

Content Delivery Network

Best Practices

Issue 02
Date 2024-12-10



Copyright © Huawei Technologies Co., Ltd. 2024. All rights reserved.

No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Technologies Co., Ltd.

Trademarks and Permissions



HUAWEI and other Huawei trademarks are trademarks of Huawei Technologies Co., Ltd.

All other trademarks and trade names mentioned in this document are the property of their respective holders.

Notice

The purchased products, services and features are stipulated by the contract made between Huawei and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

Security Declaration

Vulnerability

Huawei's regulations on product vulnerability management are subject to the *Vul. Response Process*. For details about this process, visit the following web page:

<https://www.huawei.com/en/psirt/vul-response-process>

For vulnerability information, enterprise customers can visit the following web page:

<https://securitybulletin.huawei.com/enterprise/en/security-advisory>

Contents

1 Configuring a Policy for a Custom OBS Private Bucket.....	1
2 Accelerating Access to Websites Built on ECSs.....	3
3 Setting the Cache TTL.....	7
4 Improving the Cache Hit Ratio.....	16
A Change History.....	20

1 Configuring a Policy for a Custom OBS Private Bucket

If you use a custom OBS private bucket as the CDN origin server, that is, use an OBS private bucket under another account as the origin server, you need to configure a policy for the private bucket on OBS Console.

Procedure

1. In the navigation pane of **OBS Console**, choose **Object Storage**.
2. In the bucket list, click the name of the bucket to be operated.
The **Objects** page of the bucket is displayed.
3. In the navigation pane, choose **Permissions** > **Bucket Policy**.
4. Click **Create Bucket Policy**.
5. In the first row of the template list, click **Create Custom Policy** on the right.
 - **Policy View:** Select **Visual editor**.
 - **Policy Name:** Enter a name.
 - **Policy Content:** Select **Allow**.

6. Configure authorized users.
 - **Principal:** Select **Other account**.
 - **Account ID:** Enter the ID of the account that uses CDN acceleration.
 - **IAM User ID:** Enter the ID of an IAM user under another account if you only want to grant permissions to this IAM user. If no IAM user is configured, enter *.
 - **User Policy:** Select **Include specified users**.

7. Configure resources.
 - **Resource:** Select the current bucket or objects in the bucket.
8. Configure actions.
 - Select the action to be authorized. The asterisk (*) indicates all actions.
9. On the **Confirm Policy** page, click **Create**.
10. Click the edit icon on the right of the created bucket policy and click the **JSON** tab.
 - Change **domain/Account ID:user/User ID** in **Policy Content** to **domain/Account ID:agency/***.

Policy Content

```

{
  "Statement": [
    {
      "Sid": "001",
      "Effect": "Allow",
      "Principal": {
        "ID": [
          "domain/0a0t", "1373:user/0a0t", "373"
        ]
      },
      "Action": [
        "Get*"
      ],
      "Resource": [
        "*"
      ]
    }
  ]
}
    
```

11. Click **Next** and then **Yes** to complete the configuration.

2 Accelerating Access to Websites Built on ECSs

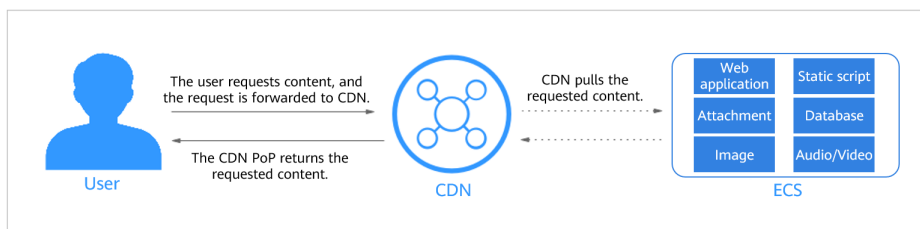
Background

An ECS is a basic computing component that consists of CPUs, memory, OS, and Elastic Volume Service (EVS) disks. Flexible ECS configuration helps save a large amount of hardware costs. Assume that a customer deployed a forum website accessible through a domain name on Huawei Cloud ECS. The initial service volume was small, and user access was smooth. As the services grew, the access traffic increased sharply. Users complained about problems such as slow access. To improve the access speed and user experience, the customer decided to use Huawei Cloud CDN.

Solution Overview

Using Huawei Cloud CDN to accelerate content delivery for websites built on ECSs can reduce costs and improve user experience.

Service process: When a user initiates an access request, CDN checks whether the content requested by the user is cached on the CDN PoP with the fastest response speed. If a CDN PoP has cached the content, it directly returns the content to the user. If the CDN PoP does not cache the content, it pulls the content from the origin server, returns the content to the user, and caches the content.



Solution Advantages

- Users access website content through CDN, reducing the pressure on the origin server.
- The unit price of CDN traffic is lower than that of the traffic generated when ECSs directly access the Internet, saving 50% to 57% of the bandwidth cost.

- Users can obtain content from the nearest CDN PoP, which shortens the network transmission distance and ensures the quality of static content.

Procedure

1. Set up a forum website on an ECS. For details, see [Setting Up a Discuz Forum](#).
 - The IP address of the server is 192.168.1.1.
 - The domain name of the website is discuztest.com.
2. Enable CDN.
 - a. Log in to [Huawei Cloud console](#). Choose **Service List > Content Delivery & Edge Computing > Content Delivery Network**. The CDN console is displayed.
 - b. Select a billing option, read and agree to the service agreement, and click **Enable Now**.
3. Add a domain name on CDN.
 - a. In the navigation pane of the CDN console, choose **Domains**.
 - b. On the **Domains** page, click **Add Domain Names** and configure the acceleration domain name and origin server information.
 - **Domain Names:** Enter **discuztest.com**.
 - **Service Area:** Select **Chinese mainland**.
 - **Service Type:** Select **Website**.
 - **Origin Server Settings**
 - **Origin Protocol:** Select **HTTP**.
 - **Type:** Select **IP address**.
 - **Address:** Enter **192.168.1.1**.
 - **Priority:** Select **Primary origin server**.
 - **Host Header:** By default, the acceleration domain name is used.

Add Domain Name

* Domain Name
+ Add

* Enterprise Project

* Service Type Website File download On-demand service
For web portals, e-commerce platforms, news apps, and user generated content (UGC) apps. [How Do I Select a Service Type?](#)

* Service Area Europe Global(Chinese_mainland not included)

* Origin Server Address IP address Domain name

OK Cancel

- c. Click **OK**.

 **NOTE**

The configuration takes 5 to 10 minutes to take effect. When **Status** of the domain name becomes **Enabled**, the domain name has been added.

- 4. Test your domain name before adding a CNAME record to the domain's DNS records to ensure that your domain configurations are correct. For details, see [\(Optional\) Testing the Domain Name](#).
- 5. Configure CNAME resolution. CDN automatically generates a CNAME after you add a domain name. The CNAME cannot be accessed directly. You must add it to your domain's DNS records. Then requests for your domain name will be redirected to CDN PoPs for acceleration.

In this practice, the generated CNAME is **discuztest.com.7fb73989.cdnhwcedi10.com**.

- a. In the upper left corner of [Huawei Cloud console](#), choose **Service List > Networking > Domain Name Service**.
The DNS console is displayed.
- b. In the navigation pane, choose **Public Zones**.
The public zone list is displayed.
- c. Click the domain name you want to add a record set to. In this practice, the domain name is **discuztest.com**.
- d. Click **discuztest.com**. On the displayed page, click **Add Record Set** in the upper right corner. The **Add Record Set** dialog box is displayed.
- e. Set the parameters as prompted. Use the default values for the parameters that are not listed in the following table.

Parameter	Description	Example
Name	Domain name prefix.	www
Type	Type of the record set.	CNAME – Map one domain to another
Line	Resolution line. The DNS server will return the IP address of the specified line based on the source of visitors. You must add a Default line to ensure that the website is accessible to users of all carriers.	Default
TTL (s)	Cache duration of the record set on a local DNS server. If your service address changes frequently, set TTL to a smaller value.	5 min

Parameter	Description	Example
Value	Domain name to be pointed to. If CDN acceleration is not enabled, the value is the ECS domain name. If CDN acceleration is enabled, the value is the CNAME generated by CDN.	discuztest.com.7fb73989.cdnhwcedi10.com

- f. Click **OK**.
6. Check whether the CNAME record has taken effect.
Open the Windows command line interface and run the following command:
`nslookup -qt=cname Acceleration domain name`
In this practice, the acceleration domain name is **discuztest.com**. If the CNAME generated by CDN is displayed, the CNAME configuration has taken effect.
7. Check whether the configuration is successful.
Log in to the forum website and browse web pages. If the website can be visited, the acceleration configuration is successful.

3 Setting the Cache TTL

CDN caches origin content on globally distributed PoPs so that users can obtain the content from nearby PoPs. On the CDN console, you can set the cache TTL for origin content of different file types based on service requirements.

Impact of Origin Servers on CDN PoP Caches

- If you have configured a cache rule on the origin server, the following scenarios are possible:
 - If you have set **Cache-Control** to **no-cache**, **private**, or **no-store** on the origin server and enabled **Origin Cache Control** on the CDN console, CDN PoPs do not cache origin content. Instead, CDN PoPs pull content from the origin server each time the content is requested. This does not achieve acceleration.

NOTE

By default, **Origin Cache Control** is disabled on the CDN console.

- If you have set a specific TTL on the origin server, this TTL will be overwritten by that set on the CDN console.
- If no cache rules are set on the origin server, cache rules set on the CDN console are used.

Setting a Cache TTL Based on Service Type

Default cache TTL

- If the service type is website acceleration, file download acceleration, or on-demand service acceleration, and the origin server address is an IP address or domain name, the following default cache rules are available:
 - The default cache TTL for common dynamic files (for example, .php, .jsp, .asp, and .aspx files) is 0. CDN pulls content from the origin server directly when receiving requests for such dynamic files. You can modify and delete this rule.
 - The default cache TTL for other files is 30 days. You can modify but cannot delete this rule.
- If your origin server is an OBS bucket, the default cache TTL for all files is 30 days. You can modify but cannot delete this rule.

 **NOTE**

You can add a custom cache rule with a higher priority so that custom rule will be used.

- If the service type is whole site acceleration, a cache rule with **Type** set to **All files** and **Maximum Age** set to **0** is available by default. You can modify and delete this rule.

You can configure a cache TTL based on the service type and the following suggestions.

- Website acceleration
 - Do not cache dynamic files such as .php, .aspx, .asp, .jsp, .do, .dwr, .cgi, .fcgi, .action, .ashx, .axd, and .json files.
 - Cache .shtml, .html, .htm, and .js files for seven days.
 - Cache other static files for 30 days.
- Download acceleration
 - Do not cache dynamic files such as php, aspx, asp, jsp, and .do files.
 - Cache files of the following types for 30 days: .7z, .apk, .wdf, .cab, .dhp, .exe, .flv, .gz, .ipa, .iso, .mpk, .mpq, .pbcv, .pxl, .qnp, .r00, .rar, .xy, .xy2, .zip, and .cab.
- On-demand service acceleration
 - Do not cache dynamic files such as .php, .aspx, .asp, .jsp, and .do files.
 - Cache the following file types for seven days: .mww, .html, .htm, .shtml, .hml, .gif, .swf, .png, .bmp, and .js.
 - Cache the following file types for 30 days: .mp3, .wma, .7z, .apk, .wdf, .cab, .dhp, .exe, .flv, .gz, .ipa, .iso, .mpk, .mpq, .pbcv, .pxl, .qnp, .r00, .rar, .xy, .xy2, .zip, and .cab.

Procedure

1. Log in to [Huawei Cloud console](#). Choose **Service List > Content Delivery & Edge Computing > Content Delivery Network**.
The CDN console is displayed.
2. In the navigation pane, choose **Domains**.
3. In the domain list, click the target domain name or click **Configure** in the **Operation** column.
4. Click the **Cache Settings** tab.
5. In the **Cache Rules** area, click **Edit**.
The **Configure Cache Rule** dialog box is displayed.
6. Click **Add** to add cache rules. [Table 3-1](#) describes the parameters.

Figure 3-1 Configuring a cache rule

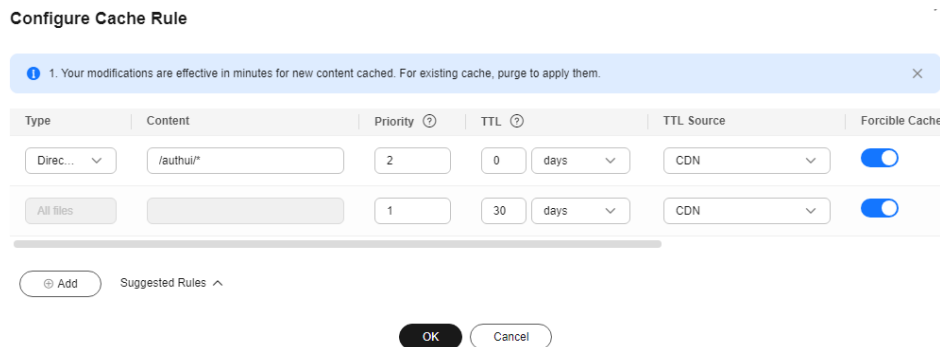


Table 3-1 Cache rule parameters

Parameter	Description	Configuration Rule
All files	All cached resources on CDN PoPs	By default, CDN has a rule for every new domain name. The rule specifies that the cache TTL for All files is 30 days. You can modify but cannot delete this rule.
File type	Files of a specific type If the service type of a new domain name is Website , File download , or On-demand service and its origin server is a private one, CDN adds a rule to it by default. The rule specifies that the cache TTL is 0 for common dynamic files, such as .php .jsp .asp, and .aspx files. CDN pulls such files from the origin server for every request. You can modify and delete this rule.	<ul style="list-style-type: none"> All file types are supported. Start each file name extension with a period (.), and separate file name extensions with semicolons (;). Enter up to 255 characters. Enter up to 20 file name extensions. File name extensions are case-insensitive. Example: .JPG;.zip;.exe
Directory	All files in a directory	Start a directory with a slash (/), and separate multiple directories with semicolons (;). Enter a maximum of 20 directories with a maximum of 255 characters in total. Example: /test/folder01;/test/folder02

Parameter	Description	Configuration Rule
Full path	A specific file	A full path must start with a slash (/) and cannot end with a wildcard (*). A file in the specified directory or file with the wildcard (*) can be matched. Enter only one full path. Examples: /test/index.html or /test/*.jpg
Homepage	Root directory	The root directory of a website is the top-level directory of the website folder, which contains all subfolders of the website. For example, for abc/file01/2.png , abc/ is the root directory, and a cache rule is configured for abc/ .
Priority	Priority of a cache rule Each cache rule must have a unique priority. If a resource is specified in multiple cache rules, the rule with the highest priority is applied.	Enter an integer ranging from 1 to 100. A greater number indicates a higher priority.
Maximum Age	Duration that a file can be cached. If the cache TTL of the file has reached, CDN requests the most recent content of the file from the origin server when a user requests the file from a CDN PoP. In addition, the CDN caches that content on the CDN PoP.	The cache TTL of a cached file cannot exceed 365 days. You are advised to set the time according to the following rules: <ul style="list-style-type: none"> • For static files (such as .jpg and .zip files) that are not frequently updated, set the TTL to more than one month. • For static files (such as JS and CSS files) that are frequently updated, set the TTL based on service requirements. • For dynamic files (such as PHP, JSP, and ASP files), set the TTL to 0 seconds.

Parameter	Description	Configuration Rule
Query Parameters	<p>Most web page requests carry URL parameters starting with a question mark (?). If parameters do not contain important information (such as version), you can ignore them to improve the cache hit ratio and speed up delivery.</p> <p>Configuration rules:</p> <ul style="list-style-type: none">• If resources do not change with URL parameters, ignore query parameters.• If resources change with URL parameters, retain query parameters.• If you have enabled video seek, set Query Parameters to Ignore all for your video resources.	<ul style="list-style-type: none">• Retain all: CDN retains all parameters following the question mark (?).• Ignore all: CDN ignores all parameters following the question mark (?) in request URLs, improving the cache hit ratio.• Ignore specific: CDN ignores the specified parameters in request URLs but retains other parameters.• Retain specific: CDN retains the specified parameters in request URLs but ignores other parameters.
URL Parameters	<p>Parameters to be ignored or retained. Leave this parameter blank when Query Parameters is set to Retain all or Ignore all.</p>	<ul style="list-style-type: none">• Enter up to 10 parameter names separated by semicolons (;).• Only letters, digits, periods (.), underscores (_), and tildes (~) are supported.

Parameter	Description	Configuration Rule
<p>TTL Source, that is, the original Origin Cache Control field</p>	<p>If Cache-Control: max-age or Expires has been configured on the origin server, you can set TTL Source on CDN to synchronize the cache TTL from the origin server to CDN or force CDN to use the shorter TTL between the cache TTL in the cache rule and that on the origin server. By default, the cache TTL in the CDN cache rule is used. TTL Source values include:</p> <ul style="list-style-type: none"> • Origin server: CDN PoPs use the cache TTL set on the origin server. • CDN: CDN PoPs use the cache TTL set in the cache rule. • Whichever is shorter: CDN PoPs use the shorter TTL between the cache TTL in the cache rule and that on the origin server. <p>NOTE</p> <ul style="list-style-type: none"> • If both Cache-Control and Expires are configured on the origin server, Cache-Control is preferentially used. • If TTL Source is set to Origin server, but neither Cache-Control nor Expires is configured on the origin server, CDN PoPs use the cache rule configured on CDN. 	<p>The default TTL source is CDN.</p>

Parameter	Description	Configuration Rule
Forcible Cache	<p>Whether to ignore the no-cache, private, and no-store fields in the Cache-Control response header of the origin server. When this function is enabled, these fields are ignored. Forcible cache supplements TTL source. The rules are as follows:</p> <ol style="list-style-type: none"> When TTL Source is set to Origin server and Forcible Cache is disabled: <ul style="list-style-type: none"> If no-cache, private, or no-store is set in the Cache-Control response header, CDN PoPs do not cache resources. If other response headers are set, the priority is s-maxage > max-age > expires. For example, if Cache-Control: max-age=500, s-maxage=400 is set on the origin server, the cache TTL on CDN PoPs is 400s. If the preceding response headers are not set, the cache TTL configured on the CDN console is used. When TTL Source is set to Origin server and Forcible Cache is enabled: <ul style="list-style-type: none"> If cache directives are set in the response header of the origin server, the priority is s-maxage > max-age > expires. For example, if Cache-Control: max-age=500, s-maxage=400 is set on the origin server, the cache TTL on CDN PoPs is 400s. 	By default, this function is enabled.

Parameter	Description	Configuration Rule
	<ul style="list-style-type: none"> • If the preceding response headers are not set, the cache TTL configured on the CDN console is used. <p>3. When TTL Source is set to CDN and Forcible Cache is enabled:</p> <ul style="list-style-type: none"> • CDN ignores response headers from the origin server and uses the cache TTL configured on the CDN console. <p>4. When TTL Source is set to CDN and Forcible Cache is disabled:</p> <ol style="list-style-type: none"> a. If no-cache, private, or no-store is set in the Cache-Control response header sent from the origin server, CDN PoPs do not cache resources. b. If no-cache, private, or no-store is not set, CDN uses the cache TTL configured on the CDN console. <p>5. When TTL Source is set to Whichever is shorter and Forcible Cache is disabled:</p> <ul style="list-style-type: none"> • If the cache TTL set on CDN is shorter, the rule 6.d is used. • If the cache TTL set on the origin server is shorter, the rule 6.a is used. <p>6. When TTL Source is set to Whichever is shorter and Forcible Cache is enabled:</p> <ul style="list-style-type: none"> • If the cache TTL set on CDN is shorter, the rule 6.c is used. • If the cache TTL set on the origin server is 	

Parameter	Description	Configuration Rule
	shorter, the rule 6.b is used.	

- (Optional) Delete a cache rule if you no longer use it.
- Click **OK**.

 **NOTE**

If you have modified a cache rule,

- Your modifications are effective for new content cached.
- You can purge to apply modifications to the existing cache.

4 Improving the Cache Hit Ratio

Background

If the CDN cache hit ratio is low, the pressure on the origin server is high and the static resource access efficiency is low. You can select an optimization policy based on the cause of the low cache hit ratio to improve the cache hit ratio. In CDN, the cache hit ratio includes the traffic hit ratio and request hit ratio.

- **Traffic hit ratio** = Traffic generated by requests that hit the cache/Total traffic of requests
- **Request hit ratio** = Number of requests that hit the cache/Total number of requests

NOTE

The traffic hit ratio indicates the load on the origin server. A lower traffic hit ratio means a larger origin pull traffic, which leads to a larger output traffic and higher bandwidth consumption on the origin server.

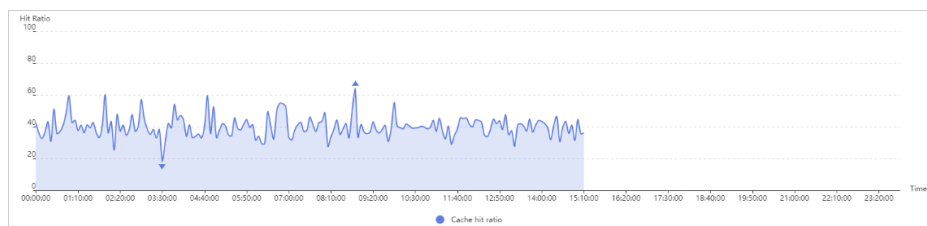
Viewing the Cache Hit Ratio

You can log in to the CDN console to view the traffic hit ratio and request hit ratio.

1. Log in to [Huawei Cloud console](#). Choose **Service List > Content Delivery & Edge Computing > Content Delivery Network**.
The CDN console is displayed.
2. In the navigation pane, choose **Analytics**.
3. Choose **Traffic** and **Requests** under **Analytics** to view the traffic hit ratio and request hit ratio.

Figure 4-1 Traffic hit ratio



Figure 4-2 Request hit ratio

Optimizing the Cache Hit Ratio

1. Set an appropriate cache TTL.

CDN caches origin content on globally distributed PoPs so that users can obtain the content from nearby PoPs. You can set a proper TTL for different content on the CDN console to improve the cache hit ratio.

- For static files (such as images and app packages) that are not frequently updated, set the TTL to more than one month.
- For static files (such as JS and CSS files) that are frequently updated, set the TTL based on service requirements.
- For dynamic files (such as PHP, JSP, and ASP files), set the TTL to **0**, so these files will not be cached on CDN PoPs.

For details, see [Setting the Cache TTL](#).

NOTE

- By default, **Origin Cache Control** is disabled. If you have set **Cache-Control** to **s-maxage=0, max-age=0, no-cache, no-store**, or **private** on the origin server and enabled **Origin Cache Control** on the CDN console, CDN PoPs cannot cache origin content and frequently pulls content from the origin server.
 - If your origin server has multiple hosts and the **Last-modified**, **Etag**, and **Content-Length** parameters of a resource on these hosts are set to different values, CDN PoPs cannot cache the resource and frequently pulls the resource.
 - If origin content has been updated, purge the URLs of the content to ensure that users can obtain the latest content.
 - **If you have modified a cache rule,**
 - Your modifications are effective for new content cached.
 - You can purge to apply modifications to the existing cache.
2. Set URL parameter rules.

Currently, most web page requests carry URL parameters following a question mark (?). Parameters that do not contain important information (such as version) do not affect users' access to the correct content. When setting a cache rule, you can set **Query Parameters** to **Ignore all** or **Ignore specific** to improve the cache hit ratio and distribution efficiency. For details, see [Cache Rules](#).

Typical applications

- When a user requests <http://www.example.com/1.txt?test1> for the first time, the content is not cached on CDN, and CDN pulls that content from the origin server. If **Query Parameters** is set to **Ignore all** on CDN, when another user requests <http://www.example.com/1.txt?test2>, the parameter behind the question mark (?) will be ignored. As a result, the cache of <http://www.example.com/1.txt> is hit.

- When a user requests **http://www.example.com/1.txt?test1** for the first time, the content is not cached on CDN, and CDN pulls that content from the origin server. If **Query Parameters** is set to **Retain all** on CDN, when another user requests **http://www.example.com/1.txt?test2**, the full URL, including the parameter behind the question mark (?) will be matched. As a result, no cache is hit and CDN has to pull **http://www.example.com/1.txt?test2** from the origin server.

3. Preheat URLs.

CDN can proactively cache origin content to CDN PoPs through cache prefetch. When users access the content, they can directly obtain the latest content from CDN PoPs. For details, see [Cache Prefetch](#).

Content prefetch can help you improve the cache hit ratio.

Typical scenarios

- Initial access to CDN: When a domain name is connected to CDN for the first time, the origin content is not cached on CDN PoPs. In this case, you can prefetch the origin content to CDN PoPs. Then users can directly obtain the content from the nearest CDN PoP, improving the access speed.
- Installation package release: Before releasing a software installation package or upgrade package, you can prefetch the content to CDN PoPs. After the software or upgrade is launched, the CDN PoPs directly respond to the download requests of a large number of users, which improves the download speed and greatly reduces the pressure on your origin server.
- Promotional activity: Before releasing a promotional campaign, you can prefetch the static content involved on the activity page to CDN PoPs. After the activity starts, the CDN PoPs respond to user requests for accessing all static content, which ensures service availability and improves user experience.

4. Enable range requests.

A range request allows the origin server to send a specific range of data to a CDN PoP using the range information in the HTTP request header. Range requests accelerate large file distribution and improve origin pull efficiency and cache hit ratio. For details, see [Range Requests](#).

Typical scenarios

- If a user requests a clip of a video, CDN needs to pull the entire video from the origin server when range requests are disabled. As a result, the pull traffic is greater than the traffic used for returning the content to the user, decreasing the cache hit ratio. When range requests are enabled, CDN only needs to pull the requested video clip and returns it to the user, improving the cache hit ratio.

5. Perform further operations.

- Do not update an entire directory when a specific cached content needs to be updated.

You can purge the URL of the cached content to force the cache on CDN PoPs to expire. Purging the entire directory will force the cache of all content in the directory to expire. When a user accesses a resource in the directory, no cache is hit and CDN needs to pull the resource from the origin server. Therefore, do not purge the entire directory, especially the root directory.

- Do not carry dynamic parameters in URLs.
If your URLs contain dynamic parameters, such as timestamps, CDN cannot cache the content and frequently pulls the content.

Checking Whether Requests for a URL Hit the Cache

1. Open Google Chrome and press **F12**.
2. Choose **Network**.
3. Enter the website to be accessed in the address box and press **Enter**. View the response headers of the URL of a specific resource and perform the following operations:
 - If the value of the **x-hcs-proxy-type** header is **1**, the cache is hit. If the value is **0**, the cache is not hit.

A Change History

Released On	Description
2023-01-10	This issue is the second official release. <ul style="list-style-type: none">• Added section "Configuring a Policy for a Custom OBS Private Bucket."
2023-03-30	This issue is the first official release.