Alibaba Cloud
dcdn

Product Introduction

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Generic conventions

Table -1: Style conventions

Style	Description	Example
	This warning information indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results.	Danger: Resetting will result in the loss of user configuration data.
	This warning information indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results.	Warning: Restarting will cause business interruption. About 10 minutes are required to restore business.
	This indicates warning information, supplementary instructions, and other content that the user must understand.	Notice: Take the necessary precautions to save exported data containing sensitive information.
	This indicates supplemental instructions, best practices, tips, and other content that is good to know for the user.	Note: You can use Ctrl + A to select all files.
>	Multi-level menu cascade.	Settings > Network > Set network type
Bold	It is used for buttons, menus, page names, and other UI elements.	Click OK.
Courier font	It is used for commands.	Run the `cd / d  C :/ windows` command to enter the Windows system folder.
Italics	It is used for parameters and variables.	`bae  log  list -- instanceid Instance_ID`
[] or [a|b]	It indicates that it is a optional value, and only one item can be selected.	`ipconfig [-all|-t]`

Style	Description	Example
{} or {a|b}	**It indicates that it is a required value, and only one item can be selected.**	`swich` *{stand | slave}*

Contents

1 Benefits

Alibaba Cloud's Dynamic Route for CDN provides dynamic and static acceleration for dynamic and static resources respectively, improving the access speed of websites that use a combination of dynamic and static content, providing clients with a fast, reliable, and smooth experience. Dynamic Route for CDN currently has four major advantages: stability, speed, ease of extension, and cost-effectiveness.

Stability

· Alibaba Cloud Content Delivery Network (CDN) uses a global network of 2500+ nodes, 80 Gbps single-node bandwidth, and full-network bandwidth capacity of 120 Tbps. This is sufficient to handle sudden surges in traffic, providing stable acceleration services.

· Advanced distributed system architecture: Server load is balanced across the entire network to ensure node availability.

· Stable and efficient performance indicators: Over 95% hit rate and millisecond-level response time.

· Optimized transmission protocols: Supports HTTP/2 and SPDY transmission protocols for fast, efficient, and stable data transmission.

Speed

· Accurate cache: Uses a smart object heat-map algorithm and multi-level, hierarchical cache resources for accurate resource acceleration.

· High-speed cache: High-performance cache system design, balanced use of CPU multi-core processing capabilities, and optimal use and control of random-access memory to maximize the IOPS and throughput of the solid-state drive (SSD).

· High-speed reading/writing: Each node has high-speed read/write SSD storage. With SSD acceleration capabilities, user access latency is reduced dramatically, and availability is improved.

- · Efficient back-to-origin: With the Session persistence function:

  - Partitions the back-to-origin path based on the client IP to ensure that logon session information is not accessed across sources. This solves the problem of multi-source sites sharing information.

  - Provides a failover retry function to ensure efficient back-to-origin and information synchronization.

- · Smart scheduling

  - Multi-level scheduling strategy: Some node failures do not cause unavailability for users.

  - Multi-system linkage: Coordinates with the security defense system, refresh system, and the CMS to achieve the best performance for each module.

  - Data scheduling in real time: Supports node-level traffic prediction to improve both the quality and accuracy of scheduling.

  - Efficient back-to-origin:

    - ■ Automatically responds to and adjusts for traffic spikes. Dynamic Route for CDN provides a back-to-origin QPS speed limit to protect the availability of the source site.

    - ■ The Waiting Room solution can customize waiting pages, waiting time, and release rules to optimize the user experience.

Ease of extension

- · Resource elastic extension: Charges per actual usage. Full coverage across carriers and across regions can be achieved once accessed.

- · Self-management: With the self-service console, you can add, delete, modify, and search for self-configured domain names. It also enhances and simplifies custom configuration options, and supports custom cache strategies, HTTP response headers, and other functions.

- · API interface: Provides services such as service opening, content refreshing, obtaining security monitoring data, downloading distribution logs, and so on.

· Performance optimization

- Smart compression: Intelligently compresses network transmission content
  , effectively reducing the number of bytes transmitted over the network,
  shortening data transmission times, and improving acceleration.

- Page optimization: Removes redundant content such as spaces, line breaks, tabs
  , and comments on the page, reduces the size of the page itself, and combines
  multiple JavaScript/CSS files into one request, thereby reducing the total
  number of requests.

- Refresh/warm up: Provides the ability to refresh the cache and warm up
  resources for the node in advance.

Cost-effectiveness

· Optimal linking: Makes routing decisions to select the best back-to-origin path
  , using source site monitoring, real-time network quality detection, and smart
  routing technology for dynamic content.

· Link multiplexing: Edge acceleration nodes receive user connections and establish
  a long link based on actual back-to-origin requests, effectively reducing the I/O
  consumption of source sites and relieving pressure on source sites.

- Analyzes upstream and downstream traffic conditions to ensure that the
  terminal is reached within a limited number of hops, avoiding public network
  failures and network congestion paths.

- The last hop adopts BGP/multi-line access nodes to ensure efficient back-to-
  origin from the same region and the same carrier.

2 Scenarios

E-commerce

> Background: E-commerce platforms include a number of online systems and links, with uses such as registering users, website login, product browsing, and payment processing. Among the important indicators for measuring consumption experience are network access speed and secure content transmission.

> Appeal: Most e-commerce websites contain a mixture of dynamic and static content, where large image static resource files need acceleration to showcase products. At the same time, they also need to support online payment, flash sales, and promotions, all of which slow down the website response time and put pressure on the origin site.

> Typical users: Travel platforms that offer flight tickets and hotel room booking services, platforms that allow consumers to buy take-away food and book taxis online , fast-moving consumer goods vendors, and vertical e-commerce platforms.

> Dynamic Route for CDN ensures smooth user experience and increases user engagement, making it a perfect solution for sites with a mixture of dynamic/static needs.

Social networks

> Background: More and more websites are adding dynamic content, such as comment sections or audio and video content. If a lot of users try simultaneously to open the same pages, especially breaking news pages, a website can be slowed down or even rendered unable to access.

> Appeal: Users are placing more importance on stable access to websites and quick content updates. For websites like this, we recommend that you use the Dynamic Route for CDN service for better performance and user experience.

> Typical users: Forums, blogs, and interactive news sites.

Governments and enterprises

> Appeal: Cross-website acceleration and security attributes. Official business and government websites. These websites present a certain brand or image and increase public trust.

In addition to accelerating content using its many nodes, Dynamic Route for CDN can also resist DDoS and CC attacks, thereby meeting the needs of governments and enterprises that want to accelerate dynamic and static resources.

Gaming

Appeal: Performance and stability for gaming websites, security packet downloading, log-on services, gaming services, and other services. Game players need even smoother support when logging on to game servers, and when trading, updating, and running games.

Typical users: Online gaming platforms are well-suited for Dynamic Route for CDN, as it can offer integrated acceleration services, including routing optimization, cache acceleration, and security assurance.

Finance

Appeal: High availability and network security. Trading processes primarily involve dynamic, interactive content, which can be exposed to risks if cross-network connections are unstable. The Dynamic Route for CDN service is therefore recommended for finance scenarios, as it safeguards every transaction.

Typical users: Online banking, mobile payments, credit card reward malls, mobile securities, P2P loans, and other Internet finance applications.