

## CLOUD LOAD BALANCER

### What is Cloud Load Balancer?

CDNetworks Cloud Load Balancer (CLB) is a traffic management solution that functions at the DNS layer. Administrators leverage CLB's cloud-based, policy-driven engine to manage their website and application traffic via customized business and technical rules. They can apply policies to DNS requests from users in real time and effectively balance loads across multiple content delivery mechanisms. Typical policies include traffic distribution based on end user location as well as the availability, health and performance of datacenters.

CDNetworks has built CLB on the CDNetworks Cloud DNS infrastructure - an "always-on," secure, reliable, and scalable platform that provides high performance under all traffic conditions anywhere in the world. We purpose-built CLB to address the web performance needs of enterprises. Natively integrated with our Web Performance Suite (WPS), CLB optimizes performance when used in conjunction with other products in the suite, such as Dynamic Web Acceleration.

### What are policies?

Policies refer to the traffic management rules that are applied to user requests in real-time. A policy is defined by the tuple *<condition, action>*. When the system receives a DNS request from a user, it checks if the request satisfies any of the pre-defined conditions. The system then applies the corresponding action, redirecting the user as specified.

### Where are policies defined?

Administrators define policies at the DNS record level and may define multiple policies for any given record. The policies are applied in order and can be changed at any time, with all changes becoming effective immediately.

### What is a default policy?

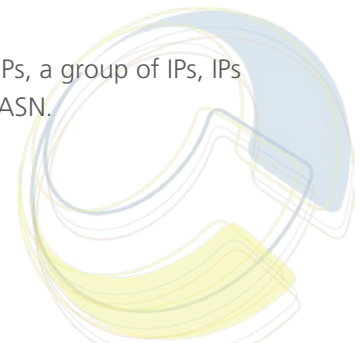
Every DNS record that requires load balancing **MUST** have an accompanying default policy. A default policy has no condition - only an associated action. If a user request does not match any of the stated conditions, the system applies the default policy automatically.

### What are the conditions that you support?

We support several conditions, including the following:

**Geo intelligence:** Many administrators and the businesses they serve want to balance loads based on end-user geography. CLB enables continent-, country- and region-specific granularity.

**IP intelligence:** CLB can route users based upon specific IPs, a group of IPs, IPs belonging to a specific ISP and IPs belonging to a specific ASN.



**Weight intelligence:** Administrators can configure weighted distribution of traffic across multiple delivery mechanisms.

## What are the actions that you support?

We support the following actions:

**Primary, *with failover*:** CLB returns a specific primary IP to user requests. If the primary fails, the system will return a backup IP until the primary becomes available. At that point, CLB seamlessly routes users to the primary IP once again.

**Primary, *without failover*:** CLB returns a specific primary IP or CNAME to user requests. The primary will not be monitored for availability.

**Performance:** CLB incorporates the intelligence necessary to analyze a pool of IPs and return the one which offers the best performance.

**Round robin:** Administrators can choose to distribute load evenly across a pool of IPs by selecting to return them in a round robin manner.

**Random:** Administrators can choose to distribute load evenly across a pool of IPs by selecting to return them in a random manner.

**Blacklist:** Do not respond to the query.

## Do you allow conditions to be combined?

Yes. Conditions can be combined to create very complex policies. For example, it is possible to have a very specific action for 70% of users from China. The order of the condition is important since that dictates how the system separates traffic.

## What are probes?

Probes are the agents that monitor the health and status of the various IPs and CNAMEs from which traffic is served. Probes are necessary to support failover and performance actions.

## What protocols do probes support?

Probes support the following protocols:

HTTP/S, DNS, FTP, ICMP, TCP, UDP, RTMP, SNMP

## What can you measure/monitor using probes?

A probe can measure/monitor the following:

- Whether or not an IP/CNAME is responding to a request
- Time to connect
- Response time: Time required to complete a transaction, including the connect time.
- Round trip time (RTT)
- System load
- Bandwidth usage



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## **Do I need to define multiple probes? If so, how many should I define?**

Defining multiple probes is not required, but recommended. This is because CLB makes routing decisions based upon the monitoring reports it receives from probes. Reliance on reports from a single probe is risky, as that probe may be malfunctioning and providing bad data. Two probes do not necessarily improve reliability, because they may provide conflicting data. Defining three probes is an ideal approach to isolate potentially faulty data for nearly all scenarios.

## **What are probe locations? Do I need to select them?**

Probe locations are CDNetworks locations around the world from where a specified IP/CNAME will be monitored. Administrators will want to choose probe locations that correspond to the distribution of their users. This optimizes monitoring accuracy and helps the system to make more informed decisions that improve performance.

## **Do you provide raw logs?**

Yes. CLB provides optional hourly and daily log delivery.

## **Do I have to use CDNetworks as my authoritative DNS provider?**

Yes. Currently, the only way to obtain the benefits of CLB is to use it in conjunction with CDNS.

## **Where can I find more information on Cloud Load Balancer?**

Please refer to the Cloud Load Balancer product page on our corporate web site: <http://www.cdnetworks.com/solutions/cloud-load-balancer>

Alternatively, please contact us at any of our global offices and we will be happy to answer your queries.