

Private DNS

Product Introduction

Product Documentation



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Overview

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Overview

Private DNS is a private DNS management service based on Tencent Cloud Virtual Private Cloud (VPC). It allows you to quickly build a DNS system in one or more custom VPCs and easily use private DNS records to manage Tencent Cloud resources associated with the VPCs that are externally inaccessible, such as CVM, CLB, CDN, and COS.

Features

Private DNS

The private domain list contains the private domain name resource records that you need to manage. You can create multiple private domain names and add the following types of DNS records for them:

| Record Type | Description |
|-------------|---|
| A | It is used to specify the IPv4 address (such as <code>8.8.8.8</code>) of a domain. If you want to point a domain to an IP address, you need to add an A record. |
| AAAA | It is used to specify the IPv6 address (such as <code>ff06:0:0:0:0:0:0:c3</code>) of a domain. If you want to point a domain to an IPv6 address, you need to add an AAAA record. |
| CNAME | It is used to point a domain to another domain. |
| MX | If you want to set up your mailbox so that it can receive emails, you need to add an MX record. |
| TXT | You can enter anything in this record with a length limit of 255 characters. Most TXT records are used as SPF records (for anti-spam). |
| PTR | It reversely maps an IP address to a domain. |

Associated VPC

You can associate a private domain name with one or more VPCs that need to be configured so as to map it to IP addresses.

Note?

Private domain names with the same name cannot be associated with the same VPC. For example, if there are two instances of `tencent.com` at the same time, you cannot associate both of them with the same VPC.

Reverse DNS

Reverse DNS refers to mapping an IP address to a domain name, that is, the private domain name pointed to by the IP address is obtained by querying the PTR record of the IP address.

Subdomain recursive DNS

With the aid of Private DNS, you can implement private network hijacking in VPCs without relying on the authoritative DNS. In certain scenarios, some domain names need to be opened to access public IPs in private environments. Private DNS can achieve dual DNS for one single domain name by working with the authoritative DNS and thus achieve interconnection in hybrid clouds, that is, you can use `nslookup` in CMD to resolve the same domain name and get different IP addresses.

Custom private domain

CVM instance name management can be well planned to make the instance purposes and information easier to understand and more user-friendly.

Internal API call

API calls are managed internally to avoid the troubles caused by IP address changes to the API use, which makes OPS easier.

Internal domain name security isolation

The core system privacy protection feature ensures that the domain names of internal core systems are not exposed to the internet and thus improves their security.

Strengths

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Security and Reliability

- Private DNS is a Tencent Cloud strategic product based on DNSPod's 14 years of DNS technology accumulation and provides more professional private domain name DNS capabilities.
- It provides Tencent Cloud VPC-dedicated private network DNS to directly respond to VPC domain name DNS requests, which is fast, efficient, and effective in preventing hijacking.

Wide Applicability

The core network infrastructure component of Private DNS in VPC scenarios helps you easily deploy integrated VPC solutions.

Ease of Use

You can customize IP mappings for private domain names and quickly tag them for easier OPS management.

Flexibility and Elasticity

You can create custom public networks and register private domain names that comply with the IANA specifications, which makes the configuration of private domain names more flexible and elastic.

Unified Management

One private domain name can be associated with multiple VPCs to facilitate unified management and deployment.

Comprehensive Records

6 types of records are supported: A, CNAME, MX, AAAA, TXT, and PTR, covering multiple application scenarios of DNS.

Reverse DNS

You can set reverse DNS by creating a fixed private domain ending with `in-addr.arpa` and adding a PTR record.

Subdomain Recursive DNS

After subdomain recursive DNS is enabled, subdomains that have no DNS records configured will be automatically forwarded to the public authoritative DNS for resolution.

Use Limits

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Private DNS Use Limits

Currently, the following limits and restrictions apply to Private DNS:

Notes

Finance regions are visible to group cloud users and financial users.

If you don't use Tencent Cloud's default DNS servers `183.60.83.19` and `183.60.82.98`, you will be unable to use the Private DNS service. If you need to modify the DNS server, see [Getting Private IP Addresses and Setting DNS](#).

For more scenario requirements, provide your feedback via your rep or [submit a ticket](#).

| Item | Limit | Description |
|-------------------------|---|--|
| Number of DNS records | 100,000 | Up to 100,000 DNS UIN account. |
| Number of domains | 500 | Up to 500 private do UIN account. |
| TTL | 1 - 86400s | TTL is the retention server and can be c mechanism for DNS Private DNS are cou requests and billed. cache to reduce orig |
| Available regions | Beijing, Shanghai, Guangzhou, Chengdu, Chongqing, Wuhan, Jinan, Shijiazhuang, Nanjing, Hefei, Shenyang, Changsha, Zhengzhou, Xi'an, Fuzhou, Hangzhou, Hong Kong (China), Silicon Valley, Singapore, Frankfurt, Jakarta, Bangkok, Mumbai, Virginia, Tokyo, Seoul, Toronto, Beijing Finance, Shanghai Finance, Shenzhen Finance | An available region i associated with a pr |
| Private domain creation | The system supports creating TLDs conforming to IANA by default. To create custom TLDs, purchase Value-Added Service - Non-Standard TLDs first. | Reference: Root Zor |
| DNS queries per second | 2,000 QPS per VPC | If the DNS queries p risk of request rate li (99.99%) stated in S |
| Recursive subdomain | - | After the Recursive : Private DNS is enab |

| | | |
|------------------|---|--|
| resolution | | which no records are DNS. If this feature i be properly resolved |
| CNAME flattening | - | If you have set a CN CNAME record will t CNAME flattening fe you enable the Recu feature before using result can be returne record requires quer |

Round-Robin DNS Record Limits

Notes

"Number of Round-Robin DNS Records" refers to the number of records that can be added under the same host and the same record type.

Those out of the limit cannot be properly added. To set the number of round-robin DNS records, purchase [Value-Added Service Packages](#) first.

| Record Type | Number of Round-Robin DNS Records | Remarks |
|-------------|--|--------------------------------------|
| A | 10 | - |
| AAAA | 10 | - |
| TXT | 20 | Weight setting is unavailab records. |
| CNAME | 5 | - |
| MX | 50 | - |
| PTR | The PTR record does not support round-robin DNS. | - |

Use Cases

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This document describes the common use cases of Private DNS.

Private Network Access Hijacking

You can use Private DNS to create a private domain name, associate it with a VPC, add a DNS record for it, and set resource mapping to implement the private network hijacking feature. Then, when you access the private domain in the VPC, the mapped resource that you set in advance will be returned.

Tencent Cloud Service Resource Management

You can use private DNS records to manage Tencent Cloud resources such as CVM, CLB, CDN, and COS in VPCs. For example, you can plan the hosts of CVM instances according to the region, business scenario, server information, etc. and use the host information to add private domain names and DNS records for such instances. These private domain names are inaccessible outside the VPCs, which makes it easier for you to manage CVM resources.

Mutual Access Between Tencent Cloud Service Resources

You can connect VPCs with traditional IDCs through Direct Connect or VPN so that they can access each other's resources at private domain names, facilitating the intuitive use of Tencent Cloud service resources.

Tencent Cloud Service Resource Switching

Generally, in order to ensure the stable operation of a high-concurrency business, the business is distributed on multiple CVM instances for them to share the pressure, and the same VPC can be established for such instances to enable mutual access between them at private IPs. However, when an instance is switched, its private IP will also change accordingly. Therefore, it is necessary to modify the business code and release the change, which is extremely inconvenient.

In this case, you can create a private domain name for each instance in your VPC through Private DNS and add DNS records pointing to the corresponding private IPs. The instances can access each other at the private domain names, and when an instance is switched, you do not need to modify the code. Instead, you can simply modify the DNS record of its domain name.