-ashburn-1
	Virginia Zone 2 (Virginia nodes can cover services in East US) na-ashburn-2
Europe (Frankfurt) eu-frankfurt	Frankfurt Zone 1 (Frankfurt nodes can cover services in Europe) eu-frankfurt-1
	Frankfurt Zone 2 (Frankfurt nodes cover services in Europe) eu-frankfurt-2
South America (São Paulo) sa-saopaulo	São Paulo Zone 1 (São Paulo nodes can cover services in South America) sa-saopaulo-1

Availability Zones Supported by Each Version of the Architecture

China

Asia Pacific

Europe and Americas

Region	Availability Zone	Cloud Disk Edition Single Node	Cloud Disk Edition Two-Node	Cloud Disk Edition RO	Local Disk Two-Node	Local Disk RO
Guangzhou ap-guangzhou	Guangzhou Zone 3 ap-guangzhou-3	✓	×	×	✓	✓
	Guangzhou Zone 6 ap-guangzhou-6	✓	✓	✓	✓	×
	Guangzhou	✓	✓	✓	✓	×

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	Zone 7 ap-guangzhou-7					
Shanghai ap-shanghai	Shanghai Zone 2 ap-shanghai-2	✓	✓	✓	✓	✓
	Shanghai Zone 3 ap-shanghai-3	✓	×	×	✓	✓
	Shanghai Zone 4 ap-shanghai-4	✓	✓	✓	✓	✓
	Shanghai Zone 5 ap-shanghai-4	✓	✓	✓	✓	×
Nanjing ap-nanjing	Nanjing Zone 1 ap-nanjing-1	✓	✓	✓	✓	✓
	Nanjing Zone 2 ap-nanjing-2	✓	✓	✓	✓	✓
Beijing ap-beijing	Beijing Zone 1 ap-beijing-1	×	×	×	✓	✓
	Beijing Zone 2 ap-beijing-2	✓	×	×	✓	✓
	Beijing Zone 3 ap-beijing-3	✓	✓	✓	✓	✓
	Beijing Zone 4 ap-beijing-4	✓	×	×	×	×
	Beijing Zone 5 ap-beijing-5	✓	×	×	✓	✓
	Beijing Zone 6 ap-beijing-6	✓	✓	✓	✓	×
	Beijing Zone 7 ap-beijing-7	✓	✓	✓	✓	×
Chengdu ap-chengdu	Chengdu Zone 1 ap-chengdu-1	✓	✓	✓	✓	×

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	Chengdu Zone 2 ap-chengdu-2	✓	✓	✓	✓	×
Chongqing ap-chongqing	Chongqing Zone 1 ap-chongqing-1	✓	✓	✓	✓	×
Hong Kong (China) ap-hongkong	Hong Kong Zone 1 ap-hongkong-1	×	×	×	✓	✓
	Hong Kong (China) Zone 2 ap-hongkong-2	✓	✓	✓	✓	✓
	Hong Kong Zone 3 ap-hongkong-3	×	✓	✓	✓	×

Region	Availability Zone	Cloud Disk Edition Single Node	Cloud Disk Edition Two-Node	Cloud Disk Edition RO	Local Disk Two-Node	Local Disk RO
Mumbai ap-mumbai	Mumbai Zone 1 ap-mumbai-1	×	✓	✓	×	×
	Mumbai Zone 2 ap-mumbai-2	×	✓	✓	×	×
Singapore ap-singapore	Singapore Zone 1 ap-singapore-1	✓	×	×	×	×
	Singapore Zone 2 ap-singapore-2	✓	×	×	×	×
	Singapore Zone 3 ap-singapore-3	×	✓	✓	×	×
	Singapore Zone 4 ap-singapore-4	×	✓	✓	×	×

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Jakarta ap-jakarta	Jakarta Zone 1 ap-jakarta-1	✓	×	×	×	×
Bangkok ap-bangkok	Bangkok Zone 1 ap-bangkok-1	✓	×	×	×	×
	Bangkok Zone 2 ap-bangkok-2	✓	×	×	×	×
Seoul ap-seoul	Seoul Zone 1 ap-seoul-1	✓	✓	✓	✓	×
	Seoul Zone 2 ap-seoul-2	✓	✓	✓	×	×
Tokyo ap-tokyo	Tokyo Zone 1 ap-tokyo-1	✓	✓	×	✓	×
	Tokyo Zone 2 ap-tokyo-2	✓	✓	×	✓	×

Region	Availability Zone	Cloud Disk Edition Single Node	Cloud Disk Edition Two-Node	Cloud Disk Edition RO	Local Disk Two-Node	Local Disk RO
Virginia na-ashburn	Virginia Zone 1 na-ashburn-1	×	✓	✓	×	×
	Virginia Zone 2 na-ashburn-2	×	✓	✓	×	×
Frankfurt eu-frankfurt	Frankfurt Zone 1 eu-frankfurt-1	×	✓	✓	×	×
	Frankfurt Zone 2 eu-frankfurt-2	×	✓	✓	×	×
Silicon Valley na-siliconvalley	Silicon Valley Zone 1 na-siliconvalley-1	×	✓	✓	✓	×
	Silicon Valley Zone 2	×	✓	✓	✓	×

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	na-siliconvalley-2					
São Paulo sa-saopaulo	São Paulo Zone 1 sa-saopaulo-1	×	✓	✓	×	×

Selection of Regions and AZs

The geographic locations of TencentDB instances, your business, and your target users.
We recommend you choose the region closest to your end users when purchasing TencentDB instances to minimize access latency and improve access speed.
Other Tencent Cloud services you use.
When you select other Tencent Cloud services, we recommend you try to locate them all in the same region and AZ to allow them to communicate with each other through the private network, reducing access latency and increasing access speed.
High availability and disaster recovery.
Even if you have just one VPC, we still recommend you deploy your businesses in different AZs to prevent a single point of failure and enable cross-AZ disaster recovery.
There may be network latency among different AZs. We recommend you assess your business requirements and find the optimal balance between high availability and low latency.
If you need access to servers in other countries or regions, we recommend you select an instance in those other countries or regions. If you use a TencentDB instance in China to access servers in other countries and regions, you may encounter a higher network latency.

Resource Availability

The following table describes which resources are global, which are regional, and which are specific to AZs.

Resources	Resource ID Format <Resource abbreviation>-8-Digit String of Numbers and Letters	Type	Description
User account	No restrictions	Globally unique	A user can use the same account to access Tencent Cloud resources worldwide.
SSH Key			A user can use an SSH key to bind

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	skey-xxxxxxxx	Available in all regions	to any region's CVM under the account.
CVM Instance	ins-xxxxxxxx	Can only be used in a single availability zone within a single region.	Users can only create CVM instances in specific availability zones.
Custom Image	img-xxxxxxxx	Available in a single region and multiple availability zones	Users can create a custom image for an instance and use it across different Availability Zones within the same region. To use the image in other regions, please use the image replication feature to copy the custom image to other regions.
Elastic IP	eip-xxxxxxxx	Available in a single region and multiple availability zones	Elastic IP addresses are created within a specific region and can only be associated with instances in the same Region.
Security Group	sg-xxxxxxxx	Available in a single region and multiple availability zones	Security groups are created within a specific region and can only be associated with instances in the same Region. Tencent Cloud automatically creates three default security groups for users.
Cloud Block Storage (CBS)	disk-xxxxxxxx	Can only be used in a single availability zone within a single region.	Users can only create CBS in a specific availability zone and attach them to instances in the same availability zone.
Snapshot	snap-xxxxxxxx	Available in a single region and	After creating a snapshot for a specific CBS, the user can use the

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		multiple availability zones	snapshot for other operations (such as creating a CBS) in the same region.
CLB	clb-xxxxxxxx	Available in a single region and multiple availability zones	CLB can be bound to CVM instances in different availability zones within the same region for traffic forwarding.
VPC	vpc-xxxxxxxx	Available in a single region and multiple availability zones	VPC is created in a specific region and resources belonging to the same VPC can be created in different availability zones.
Subnet	subnet-xxxxxxxx	Can only be used in a single availability zone within a single region.	Users cannot create subnets across availability zones.
Routing Table	rtb-xxxxxxxx	Available in a single region and multiple availability zones	When creating a routing table, users need to specify a specific VPC, thus it follows the location attribute of the VPC.

Related Operations

TencentDB for SQL Server supports cross-AZ instance migration. For more information, see Migrating Across AZs.

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Features and Differences

Last updated：2024-07-30 16:03:26

This document describes the features and differences of TencentDB for SQL Server editions.

Edition Features and Differences

Module	Feature	Two-Node (Formerly High-Availability/Cluster Edition)	Single-Node (Formerly Basic Edition)
Edition	-	2008 R2 Enterprise 2012 Standard/Enterprise 2014 Standard/Enterprise 2016 Standard/Enterprise 2017 Standard/Enterprise 2019 Standard/Enterprise 2022 Enterprise	2008 R2 Enterprise 2012 Enterprise 2014 Enterprise 2016 Enterprise 2017 Enterprise 2019 Enterprise 2022 Enterprise
Lifecycle	Instance creation	Supported	Supported
	Instance restart		
	Auto-renewal		
	Billing mode modification		
	Instance termination		
	Read-only instance creation		
	Publish/Subscribe		
	Specification upgrade/downgrade		
	Disk capacity adjustment		
	Version upgrade		
	Architecture		

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	upgrade		
Instance attribute	Instance list view	Supported	Supported
	Instance details view		
	Instance renaming		
	Instance remarks modifying		
	Instance tagging		
	Maintenance time management		
	Project management		
Application availability	High availability method	SQL Server 2008R2/2012/2014/2016 Enterprise, SQL Server 2012/2014/2016 Standard adopt Mirror HA SQL Server 2017/2019 Enterprise adopt Always On high availability	Compute node migration + disk snapshot
	Cross-AZ disaster recovery	Supported	Unsupported
	Intra-region disaster recovery	Supported	Unsupported
	Read-only instance removal	Supported	Unsupported
	Cross-AZ migration	Supported	Unsupported
Backup and recovery	Full backup	Supported	Supported
	Data backup		
	Increment backup		
	Log backup		
	Scheduled backup		

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	Manual backup		
	Archive file		
	Unarchived files		
	Instance backup		
	Multi-database backup		
	Backup policy customization		
	Restoration by backup set		
	Restoration by time point		
	Restoration by user backup set		
	Rollback to current instance		
	Rollback to existing intra-region instance		
	Rollback to existing cross-region instance		
	Backup download		
	Backup task execution on replica instance	SQL Server 2008R2/2012/2014/2016 Enterprise, SQL Server 2012/2014/2016 Standard unsupported SQL Server 2017/2019/2022 Enterprise supported	Unsupported
Monitoring and alarms	Resource monitoring	Supported	Supported

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	Engine monitoring		Supported
	Second-level monitoring		Unsupported (one-minute granularity)
	Monitoring policy customization	Unsupported	Supported
	Alarm	Supported	Supported
Account management	Account creation and deletion	Supported	Supported
	Standard account		
	Privileged account		
	Designated account		
	Admin Account	Unsupported	Supported
Database management	Database creation	Supported	Supported
	Database deletion		
	Database cloning		
	Database authorization		
	Change data capture (CDC)		
	Change tracking (CT)		
	Database shrinking		
Data security	Security group	Supported	Supported
	Database audit	Unsupported currently	Unsupported
	Network encryption		
	TDE encryption	Supported	Supported
	SSL encryption	Supported	Supported
Data	Data sync	Unsupported currently	Unsupported currently

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channel	Homogeneous data migration	Supported	Supported
	Heterogeneous data migration	Unsupported	Unsupported
	Publish/Subscribe	Supported	
Log management	Error log	Unsupported	Unsupported
	Slow log	Supported	Supported
	Execution log	Unsupported	Unsupported
	Blocking and deadlock events<	SQL Server 2012/2014/2016/2017/2019/2022 Enterprise supported	SQL Server 2012/2014/2016/2017/2019/2022 Enterprise supported
Parameter management	Parameter update	Supported	Supported
	Parameter history		
	Parameter template	Unsupported	Unsupported
Performance optimization	Expert service	Supported	Supported
	Resource analysis	Unsupported	Unsupported
	Engine analysis		
Network	Classic network	Supported	Supported
	VPC		
	Public network address	Supported	Supported

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Instance Types

Last updated：2024-01-18 17:16:54

As the minimum management unit in TencentDB for SQL Server, a database instance is a database environment running independently in Tencent Cloud and represents an independent TencentDB for SQL Serve instance. You can create, modify, and delete instances in the console and create and manage multiple databases in each instance. This document describes TencentDB for SQL Server database instance types.

Instance Types and Descriptions

Instance type	Description	Applicable Scenarios
Standalone instance - single-node instance (formerly basic edition)	A single database node architecture is adopted, which is very cost-effective. Compute and storage are separated, and the underlying data is stored in three replicas in cloud disks. A basic edition node is deployed in a CVM instance, which has a higher database performance than self-built databases. Premium cloud disk is used as the underlying storage media, which is suitable for 90% I/O scenarios with a stable performance.	This instance type is suitable for personal learning, ISV software for small and medium-sized enterprises, web applications, and non-core small corporate systems. If a standalone instance fails, it takes a slightly longer time to recover than a CVM instance.
Primary/replica instances - two-node instances (formerly high availability/cluster Edition)	SQL Server 2008 R2/2012/2014/2016 Enterprise or SQL Server 2012/2014/2016 Standard: It consists of one primary database and one mirror database. The classic one-primary-one-replica architecture is adopted, and all primary/replica instance nodes have the same specification. The primary and replica instances are deployed across racks/AZs. Each database corresponds to a monitoring agent that monitors the database through heartbeat in real time. Cross-AZ high availability is supported. In other words, the primary and replica instances can be deployed in different AZs. Object Storage: Offers data disaster recovery services, providing cold backup data. Tencent Cloud Management Cluster: Composed of independently deployed decision-making and	Replica instances improve the instance reliability. When a primary instance is created, a replica instance will be created at the same time, which will be invisible to users. When the primary instance fails, a primary-replica switch will be automatically triggered, and the database client will be disconnected momentarily. Therefore, the database client needs to support reconnection. The data sync between the primary and replica instances is async by default, so are the primary and read-only instances.

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	configuration clusters, it serves as the management and scheduling center of the cluster, primarily overseeing the normal operation of database node groups, access gateway clusters, and object storage.	
	SQL Server 2017/2019/2022 Enterprise: The Always On architecture is adopted, where you can add up to five read-only instances to create a cluster with higher availability, reliability, and scalability. The primary and replica instances are deployed across racks/AZs. Each database corresponds to a monitoring agent that monitors the database through heartbeat in real time.	This instance type is suitable for industry application scenarios, such as gaming, healthcare, medicine, internet, IoT, retail, ecommerce, logistics, insurance, securities, media, technical service, and automobile.
Read-only instance	It is a single-node (with no replica) instance that supports read requests. It cannot exist independently; instead, it must be in a read-only group and bound to a two-node primary instance. A read-only group is a read-only instance group with the load balancing feature.	A read-only instance is standalone. When the physical server fails or a database replication exception occurs, it will take a long time (subject to the data volume) for the instance to recover. For business scenarios with a strong dependency on read-only requests, we recommend that you create multiple read-only instances to share the read pressure.

Note:

You can create and manage instances of various types in the TencentDB for SQL Server console.

Relevant Documentation

Features and Differences

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Instance Specifications

Specification Type

Last updated：2024-01-18 17:16:54

This document describes TencentDB for SQL Server instance specification types.

Note:

Currently, TencentDB for SQL Server only supports dedicated instance.

Specification Type	Description
Dedicated	The purchased instance has exclusive access to the CPU, memory, and disk resources and features long-term stability. The instance deployed with local disks are not be affected by the activities of other instances on the physical machine, while the instance deployed with cloud disks is considered a dedicated cloud database. A dedicated instance with the highest configurations can monopolize a physical machine and all of its resources.

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Primary Instance Specifications

Last updated：2024-04-09 09:12:16

This document describes the latest specifications of TencentDB for SQL Server primary instances.

Note:

The memory defined in the specifications of single-node (formerly Basic Edition) instances of cloud disk edition and two-node (formerly High Availability/Cluster Edition) instances of cloud disk edition includes the memory used by the TencentDB management services, database services, and underlying operating system. Therefore, the displayed available memory of an instance is smaller than the actual memory defined in the instance specification.

TencentDB for SQL Server primary instance

Instance Type	Version	Storage Type	CPU and Memory	Storage Capacity
Single-node (formerly Basic Edition)	2008 R2 Enterprise 2012 Enterprise 2014 Enterprise 2016 Enterprise 2017 Enterprise 2019 Enterprise 2022 Enterprise	Balanced SSD Enhanced SSD Premium Cloud Disk	2-core 4 GB	20 GB - 32000 GB
			2-core 8 GB	
			2-core 16 GB	
			4-core 8 GB	
			4-core 16 GB	
			4-core 32 GB	
			8-core 16 GB	
			8-core 32 GB	
			8-core 64 GB	
			12-core 24 GB	
			12-core 48 GB	
			12-core 96 GB	
			16-core 32 GB	
			16-core 64 GB	
			16-core 128 GB	
			24-core 48 GB	

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			24-core 96 GB	
			24-core 192 GB	
			32-core 64 GB	
			32-core 128 GB	
			32-core 256 GB	
			48-core 96 GB	
			48-core 192 GB	
			48-core 384 GB	
			64-core 128 GB	
			64-core 256 GB	
			64-core 512 GB	
		SSD	2-core 4 GB	100 GB - 32000 GB
			2-core 8 GB	
			4-core 8 GB	
			4-core 16 GB	
			8-core 16 GB	
			8-core 32 GB	
			16-core 32 GB	
			16-core 64 GB	
			16-core 128 GB	
			24-core 48 GB	
			24-core 96 GB	
			32-core 64 GB	
			32-core 128 GB	
			32-core 256 GB	

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			48-core 96 GB	
			48-core 192 GB	
			64-core 128 GB	
			64-core 256 GB	
Dual-node (formerly High Availability/Cluster Edition)	2008 R2 Enterprise 2012 Enterprise 2014 Enterprise 2016 Enterprise 2017 Enterprise 2019 Enterprise 2022 Enterprise	Premium Local SSD	1-core 2 GB	10 GB - 3000 GB
			1-core 4 GB	
			1-core 8 GB	
			2-core 16 GB	
			4-core 32 GB	
			8-core 64 GB	
			12-core 96 GB	
			16-core 128 GB	10 GB - 8000 GB
			24-core 192 GB	10 GB - 6000 GB
			32-core 256 GB	
			48-core 384 GB	
			64-core 512 GB	
			90-core 720 GB	
		Balanced SSD Enhanced SSD	2-core 4 GB	20 GB - 32000 GB
			2-core 8 GB	
			2-core 16 GB	
			4-core 8 GB	
			4-core 16 GB	
			4-core 32 GB	
			8-core 16 GB	
			8-core 32 GB	

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			8-core 64 GB	
			12-core 24 GB	
			12-core 48 GB	
			12-core 96 GB	
			16-core 32 GB	
			16-core 64 GB	
			16-core 128 GB	
			24-core 48 GB	
			24-core 96 GB	
			24-core 192 GB	
			32-core 64 GB	
			32-core 128 GB	
			32-core 256 GB	
			48-core 96 GB	
			48-core 192 GB	
			48-core 384 GB	
			64-core 128 GB	
			64-core 256 GB	
			64-core 512 GB	
			80-core 160 GB	
			80-core 320 GB	
			96-core 192 GB	
			96-core 384 GB	

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Read-Only Instance Specifications

Last updated：2024-04-09 09:14:17

In TencentDB for SQL Server, you can create one or more read-only instances and use them to sustain high numbers of database reads, so as to implement auto scaling of read capabilities and alleviate pressure on the database. This document describes the specifications and configurations of read-only instances.

Note:

When creating a read-only instance, the storage space size of the read-only instance needs to be greater than or equal to the storage space size of the primary instance.

TencentDB for SQL Server read-only instance

Version	Storage Type	CPU and Memory	Storage Capacity
2008 R2 Enterprise 2012 Enterprise 2014 Enterprise 2016 Enterprise 2017 Enterprise 2019 Enterprise 2022 Enterprise	Premium Local SSD	1-core 2 GB	10 GB - 3000 GB
		1-core 4 GB	
		1-core 8 GB	
		2-core 16 GB	
		4-core 32 GB	
		8-core 64 GB	
		12-core 96 GB	
		16-core 128 GB	10 GB - 8000 GB
		24-core 192 GB	10 GB - 6000 GB
		32-core 256 GB	
		48-core 384 GB	
		64-core 512 GB	
		90-core 720 GB	
	Balanced SSD Enhanced SSD	2-core 4 GB	20 GB - 32000 GB
		2-core 8 GB	
		2-core 16 GB	

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		4-core 8 GB	
		4-core 16 GB	
		4-core 32 GB	
		8-core 16 GB	
		8-core 32 GB	
		8-core 64 GB	
		12-core 24 GB	
		12-core 48 GB	
		12-core 96 GB	
		16-core 32 GB	
		16-core 64 GB	
		16-core 128 GB	
		24-core 48 GB	
		24-core 96 GB	
		24-core 192 GB	
		32-core 64 GB	
		32-core 128 GB	
		32-core 256 GB	
		48-core 96 GB	
		48-core 192 GB	
		48-core 384 GB	
		64-core 128 GB	
		64-core 256 GB	
		64-core 512 GB	
		80-core 160 GB	

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		80-core 320 GB	
		96-core 192 GB	
		96-core 384 GB	

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Storage Types

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This document describes the storage types of TencentDB for SQL Server and their uses cases, including premium local SSD, balanced SSD cloud disk, enhanced SSD cloud disk, SSD cloud disk, and premium cloud disk.

Storage type description

Storage Type	Description	Applicable Instance Architecture	Application Scenario
Premium local SSD	It is a high I/O local disk storage type, which has an excellent I/O throughput. A 90-core 720 GB MEM TencentDB for SQL Server instance can sustain up to 4.5 million TPM.	Two-node (formerly High Availability/Cluster Edition)	Business scenarios that have extremely high requirements for storage I/O performance and high-availability architecture at the application layer, such as online games, ecommerce, ERP software services, video live streaming, and media.
Balanced SSD cloud disk	It is an entry-level all-flash block storage product provided by Tencent Cloud and highly cost-effective.	Two-node (formerly High Availability/Cluster Edition) Single-node (formerly Basic Edition)	Medium applications with high requirements for data reliability and standard requirements for performance, such as web/app servers, business logical processing, KV services, as well as basic database services.
Enhanced SSD cloud disk	It is based on Tencent Cloud's latest storage engine, NVMe SSD storage media and the latest network infrastructure. It employs a three-copy distributed mechanism to provide high-performance storage with low latency, high random IOPS, high throughput I/O, and data availability up to 99.9999999% (nine nines).	Two-node (formerly High Availability/Cluster Edition) Single-node (formerly Basic Edition)	Business scenarios that have extremely high requirements for storage I/O performance and high-availability architecture at the application layer, such as online games, ecommerce, ERP software services, and video live streaming.
SSD cloud disk	All-flash cloud disk storage type with NVMe SSD as the storage	Single-node (formerly Basic	Application scenarios such as I/O-intensive applications and small

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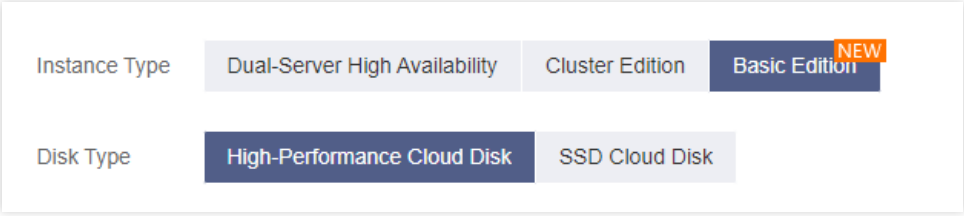
	media. It adopts a three-copy distributed storage mechanism to provide low-latency and high-throughput I/O capabilities with a high random IOPS and 99.9999999% (nine nines) data security.	Edition)	and medium relational databases.
Premium cloud disk	It is a hybrid storage type. It adopts the cache mechanism to provide a high-performance SSD-like storage, and employs a three-copy distributed mechanism to ensure data reliability.	Single-node (formerly Basic Edition)	Small and medium application scenarios that require high data reliability and moderate performance, such as web/app servers, business logic processing, and small and medium websites.

Storage type selection

You can select the storage type after selecting the instance architecture on the TencentDB for SQL Server purchase page.



Storage type comparison

Storage Type	I/O Performance	Maximum Disk Capacity (GB)
Premium local SSD	Low I/O latency and higher I/O throughput than cloud disk	6,000
Balanced SSD cloud disk	Medium I/O throughput	32000
Enhanced SSD cloud disk	Ultra high I/O throughput	32000
SSD cloud disk	Excellent I/O throughput	32000
Premium cloud disk	Stable I/O performance	32000

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Common Concepts

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This document describes the common concepts of TencentDB for SQL Server to help you better understand and use it.

Database instance

A database instance is a database server. One or multiple databases can be created in a database instance, and one or multiple tables can be created in a database.

Primary instance and replica instance

For High Availability or Cluster Edition instances, the node that your business accesses is called primary instance, and the data of the primary instance is synced to another node called replica instance in real time.

You can access only the primary instance, while the replica instance exists only as a backup and does not provide business access. When the primary instance fails, a primary-replica switch imperceptible to applications will be performed, and only a momentary disconnection may occur during the switch.

Read-only instance

A read-only instance elastically expands the read capacity and mitigates the database pressures. In scenarios where there are many read requests but only few write requests, a single instance may not be able to handle the load of read requests, which even may affect the business. In this case, you can create one or multiple read-only instances and use them to sustain high numbers of database reads and increase the application throughput.

Tencent Cloud console

Tencent Cloud console consists of web-based UIs.

Region

The geographic location of a physical IDC. In general, a TencentDB for SQL Server instance and a CVM instance should be in the same region to achieve the best access performance.

Availability zone (AZ)

A physical location with independent power supply and network resources within a region. There are no substantial differences between different AZs in the same region.

Multi-AZ

A physical location created by combining multiple AZs in the same region.

RO group

A group of read-only instances.

Billing mode

The billing mode of an instance resource, pay-as-you-go billing mode and monthly subscription billing mode.

Pay-as-you-go

A postpaid billing mode, where you can apply for resources for on-demand use and will be charged based on the actual usage upon settlement.

Monthly Subscription

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A prepaid billing mode, where users can fulfill their cloud resource requirements by making a one-time payment for a month, multiple months, or multiple years, based on their individual usage needs.

Instance type

Single-node (formerly Basic Edition) and two-node (formerly High Availability/Cluster Edition) instances in terms of deployment architecture.

Single-node (formerly Basic Edition)

A TencentDB for SQL Server single-node (formerly Basic Edition) instance is also called a standalone instance. It has only one database node, separates computing and storage, and is very cost-effective.

Two-node (formerly High Availability/Cluster Edition)

A two-node instance consists of a primary instance and a replica instance. When the former fails and cannot be accessed, the system will automatically switch to the latter.

A 2008 R2 Enterprise, 2012 Enterprise, or 2016 Enterprise two-node instance consists of one primary database and one mirror database deployed across racks/AZs. Each database corresponds to a monitoring agent that monitors the database through heartbeat in real time.

A 2017 Enterprise or 2019 Enterprise two-node instance adopts the Always On architecture, including one primary and one replica deployed across racks/AZs. Each database corresponds to a monitoring agent that monitors the database through heartbeat in real time.

Engine versions

Compatible database versions. Currently, the following versions are supported: 2008 R2 Enterprise, 2012 Enterprise, 2016 Enterprise, 2017 Enterprise, and 2019 Enterprise.

Specification

Resource configuration of each node, such as 2-core 16 GB MEM.

Disk

The main storage device of a computer, i.e., data storage space.

Balanced SSD

It is based on Tencent Cloud's latest storage engine, NVMe SSD storage media and the latest network infrastructure. It employs a three-copy distributed mechanism to provide high-performance storage with low latency, high random IOPS, high throughput I/O, and data availability up to 99.9999999% (nine nines). It is applicable to business scenarios that have extremely high requirements for storage I/O performance and high-availability architecture at the application layer, such as online games, ecommerce, ERP software services, and video live streaming.

Enhanced SSD

It is an entry-level all-flash block storage product provided by Tencent Cloud. It's highly cost-effective and suitable for medium applications with high requirements for data reliability and standard requirements for performance, such as web/app servers, business logical processing, KV services, as well as basic database services.

High-performance local SSD

High-I/O local disk storage type.

SSD

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It is an all-flash cloud disk storage type with NVMe SSD as the storage media. It adopts a three-copy distributed storage mechanism to provide low-latency and high-throughput I/O capabilities with a high random IOPS and 99.9999999% (nine nines) data security.

Premium cloud disk

It is a hybrid storage type. It provides high-performance storage capabilities close to SSD through the cache mechanism and adopts a three-copy distributed mechanism to ensure the data reliability.

Project

Used to categorize and manage instance resources.

Tag

A cloud resource management tool that allows you to use different standards to categorize, search for, and aggregate cloud resources with the same attributes.

Maintenance time

To ensure the stability of your TencentDB instance, the backend system performs maintenance operations on the instance during the maintenance window from time to time. We highly recommend that you set an acceptable maintenance time for your business instance, usually during off-peak hours, so as to minimize the potential impact on your business.

Security group

Security access control to instances by specifying IP, protocol, and port rules for instance access.

Network

A network made up of several nodes and linkages that connect them. It represents many objects and their interconnections. For performance and security considerations, only VPC network is supported currently.

Private network address

The IP and port assigned to a database for both read and write requests within your VPC network.

Port

A port in a computer, switch, or router.

Database

A set of organized, shared, and centrally managed data that is stored on a computer for a long period.

Database account

A username used to log in to and manage a database.

Character set

A mapping relationship or encoding rule, including a coded character set and character encoding. The code points corresponding to a character set are mapped into binary sequences, so that they can be stored and processed by a computer.

Cloud Virtual Machine (CVM)

A scalable computing service provided by Tencent Cloud.

SSMS

SQL Server Management Studio (SSMS) is an integrated environment to manage any SQL basic structures.

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Alarm policy

You can create alarms to stay informed of the status changes of certain metrics. The specific metrics will be monitored for a certain period of time, and alarm notifications will be sent by SMS, email, and phone at specified intervals based on the given threshold.

Pub/Sub

Business data replication and sync. You can create, change, and delete pub/sub servers in the TencentDB for SQL Server console.

Recycle bin

A place where terminated instances are stored before elimination. Such instances can be restored.

Backup

Data is stored separately or as a file copy to tackle possible unexpected situations such as file or data loss or corruption.

Automatic backup

You can set the backup time and cycle for the system to automatically and regularly save data.

Non-archive backup

Automatic backups include non-archive backups and archive backups with different backup retention policies. For non-archive backups, you can set the backup retention period and time by week, and you should back up your data at least twice a week.

Archive backup

Automatic backups include non-archive backups and archive backups with different backup retention policies. Archive backup is a more flexible backup policy on the basis of non-archive automatic backup. It supports setting the number of retained backups by month, quarter, or year and does not need to retain additional new backups. However, its retention period is different from (longer than) that of non-archive backup.

Manual backup

You can manually create backup files at any time.

Data backup

You can back up one, multiple, or all databases in an instance.

Log backup

The system automatically generates a log backup (log file) every 30 minutes and uploads it to the cloud for storage. You can download log files.

Backup policy

You can select instance backup or multi-database backup. The former backs up all databases in an instance, while the latter backs up selected databases.

Backup task configuration

It is used to set the global variables of manual and scheduled backups. You can set **Upload Backup File** (archive file or unarchived files) and select the primary or replica instance for backup.

Backup file format

It is used to set whether to upload an archive file or upload unarchived files for the instance.

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Network Environment

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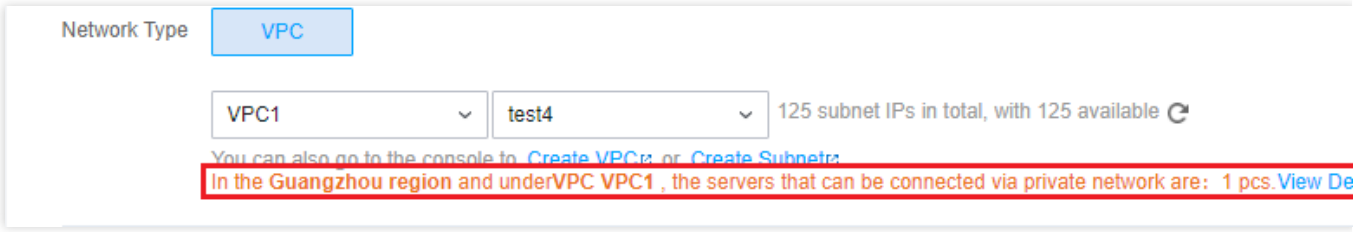
TencentDB for SQL Server supports VPC.

Network restrictions

The networks of different regions are fully isolated. Tencent Cloud services in different regions **cannot communicate via a private network by default**.
Tencent Cloud services in different VPCs can communicate with each other over Cloud Connect Network, which is fast and stable.
Cloud Load Balancer currently supports intra-region traffic forwarding by default. If cross-region binding is enabled, cross-region binding of CLB and TencentDB instances is supported.
Currently, TencentDB for SQL Server doesn't support public IP. If you need to use a public IP, you can use the port mapping feature of SSH2 to connect to, configure, and manage an instance from the internet. For more information, see Connecting to TencentDB for SQL Server Instance from Local System.
When you purchase TencentDB for SQL Server, we recommend that you select the same region as your CVM instance to reduce access delay.

Network connectivity test

The network connectivity test tool provided on the TencentDB for SQL Server purchase page can be used to check whether there are CVM instances in the selected region/AZ and network type that can communicate with TencentDB for SQL Server over the private network.



Click **View Details** to view the information of eligible CVM instances, including ID/instance name, AZ, configuration (CPU, memory, disk, and network), and primary IP address. You can also use the search feature to quickly filter CVM instances that can communicate with TencentDB for SQL Server over the private network.

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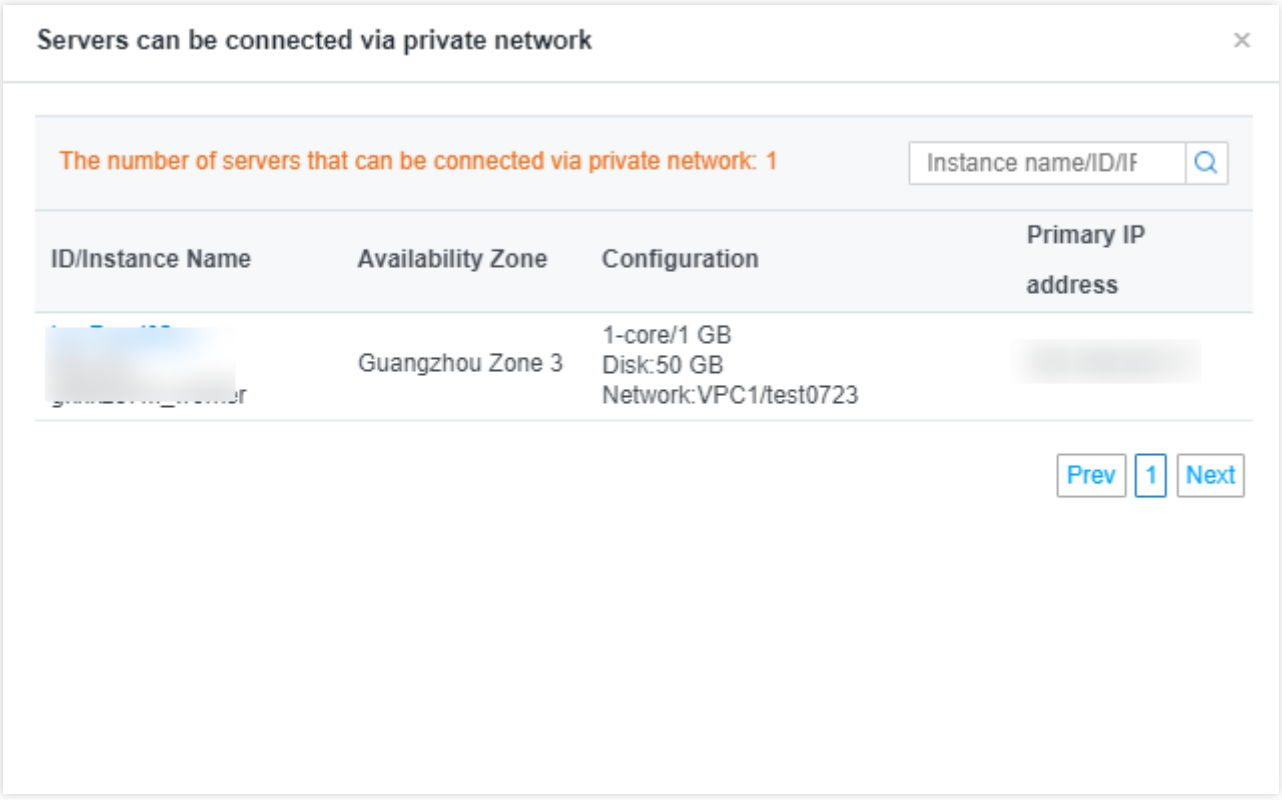

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License Statement

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License Included

Tencent Cloud offers TencentDB instances with **license included**. The price of a **license included** model includes a SQL Server software license, underlying hardware resources and TencentDB management functions, so there is no need to purchase a Microsoft SQL Server license separately.

You only need to pay for instance specifications and usage duration, and don't have to worry about hardware and licensing costs when using a "license included" database. You can cut IT costs by only paying low variable costs instead of high fixed costs.

Note:

Purchasing TencentDB for SQL Server does not mean that you purchased a Microsoft SQL Server long-term license contract; therefore, you should not use the TencentDB license outside of this service. For more information, see Microsoft Volume Licensing Product Terms and Online Services Terms.

The basic price of TencentDB for SQL Server **does not include** other Microsoft or Tencent Cloud services.

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