

Content Delivery Network

Product Introduction

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Tencent
Cloud

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Product Introduction

Overview

Product Overview

Content Delivery Network (CDN) is a new network architecture added on the existing Internet and is made up of high-performance acceleration nodes distributed around the world.

These high-performance service nodes will store your business content based on a certain cache policy. When your user makes a request for your business content, the request will be allocated to the service node that is closest to the user. The service node will give a direct response to the request quickly, greatly reducing the user's access latency and improving availability.

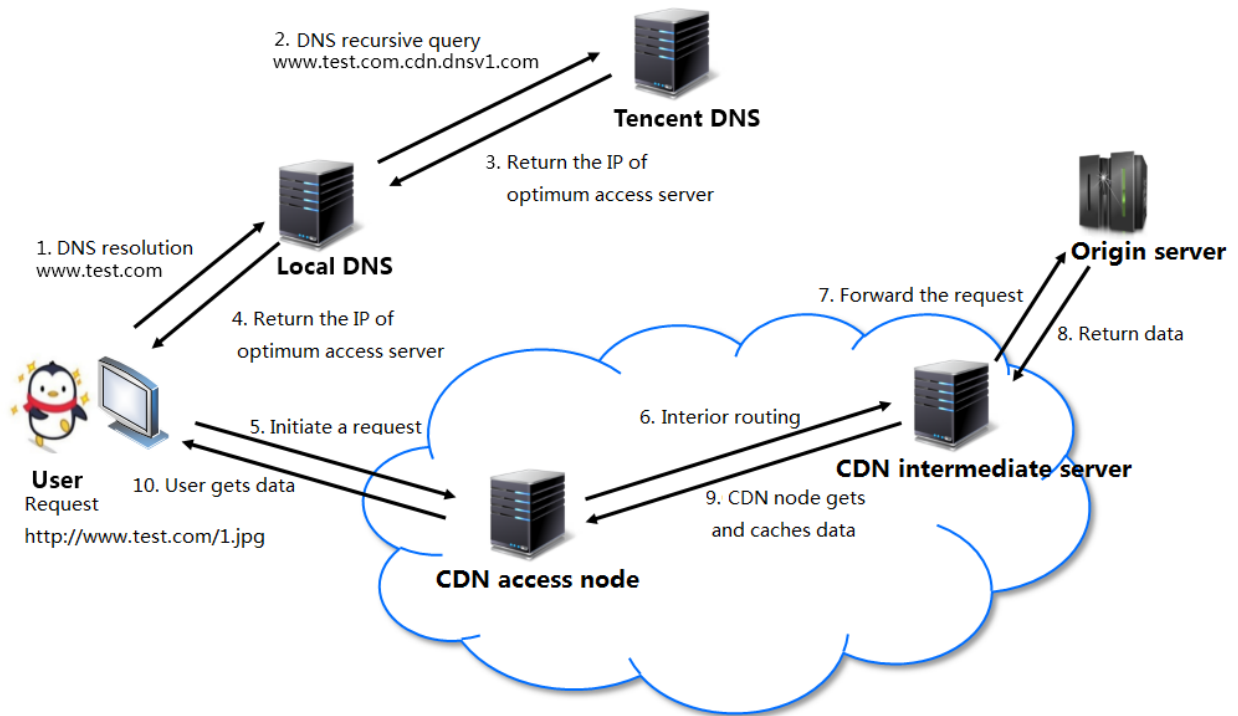
CDN can effectively solve the following network problems of Internet business:

1. The long physical distance between the user and the business server makes the request need to be forwarded via network many times, leading to a high transmission latency and instability.
2. The ISP used by the user is different from the one where the business server resides in, so the request need to be forwarded between the ISPs after they are interconnected with each other.
3. The limited network bandwidth and processing capacity of business server result in a slower response and lower availability in case of massive user requests.

Featuring a simple connection, CDN allows you to enjoy the global CDN acceleration services without the need to change your business structure or perform complicated operations and configuration. For more information about connection, refer to [Getting Started](#) and [Activate CDN](#).

How does it work?

For example, if your business origin server's domain name is `www.test.com` and the domain name has been connected to CDN and starts to use acceleration service, when your user makes an HTTP request, the request will be processed as shown in the figure below:



The procedure is as follows:

1. A user wants to make a request to access a picture resource on `www.test.com`, e.g. `1.jpg`. The user needs to send a domain name resolution request to Local DNS first.
2. The Local DNS resolves `www.test.com` and find that CNAME `www.test.com.cdn.dnsv1.com` has been configured. It forwards the resolution request to Tencent DNS (GSLB). GSLB is a scheduling system independently developed by Tencent Cloud and will allocate the best node IP to the request;
3. Local DNS receives the resolved IP returned by Tencent DNS;
4. The user receives the resolved IP;
5. The user sends a request to access `1.jpg` to the received IP;
6. If `1.jpg` is cached on the node corresponding to the IP, the data will be returned directly to the user (10), then the request ends. If `1.jpg` does not exist on the node, the node will send a request for `1.jpg` to the origin server (6,7,8). After obtaining the resource, the node will use the user-defined cache policy (refer to the section about cache duration setting in the User Guide) to store the resource (9) and return it to the user (10). The request ends now.

Advantages

Spectacular Acceleration and Global Coverage

In order to allow your published content to reach users faster, Tencent Cloud CDN has set up more than 800 nodes across the nation, covering mainstream ISPs such as China Mobile, China Unicom and China Telecom as well as many medium and small-sized ISPs such as China Tietong and Great Wall Broadband. Standalone server on each node has a performance up to double-hundred-million and the total node bandwidth reaches over 70T, thus perfectly solving the problem of high access latency of user and instability caused by such factors as geographical location, network and origin server's performance.

Nodes in Mainland China

Tencent Cloud CDN provides more than 100 overseas nodes with a coverage of more than 30 countries and regions across the globe to allow your business to go global seamlessly.



Intelligent Scheduling and Link Optimization

When your user requests for resources, the request may not be transmitted via the optimal access route due to such factors as network, geographical location or bandwidth. Tencent Cloud CDN, through the real-time monitoring of the links across the network and by using the self-developed GSLB scheduling system and intelligent routing technology, optimizes user's access experience in the following three ways.

Optimal Connection

With Tencent Cloud's GSLB scheduling system, your users' requests will be allocated to the nearest, best CDN node to ensure that users can quickly get what they need.

Optimal Back-to-origin

When the request for the content needed is sent to the allocated node, the node needs to go back to the origin server to get it. Tencent Cloud CDN will select for you the optimal network link to ensure a rapid access to the content based on the real-time status monitoring across network and intelligent routing technology.

Dynamic Acceleration

If your user initiates a dynamic request, for example, makes a login, such a request cannot be accelerated by the node and it needs to be directly transmitted to the origin server. Tencent Cloud CDN also provides the optimal network link for such requests to effectively bypass links with poor quality or congested links, improving the speed by up to 20%.

High Security and Transparency, Comprehensive Protection

With the presence of enormous security risks in public network environment, your origin server may be subject to malicious network attacks, resulting in the failure to provide services for users normally or unnecessary losses caused by malicious cheating for your published content. In order to guarantee your business security, Tencent Cloud CDN provides an all-round protection for your business in the following three aspects.

Anti-Attack Protection

Each node of Tencent Cloud CDN boasts anti-DDOS capability. In combination with the

independently developed malicious attack filter module, these nodes can effectively defense against DDOS and CC attacks to ensure the normal operation of your business.

HTTPS Support

Tencent Cloud CDN supports HTTPS transmission of all nodes across the network. If your business has a high security requirement and has a certificate, it can be directly uploaded to the CDN node for deployment. Both the user request sent to node and back-to-origin request sent from node will be encrypted to ensure data security. If you have no certificate, Tencent Cloud provides you with a free third-party DV certificate that allows one-click deployment to make the connection more secure.

Anti-hijacking of Domain Name

In order to prevent your domain name from being hijacked in the process of revolution and thus failing to be resolved to the optimal access node, Tencent Cloud CDN provides HTTP DNS Express Service solution. In this way, your domain name will be resolved more rapidly through the PUBLIC DNS to avoid being hijacked maliciously.

Simple Connection and Various Management Tools

You do not need to make adjustments or changes to your business to connect to Tencent Cloud CDN. In addition, you don't have to worry that you cannot access the business statistics and business cost details in a transparent way or achieve a real-time monitoring of business status. Tencent Cloud CDN features a quick and simple connection and offers a variety of management tools, so that the whole CDN can be presented to you as transparent as possible.

Simple Connection

To connect to Tencent Cloud CDN, you only need to provide your domain name. CDN will assign you a CNAME in a fixed format. You need to change the CNAME setting corresponding to this domain name at the domain name service provider for the domain name. Once the DNS takes effect, you can immediately start using Tencent Cloud CDN.

Statistics Monitoring

Tencent Cloud CDN provides you with multi-dimensional data analysis, including consumption statistics, access statistics, request status statistics, origin server statistics, etc. If you need to perform real-time monitoring of such statistics, you can go to [Cloud Monitor](#) to set relevant alarms, so that

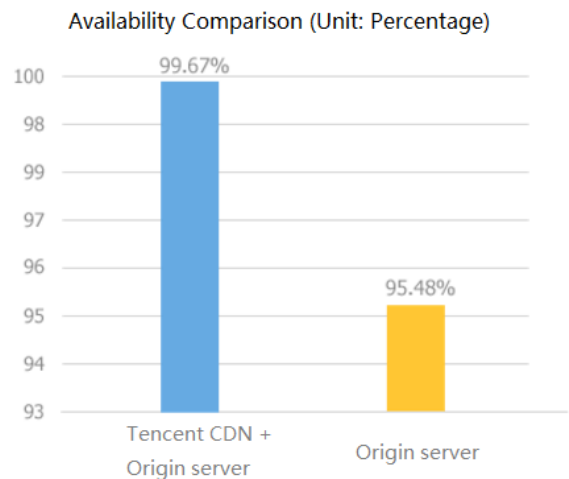
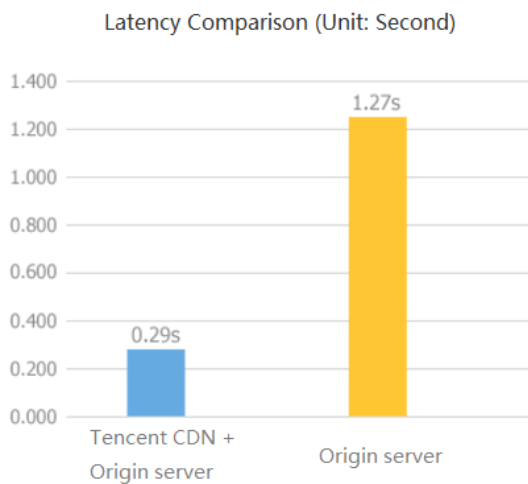
you can get a picture about the business status in real time. At the same time, Tencent Cloud CDN will provide monthly operating data report to allow you to keep track of the monthly business fluctuations.

Various Management Tools

You can perform domain name management, setting changes, going online/going offline, deletion and other operations through the CDN console. You can also make queries on the above statistics and charts. If your operation&maintenance personnel need to realize the management, monitoring, data presentation and analysis of your business in a customized way, Tencent Cloud provides a wealth of standard API interfaces.

Results Comparison

The comparison between the origin server that uses Tencent Cloud CDN and the one that does not in latency and availability is shown in the following figure. With the optimization of Tencent Cloud CDN, the latency is reduced by 5 times and the availability of resources is improved to 99.5% or more.



The above test results are based on the results of benchmarking test that is commonly used in the industry. For detailed test data and results, please [Click Here](#).

Features

□

Comprehensive Acceleration and Security Protection

Provide a wide range of acceleration capabilities including static acceleration, dynamic acceleration, file download, LVB and VOD; feature a high-performance cache system to reduce access latency and improve resource availability; boast powerful protection against DDoS and CC attacks.

Fast Connection and Easy Self-configuration

Support connection with a variety of origin servers including self-owned origin servers and COS origin servers; allow a fast and easy connection; provide self-configuration and open API interfaces to satisfy the needs of users with different O&M habits.

Comprehensive Configuration and Abundant Reports

Such configurations as cache policy, hotlink protection, content refreshing offer a flexibility in use of CDN; real-time monitoring and alarm as well as self-troubleshooting tools can provide feedback on business status and resolve failures in time; abundant statistical analysis reports and log information are provided for your review.

Flexible Billing and Project Management

Offer premium packages combining free services and discounts; provide a wide range of billing options; the charge is billed on a pay-as-you-go basis and billing model can be changed based on your business needs for cost saving; the supports for your projects can facilitate your project management within organization.

CDN Performance Test

Test Description

Test Tools

Host (1 core, 1G), Tencent Cloud CDN

Test Method

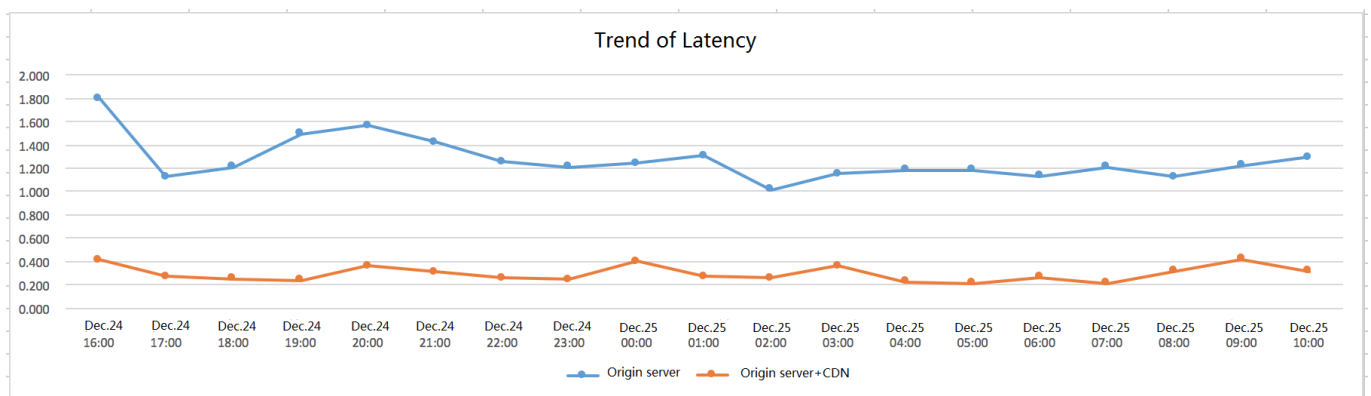
Use the benchmarking test method commonly used in the industry. The service provider is Ting Yun.

Test Parameters

Time	16:00, Dec 24, 2015 ~ 11:00, Dec 25, 2015
Tested cities	All
Tested ISPs	All
Origin server link	http://**/20090820_a5168bfe-3791-4a5c-bb59-1244e3ee1153.jpg
Origin server+CDN link	http://**/**/20090820_a5168bfe-3791-4a5c-bb59-1244e3ee1153.jpg

Result Analysis

Performance Curve



Availability Curve

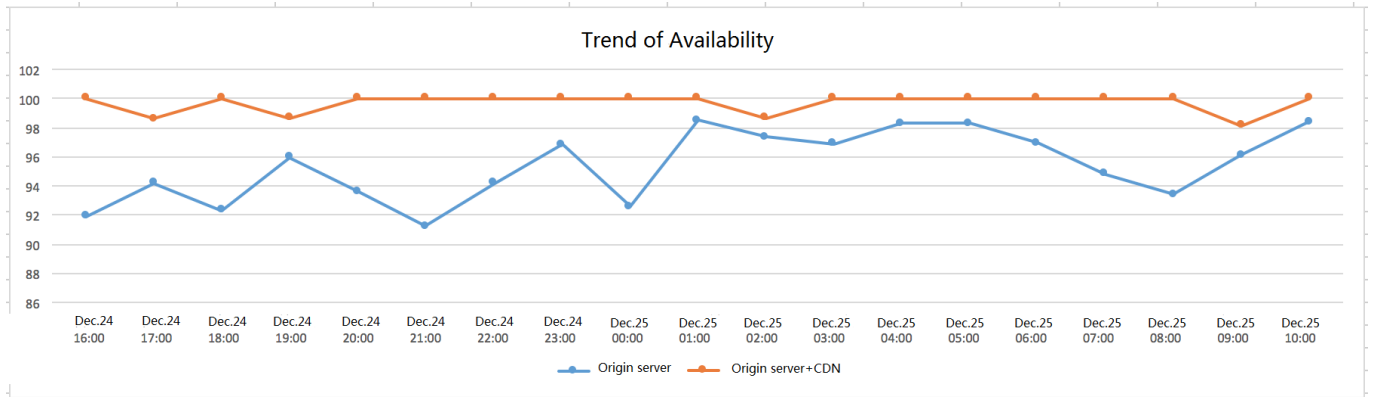


Chart Analysis

Monitoring Task	Number of Monitoring Points	Performance (sec)					Availability (%)				
		Mean	Best		Worst		Mean	Best		Worst	
Origin Server	1173	1.271	02:00, Dec. 25	1.015	16:00, Dec. 24	1.801	95.48	01:00, Dec. 25	98.53	21:00, Dec. 24	91.23
Origin Server - CDN	1205	0.291	05:00, Dec. 25	0.209	09:00, Dec. 25	0.421	99.67	16:00, Dec. 24	100.00	09:00, Dec. 25	98.18

Data Details

Time	Origin Server			Origin Server+CDN		
	Performance (sec)	Availability (%)	Number of Monitoring Points	Performance (sec)	Availability (%)	Number of Monitoring Points
16:00, Dec.24, 2015	1.801	91.94	62	0.41	100	64

17:00, Dec.24, 2015	1.123	94.2	69	0.269	98.63	73
18:00, Dec. 24, 2015	1.211	92.31	52	0.247	100	52
19:00, Dec. 24, 2015	1.495	95.95	74	0.239	98.65	74
20:00, Dec. 24, 2015	1.568	93.65	63	0.357	100	65
21:00, Dec. 24, 2015	1.421	91.23	57	0.308	100	60
22:00, Dec. 24, 2015	1.255	94.23	52	0.256	100	54
23:00, Dec. 24, 2015	1.206	96.83	63	0.241	100	64
00:00, Dec. 25, 2015	1.242	92.59	54	0.397	100	53
01:00, Dec. 25, 2015	1.309	98.53	68	0.271	100	71
02:00, Dec. 25, 2015	1.015	97.37	76	0.253	98.68	76
03:00, Dec. 25, 2015	1.154	96.92	65	0.363	100	66
04:00, Dec. 25, 2015	1.181	98.33	60	0.225	100	63
05:00, Dec. 25, 2015	1.185	98.31	59	0.209	100	59
06:00, Dec. 25, 2015	1.131	96.97	66	0.265	100	67
07:00, Dec. 25, 2015	1.211	94.83	58	0.212	100	62
08:00, Dec. 25, 2015	1.127	93.44	61	0.313	100	62
09:00, Dec. 25, 2015	1.224	96.15	52	0.421	98.18	55

10:00, Dec. 25, 2015	1.295	98.39	62	0.314	100	65
Average/Aggregate	1.271	95.48	1173	0.291	99.67	1205
Excluded Points	0			0		

CDN Service Level Agreement

1. INTRODUCTION

This agreement forms part of, and is incorporated into, the Tencent Cloud Service Level Agreement between you and us, in relation to your use of Tencent Cloud.

2. SERVICE LEVELS

Separate Service Levels apply to the Global CDN Service and the Mainland China CDN Service.

A "CDN Service Level" is either the Global CDN Service Level or the Mainland China CDN Service Level (as applicable).

2.1 Global CDN Service Level

The following is the "Global CDN Service Level" for the Tencent Cloud Global Content Delivery Network service ("Global CDN").

Global CDN Service Level	Global CDN Availability is at least 99.90%.
Requirements/conditions for this Service Level	

History

Date	Version No.	Description
Apr.11.2017	V2.33	New domain list export Support batch CDN-IP queries
Feb.20.2017	V2.32	New statistical metrics for status code
Jan.14.2017	V2.31	The configuration of acceleration domain in China is synchronized to international one just by one step (International acceleration is undergoing internal trial)
Dec.14.2016	V2.30	<p>CDN in China supports switchover between user's origin server and COS origin server;</p> <p>User's origin server can be equipped with hot backup origin server to effectively improve origin-pull quality;</p> <p>Setting capped bandwidth for domain name is supported; when the capped bandwidth is exceeded, the service can be stopped directly or the request will be directed to origin server;</p> <p>For any domain name configured with SSL certificate, forced jump to HTTPS is supported;</p> <p>Activating the intermediate origin server is supported for international CDN;</p> <p>Activating cross-border direct connect is supported for international CDN;</p> <p>Accessing COS origin domain</p>

Date	Version No.	Description
		name is supported for international CDN
Nov.25.2016	V2.29	New enquiry features in the international CDN such as log management, URL purge, URL warm-up and purge warm-up; New features in CDN in China such as origin-pull redirection following 302 and Range pull-origin configuration;
Nov.1.2016	V2.28	Add such items to the original server statistic as origin-pull failure rate, origin-pull failure type and 404 status code; Users can go to Cloud Monitor to configure the monitoring alarm for the origin-pull rate
Oct.26.2016	V2.27	Support history data enquiry for bandwidth & traffic in over one year Optimize the configuration of HTTPS certificate and support batch configuration
Sep.23.2016	V2.26	Support IP access frequency restriction Add multiple new Cloud Monitor metrics
Sep.12.2016	V2.25	Provide international CDN console(beta test is open to the public)
Aug.22.2016	V2.24	Support priority adjustment in case of cache expiration
Aug.11.2016	V2.23	Support configuring IP

Date	Version No.	Description
		blacklist/whitelist Add new origin server statistic module Provide self-troubleshooting tool
Jul.19.2016	V2.22	Support SEO optimization configuration Provide HTTP Header custom configuration
Jun.30.2016	V2.21	Resource activation warm-up feature (beta test is open to the public) Application entry for international CDN is open to the public (beta test is open to the public)
Jun.13.2016	V2.20	Provide monthly operation report of CDN
Apr.29.2016	V2.19	Provide HTTPS certificate from the third party for free
Mar.4.2016	V2.17	Support enquiry for CDN node IP attribute
Jan.20.2016	V2.14	CDN can support COS origin server
Oct.10.2015	V2.10	Provide monitoring on CDN status
Aug.8.2015	V2.4	Support permission management for separate project Provide multi-dimension statistic such as access status code
Jun.12.2015	V2.3	Support directory refreshing Support wildcard DNS record Provide large file warm-up feature

Date	Version No.	Description
May.18.2015	V2.2	WeChat official account one-stop acceleration Inherit cache-control from origin server upon the cache expiration
Apr.20.2015	V2.1	Support such advanced features as host header configuration, refer hotlink protection configuration and cache expiration time
Mar.15.2015	V2.0	Support user's origin server, FTP hosting server to access CDN Support bill-by bandwidth, bill-by traffic and multi-dimension data demonstration
May.25.2014	V1.0	Support accessing to CDN by SVN