Global Accelerator

Best Practices

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Using Global Accelerator to Speed Up Cross-Border Access to Web Servers

Overview

Application scenario: If you deploy your web server in the Chinese mainland, users outside the Chinese mainland may face problems such as high latency, packet loss, and jitter, due to unstable cross-border networks. To address these issues, you need a global accelerator.

Solution architecture: Suppose you have a web server deployed in CN East-Shanghai1 and your domain name has been licensed and mapped to the EIP in CN East-Shanghai1 bound to the server. Users can access your website using the domain name over the Internet. To accelerate cross-border access to your website, you can use DNS to map your domain name to the anycast IP address of a global accelerator, so that users across the globe can access your website faster through the Huawei backbone network.



Resource and Cost Planning

The following table describes the planned resources.

Resourc e	Description	Quantity	Price
Global accelera tor	You are charged based on how long each global accelerator is retained in your account. The smallest billing unit is one hour. Partial hours are counted as full hours. Global accelerator price = Unit price x Required duration	1	For details, see Global Accelerator Pricing Details.
Data transfer	You are charged for either the inbound or outbound traffic, in GB, whichever direction has more traffic. Data transfer price = Unit price x Traffic used	Per actual use	
Record sets added to the public zoneThree A record sets are required for users in different areas: • A record set with Line set to Default and Value set to the EIP bound to the web server deployed in CN East-Shanghai1. • A record set with Line set to Region > Chinese mainland and Value set to the EIP bound to the web server deployed in CN East-Shanghai1.• A record set with Line set to Region > Chinese mainland and Value set to the EIP bound to the web server deployed in CN East- Shanghai1.• A record set with Line set to Region > Global and Value set to the anycast IP address of the global accelerator.		З	Free

Table 1-1 Resource and cost planning

Flowchart



Step 1: Apply for a Cross-Border Permit

In accordance with the laws and administrative regulations of the Ministry of Industry and Information Technology (MIIT) of the People's Republic of China,

only China Mobile, China Telecom, and China Unicom are allowed for cross-border network communications, and a cross-border permit is required if you carry out business activities outside the Chinese mainland.

- 1. Log in to the **Cross-border Permits** page.
- 2. Click **Request a Cross-Border Permit**.

The Cross-Border Service Application System page is displayed.

Figure 1-1 Applying for a cross-border permit

Global Accelerator Console	Cross-border Permit
Global Accelerator	In accordance with the laws and regulations on cross-border communication, you need to apply for a cross-border permit before purchasing a Olibid Accelerator. You need to apply only once for your account.
Cross-border Permits	CRA When vill approve my request for a cross-border permit? When vill approve my request for a cross-border permit? When vill need to apply for a cross-border permit? How long vill a cross-border permit? I have completed be walk-mane authentication on Hawes Could Why do i also need to apply for a cross-border permit before using Gobal Accelerator?
	Process Comparison of the matrix allow your entreprise, representations, and used your entreprise, representations, and used contract on the cross-bodier application page. Request a Cross-bodier Premit

- 3. On the application page, set related parameters and upload related materials.
- 4. Click Submit.

Step 2: Buy a Global Accelerator

To use Global Accelerator for faster access, you first need to create a global accelerator.

- 1. Log in to the Global Accelerator console.
- 2. On the **Global Accelerator** page, click **Buy Global Accelerator**.

Figure 1-2 Buying a global accelerator



3. Set parameters. Select **Outside the Chinese mainland** for **Applicability**. For other parameters, see **Table 1-2**.

Enterprise Project -Select-	✓ Create ⑦
 Applicability Outside the Chinese mainlan 	1d Chinese mainland View Acceleration Areas
★ IP Address Type IPv4	×
Tags TMS's predefined tags are recom To add a tag, enter a tag key and	imended for adding the same tag to different cloud resources. View Predefined Tags C a tag value below.
Enter a tag key	Enter a tag value Add
Tags you can still add: 20	
Description	
	0/255

Figure 1-3 Creating a global accelerator

Table 1-2 Parameters for configuring a global accelerator

Parameter	Description
Name	Name of the global accelerator you want to create.
	Only letters, digits, and hyphens are allowed.
	You can enter up to 64 characters.
Enterprise Project	An enterprise project you would like to use to centrally manage your Global Accelerator resources.
	You can use an existing enterprise project or create one.
Applicability	Where the global accelerator will be used.
	There are two options: Outside the Chinese mainland or Chinese mainland. Outside the Chinese mainland is selected by default.
	Outside the Chinese mainland is recommended for this practice.
IP Address Type	The type of the IP address used by the global accelerator.
	If you select Chinese mainland for Applicability , you can select IPv4 or IPv4+IPv6 .
	Default value: IPv4.

Parameter	Description
Tags	An identifier of the global accelerator. Each tag consists of a key and a value. You can add 20 tags for a global accelerator.
	NOTE If a predefined tag has been created in TMS, you can select the corresponding tag key and value.
	For details about predefined tags, see Predefined Tag Overview .
	If you have configured tag policies for Global Accelerator, you need to add tags to your accelerators based on the tag policies. If you add a tag that does not comply with the tag policies, global accelerators may fail to be created. Contact the administrator to learn more about tag policies.
Description	Supplementary information about the global accelerator. You can enter up to 255 characters.

4. Click Next.

Step 3: Add a Listener to the Global Accelerator

Add a listener to the global accelerator to route requests across endpoints based on the client affinity you set.

Configure the parameters as described in Table 1-3.

Figure 1-4 Adding a listener

(1) Create Instance ———— 🕘 Add Listener ———— (3) Confirm ———— (4) Finish								
Listener + Add More								
Listener (?)								
* Name	* Protocol/Port	TCP •	Enter one or multiple ports or range	is separated with cor	nmas, for example, 80, 90-99.			
* Clerit Alfinity None •	Tags	TMS's predefined tags are recommen To add a tag, enter a tag key and a ta	ded for adding the same tag to differen y value below.	t cloud resources. Vi	ew Predefined Tags C			
Recorde Marco								
0/25		Enter a tag key	Enter a tag value	Add				
		20 tags available for addition.						
Endpoint Groups ① Each listeer can be associated with only one endpoint group in each region.								
							Delete	
* Name	* Negion	•	•					
Descripton 0/255	* Traffic Dial (?)	100						
*Endpoint () IP Address Type		Enterprise Project	Weigh	t (?)		Operation		
		ſ						
tanne \$0.36 USD hour + Data transfer Pay-per-use ?)							Pariture .	March

Parameter	Description
Name	Listener name. Only letters, digits, and hyphens are allowed. You can enter up to 64 characters.
Protocol	The protocol used by the listener to receive requests from clients. The protocol can be TCP or UDP.
Port	The ports or port ranges used by the listener to receive requests from clients. The port number ranges from 1 to 65535. You can enter one or more ports or port ranges separated by commas (,). Example: 1-10,11-50,51,52-200
Client Affinity	How requests are routed. There are two options: None : The listener routes requests evenly among the endpoints in the endpoint group. Source IP address (only for TCP and UDP listeners): The source IP address of each request is calculated using the consistent hashing algorithm to obtain a unique hash key, and all the endpoints are numbered and mapped to the hash keys. Requests from the same IP address are forwarded to the same endpoint for processing.
Tags	An identifier of the listener. Each tag consists of a key and a value. You can add up to 20 tags to a listener. NOTE If a predefined tag has been created in TMS, you can select the corresponding tag key and value. For details about predefined tags, see Predefined Tag Overview . If you have configured tag policies for Global Accelerator, you need to add tags to your listeners based on the tag policies. If you add a tag that does not comply with the tag policies, listeners may fail to be created. Contact the administrator to learn more about tag policies.
Description	Supplementary information about the listener. You can enter up to 255 characters.

 Table 1-3 Parameters for configuring a listener

Step 4: Associate an Endpoint Group with the Listener

Associate an endpoint group with the listener in the **CN East-Shanghai1** region and add an endpoint to this endpoint group as instructed by **Table 1-4**.

ltem	Parameter	Description
Endpoint group	Name	Name of the endpoint group. Each listener can be associated with only one endpoint group in a given region. Only letters, digits, and hyphens are allowed. You can enter up to 64 characters.
	Region	Region where the endpoint group is used. Select CN East-Shanghai1 for this practice.
	Description	Supplementary information about the endpoint group. You can enter up to 255 characters.
	Traffic Dial	The percentage of traffic directed to the endpoint group. If you increase the traffic dial, more requests will be distributed to this endpoint group. The value ranges from 0 to 100. If
		you set the traffic dial to 0, no requests will be distributed to this endpoint group. NOTE If a listener has multiple endpoint groups, traffic will be first distributed to the endpoint group with the lowest latency and then to other endpoint groups based on the traffic dial value you set.
	Endpoint	A single point of contact for clients. Global Accelerator distributes incoming traffic across healthy endpoints. Select EIP for this practice.
Health Check	Health Check	Whether to enable health check. If you disable health check, requests may be forwarded to unhealthy endpoints.
	Protocol	The protocol used for health check. It can be TCP. Default value: TCP .

Table 1-4 Parameters for configuring the endpoint group and endpoint

ltem	Parameter	Description
	Port	The port used for health check.
		The port number ranges from 1 to 65535.
	Advanced Settings	
	Interval (s)	The maximum time between two consecutive health checks, in seconds.
		The interval ranges from 1 to 60.
	Timeout (s)	The maximum time required for waiting for a response to a health check request, in seconds. The timeout ranges from 1 to 60.
	Maximum Retries	The maximum number of health check retries allowed.
		The value ranges from 1 to 10.

Step 5: Add Record Sets

Add record sets to map your domain name to the anycast IP address of the global accelerator or the EIP bound to your web server.

This section uses Huawei Cloud DNS as an example.

- 1. Go to the **Public Zones** page.
- 2. On the **Public Zones** page, click the target domain name. The **Record Sets** page is displayed.
- 3. In the upper right corner of the page, click **Add Record Set**.
- 4. On **Add Record Set** page, add three record sets as instructed by **Table 1-5**.

Figure 1-5 Adding an A record set

Add Record Set

Name				
★ Туре	A – Map domains to IPv4 add	dresses		•
★ Line	Default			•
★ TTL (s)	300 5 min	1 h	12 h	1 day
★ Value	Example: 192.168.10.10			
Weight	1			/
Tag	It is recommended that you use different cloud resources. View To add a tag, enter a tag key an	a TMS's predefined tag predefined tags C nd a tag value below.	g function to add the	same tag to
Tag	It is recommended that you use different cloud resources. View To add a tag, enter a tag key ar Enter a tag key	e TMS's predefined tag predefined tags C nd a tag value below.	y function to add the	Add
Tag	It is recommended that you use different cloud resources. View To add a tag, enter a tag key an Enter a tag key You can add 20 tags more tags	e TMS's predefined tag predefined tags C nd a tag value below.	y function to add the	Add
Tag Description	It is recommended that you use different cloud resources. View To add a tag, enter a tag key ar Enter a tag key You can add 20 tags more tags	e TMS's predefined tag predefined tags C nd a tag value below.	y function to add the	Add

 Table 1-5 Parameters for configuring an A record set

Parameter	Description
Name	Prefix of the domain name to be resolved.
	For example, if the domain name is example.com , the prefix can be as follows:
	• www : The domain name is www.example.com, which is usually used for a website.
	 Left blank: The domain name is example.com. The Name field cannot be set to an at sign (@). Just leave it blank.
	 *: The domain name is *.example.com, which is a wildcard domain name, indicating all subdomains of example.com.
Туре	Type of the record set. Select A – Map domains to IPv4 addresses for this practice.

Parameter	Description
Line	Resolution line. The DNS server will return the IP address of the specified line, depending on where end users come from.
	Select Default , Region > Chinese Mainland , and Region > Global for the three record sets, respectively.
TTL (s)	Cache duration of the record set on a local DNS server, in seconds.
	The value ranges from 1 to 2147483647, and the default value is 300.
	If your service address changes frequently, set TTL to a smaller value.
	Retain the default value for this practice.
Value	IPv4 addresses mapped to the domain name.
	Set different values for the three record sets:
	• If Line is set to Default or Chinese Mainland , set the value to the EIP of the web server.
	• If Line is set to Global , set the value to the anycast IP address of the global accelerator.
Weight	(Optional) Weight of a record set.
	The value ranges from 0 to 1000, and the default value is 1.
	Retain the default value for this practice.
Tags	(Optional) Identifier of a record set. Each tag contains a key and a value. You can add a maximum of 10 tags to a record set.
Description	(Optional) Supplementary information about the record set.
	You can enter a maximum of 255 characters.

- 5. Click **OK**.
- 6. Switch back to the **Record Sets** tab.

View the record sets you have added and ensure that their status is **Normal**.

Public zones take effect only Change the effective time of	arvers to improve global DNS resol after you update the name servers the domain name DNS server acc	ation. View details a of your domains with the registrar t anding to the description provided by	o no1 huaweicloud-dhs.org, no1.hu the domain name service provider.	aveicloud dhs.net, ns1.huaveicloud dhs.on, and ns1.hua View Effective Time.	veicloud-dns.com. Learn how to	modify name servers.		
an add 995,724 more record se dd Record Set Batch A	ets. Add Record Sets Delete	Enable Disable						
Search or filter by domain nam	ne.							
Domain Name 0	Status	Type 0	Tag	Line	TTL (S)	Value	Description	Operation
hu an	Normal	SOA	-	Default	300	ns1.huaweicloud-dns.org. hwclou	-	Modify Disable Dele
hu o	💿 Normal	NS	-	Detsut	172900	ns 1. huaweicloud-dns.com ns 1. huaweicloud-dns.cn. ns 1. huaweicloud-dns.net. ns 1. huaweicloud-dns.org	-	Modify Disable Dele
ha	Normal	A		Chinese Mainland	300	*	shanghai eip	Modify Disable Dele
na an	Normal	A	-	Giobal	300	*	ga anycast eip	Modity Disable Dele
hu an	Normal	A	-	Default	300		shanghai eip	Modify Disable Dele

Verifying Acceleration

You can run the **curl** command on a Windows PC in the area where acceleration is required to check whether the access is accelerated.

- 1. Open the cmd window and run **nslookup** < *Website domain name* > to check whether the anycast IP address is returned.
- 2. Run the following command to check the latency of accessing the EIP in CN East-Shanghai1 over the public network: curl -o /dev/null -s -w "time_connect: %{time_connect}\ntime_starttransfer: %{time_starttransfer} \ntime_total: %{time_total}\n" "http[s]://<*IP*>[:<*Port*>]"

NOTE

- **IP**: EIP bound to your web server.
- **Port**: HTTP port number used by the web server.
- **time_connect**: time taken to establish a TCP connection, in seconds. It is from the time when a TCP connection request is initiated to the time when the connection is established.
- **time_starttransfer**: time when transfer starts, in seconds. It is from the time when the client sends a request to the time when the endpoint replies with the first byte.
- **time_total**: total connection time, in seconds. It is from the time when the client sends a request to the time when the endpoint responds to the request.
- 3. Run the following command to check the latency of accessing the anycast IP address:

curl -o /dev/null -s -w "time_connect: %{time_connect}\ntime_starttransfer: %{time_starttransfer} \ntime_total: %{time_total}\n" "http[s]://</P>[:

NOTE

Set $\ensuremath{\text{IP}}$ in the command to the any cast IP address provided by Global Accelerator.

4. Compare the values of **time_connect** and view the latency before and after acceleration.

2 Using CDN and Global Accelerator to Speed Up Cross-Border Access

Overview

Application scenario: Suppose you have used a global accelerator to accelerate cross-border access to your website. To save costs, you can use Content Delivery Network (CDN) to accelerate static content, and use Global Accelerator to speed up dynamic requests to your web server.

Solution architecture



Resource and Cost Planning

The following table describes the planned resources.

Reso urce	Description	Quantit y	Price
Globa l accel erator	You are charged based on how long each global accelerator is retained in your account. The smallest billing unit is one hour. Partial hours are counted as full hours. Global accelerator price = Unit price x Required duration	1	For details, see Global Accelerator Pricing Details.
Data transf er	You are charged for either the inbound or outbound traffic, in GB, whichever direction has more traffic. Data transfer price = Unit price x Traffic used	Per actual use	
Recor d sets adde d to the public zone	 Three record sets are required for end users in different areas: A record set with Line set to Default and Value set to the EIP bound to the web server deployed in CN East-Shanghai1. A record set with Line set to Region > Chinese mainland and Value set to the EIP bound to the web server deployed in CN East-Shanghai1. A record set with Line set to Region > Global and Value set to the CNAME record allocated by CDN. 	3	Free
The doma in name adde d to CDN	Service Area: Outside Chinese Mainland Type: Select IP Address. Address: Set it to the anycast IP address of the global accelerator.	1	See Content Delivery Network Pricing Details.

Table 2-1 Resource and cost planning

Flowchart



Step 1: Apply for a Cross-Border Permit

In accordance with the laws and administrative regulations of the Ministry of Industry and Information Technology (MIIT) of the People's Republic of China, only China Mobile, China Telecom, and China Unicom are allowed for cross-border network communications, and a cross-border permit is required if you carry out business activities outside the Chinese mainland.

- 1. Log in to the **Cross-border Permits** page.
- Click Request a Cross-Border Permit.
 The Cross-Border Service Application System page is displayed.

Figure 2-1 Applying for a cross-border permit

Global Accelerator Console	Cross-border Permits	one you can use a cross-border prevail line from China Unicon.
Global Accelerator	() In accordance with the laws and regulations on cross-border communication, you	need to apply for a cross-border permit before purchasing a Global Accelerator. You need to apply only once for your account.
IP Address Groups Cross-border Permits	OSA • Why do I need a cross-border permit? • How can I get a cross-border permit? • How tany will a cross-border permit be approved?	 Whe will approve my request for a cross-burder permit? Whe do is noted to apply for a cross-burder permit? These completed for real-scale permit. These completed for real-scale permit.
	Process Request a Cross-Jorder Permit Upside the scanade corpt with minimal aborty our entryprine, representative, and saved contact on the cross-border application page. Request a Cross-Jorder Permit	Compared and the set of the

- 3. On the application page, set related parameters and upload related materials.
- 4. Click Submit.

Step 2: Buy a Global Accelerator

To use Global Accelerator for faster access, you first need to create a global accelerator.

- 1. Log in to the Global Accelerator console.
- 2. On the **Global Accelerator** page, click **Buy Global Accelerator**.

Figure 2-2 Buying a global accelerator



3. Set parameters. Select **Outside the Chinese mainland** for **Applicability**. For other parameters, see **Table 2-2**.

* Name		
Enterprise Project	-Select	✓ Create ②
Applicability	Outside the Chinese mainland	Chinese mainland View Acceleration Areas
+ IP Address Type	IPv4	v
Tags	TMS's predefined tags are recommen To add a tag, enter a tag key and a ta	ided for adding the same tag to different cloud resources. View Predefined Tags C g value below.
	Enter a tag key	Enter a tag value Add
	Tags you can still add: 20	
Description		

Figure 2-3 Creating a global accelerator

Table 2-2 Parameters for configuring a global accelerator

Parameter	Description
Name	Name of the global accelerator you want to create.
	Only letters, digits, and hyphens are allowed.
	You can enter up to 64 characters.
Enterprise Project	An enterprise project you would like to use to centrally manage your Global Accelerator resources.
	You can use an existing enterprise project or create one.
Applicability	Where the global accelerator will be used.
	There are two options: Outside the Chinese mainland or Chinese mainland . Outside the Chinese mainland is selected by default.
	Outside the Chinese mainland is recommended for this practice.
IP Address Type	The type of the IP address used by the global accelerator.
	If you select Chinese mainland for Applicability , you can select IPv4 or IPv4+IPv6 .
	Default value: IPv4.

Parameter	Description
Tags	An identifier of the global accelerator. Each tag consists of a key and a value. You can add 20 tags for a global accelerator.
	NOTE If a predefined tag has been created in TMS, you can select the corresponding tag key and value.
	For details about predefined tags, see Predefined Tag Overview .
	If you have configured tag policies for Global Accelerator, you need to add tags to your accelerators based on the tag policies. If you add a tag that does not comply with the tag policies, global accelerators may fail to be created. Contact the administrator to learn more about tag policies.
Description	Supplementary information about the global accelerator. You can enter up to 255 characters.

4. Click Next.

Step 3: Add a Listener to the Global Accelerator

Add a listener to the global accelerator to route requests across endpoints based on the client affinity you set.

Configure the parameters as described in Table 2-3.

Figure 2-4 Adding a listener

Buy Global Accel	lerator									
reate Instance	– 2 Add Listener ——— (3) Confirm	(4) Finish								
istener + Add M	lore									
Listener 🕥										
* Name			* Protocol/Port	TCP •	inter one or multiple ports or ranges	separated with co	mmas, for example, 80, 90-99.			
* Client Affrity N	one v		Tags	TMS's predefined tags are recommended To add a tag, enter a tag key and a tag va	for adding the same tag to different ue below.	cloud resources. 1	iew Predefined Tags C			
Description		0055		Enter a tag key	inter a tag value	Add				
		0220		20 tags available for addition.						
Endpoint Groups)	ab realiza								
Lach listener can be ass	sociated with only one endpoint group in ea	ch region.							Delete	
* Name			* Region	0 v						
Description			* Traffic Dial (?)	100						
	0/255		-							
* Endpoint (?)	IP Address	Туре		Enterprise Project	Weight	0		Operation		
				,						
				1	1					
ce: \$0.36 USD/hc	our + Data transfer: Pay-per-use 🧿								Previous	Next

Parameter	Description
Name	Listener name. Only letters, digits, and hyphens are allowed. You can enter up to 64 characters.
Protocol	The protocol used by the listener to receive requests from clients. The protocol can be TCP or UDP.
Port	The ports or port ranges used by the listener to receive requests from clients. The port number ranges from 1 to 65535. You can enter one or more ports or port ranges separated by commas (,). Example: 1-10,11-50,51,52-200
Client Affinity	How requests are routed. There are two options: None : The listener routes requests evenly among the endpoints in the endpoint group. Source IP address (only for TCP and UDP listeners): The source IP address of each request is calculated using the consistent hashing algorithm to obtain a unique hash key, and all the endpoints are numbered and mapped to the hash keys. Requests from the same IP address are forwarded to the same endpoint for processing.
Tags	An identifier of the listener. Each tag consists of a key and a value. You can add up to 20 tags to a listener. NOTE If a predefined tag has been created in TMS, you can select the corresponding tag key and value. For details about predefined tags, see Predefined Tag Overview . If you have configured tag policies for Global Accelerator, you need to add tags to your listeners based on the tag policies. If you add a tag that does not comply with the tag policies, listeners may fail to be created. Contact the administrator to learn more about tag policies.
Description	Supplementary information about the listener. You can enter up to 255 characters.

 Table 2-3 Parameters for configuring a listener

Step 4: Associate an Endpoint Group with the Listener

Associate an endpoint group with the listener in the **CN East-Shanghai1** region and add an endpoint to this endpoint group as instructed by **Table 2-4**.

ltem	Parameter	Description
Endpoint group	Name	Name of the endpoint group. Each listener can be associated with only one endpoint group in a given region. Only letters, digits, and hyphens are allowed. You can enter up to 64 characters.
	Region	Region where the endpoint group is used. Select CN East-Shanghai1 for this practice.
	Description	Supplementary information about the endpoint group. You can enter up to 255 characters.
	Traffic Dial	The percentage of traffic directed to the endpoint group.
		If you increase the traffic dial, more requests will be distributed to this endpoint group.
		The value ranges from 0 to 100. If you set the traffic dial to 0, no requests will be distributed to this endpoint group.
		NOTE If a listener has multiple endpoint groups, traffic will be first distributed to the endpoint group with the lowest latency and then to other endpoint groups based on the traffic dial value you set.
	Endpoint	A single point of contact for clients. Global Accelerator distributes incoming traffic across healthy endpoints.
		Select EIP for this practice.
Health Check	Health Check	Whether to enable health check. If you disable health check, requests may be forwarded to unhealthy endpoints.
	Protocol	The protocol used for health check. It can be TCP. Default value: TCP .

 Table 2-4 Parameters for configuring the endpoint group and endpoint

ltem	Parameter	Description
	Port	The port used for health check.
		The port number ranges from 1 to 65535.
	Advanced Settings	
	Interval (s)	The maximum time between two consecutive health checks, in seconds.
		The interval ranges from 1 to 60.
	Timeout (s)	The maximum time required for waiting for a response to a health check request, in seconds. The timeout ranges from 1 to 60.
	Maximum Retries	The maximum number of health check retries allowed.
		The value ranges from 1 to 10.

Step 5: Add a Domain Name to CDN

On the **Add Domain Names** page, select **Outside Chinese mainland** for **Service Area** and set the IP address of the origin server to the anycast IP address of the global accelerator.

For details, see Adding a Domain Name.

Step 6: Add Record Sets

Add record sets to map your domain name to the anycast IP address of the global accelerator or the EIP bound to your web server.

This section uses Huawei Cloud DNS as an example.

- 1. Go to the **Public Zones** page.
- On the Public Zones page, click the target domain name. The Record Sets page is displayed.
- 3. In the upper right corner of the page, click **Add Record Set**.
- 4. On Add Record Set page, add three record sets as instructed by Table 2-5.

Figure 2-5 Adding an A record set

Add Reco	rd Set	
Name		
★ Type	A – Map domains to IPv4 addresses	
★ Line	Default	

★ Туре	A – Map domains to IPv4 addresses 👻							
* Line	Default			Ŧ	?			
★ TTL (s)	300 5 min	1 h	12 h	1 day	?			
★ Value	Example: 192.168.10.10			li li	0			
Weight	1				?			
Tag	It is recommended that you use TMS different cloud resources. View prede To add a tag, enter a tag key and a t	S's predefined efined tags (ag value belo	d tag function to add th 2 w.	ie same tag to				
	Enter a tag key	Enter a	tag value	Add				
	You can add 20 tags more tags.							
Description				4				

Table 2-5 Parameters for	r configuring a recor	d set
--------------------------	-----------------------	-------

Parameter	Description
Name	Prefix of the domain name to be resolved.
	For example, if the domain name is example.com , the prefix can be as follows:
	• www : The domain name is www.example.com, which is usually used for a website.
	 Left blank: The domain name is example.com. The Name field cannot be set to an at sign (@). Just leave it blank.
	 *: The domain name is *.example.com, which is a wildcard domain name, indicating all subdomains of example.com.
Туре	Type of the record set. Select A – Map domains to IPv4 addresses for this practice.

Parameter	Description
Line	Resolution line. The DNS server will return the IP address of the specified line, depending on where end users come from.
	Select Default , Region > Chinese Mainland , and Region > Global for the three record sets, respectively.
TTL (s)	Cache duration of the record set on a local DNS server, in seconds.
	The value ranges from 1 to 2147483647, and the default value is 300.
	If your service address changes frequently, set TTL to a smaller value.
	Retain the default value for this practice.
Value	IPv4 addresses mapped to the domain name. Set different values for the three record sets:
	• If Line is set to Default or Chinese Mainland , set the value to the EIP of the web server.
	 If Line is set to Global: set the value to the CNAME record allocated by CDN.
Weight	(Optional) Weight of a record set.
	The value ranges from 0 to 1000, and the default value is 1.
	Retain the default value for this practice.
Tags	(Optional) Identifier of a record set. Each tag contains a key and a value. You can add a maximum of 10 tags to a record set.
Description	(Optional) Supplementary information about the record set.
	You can enter a maximum of 255 characters.

- 5. Click **OK**.
- 6. Switch back to the **Record Sets** tab.

View the record sets you have added and ensure that their status is Normal.

We have added new DNS so Public zones take effect only Change the effective time of	after you update the name servers the domain name DNS server account	ution. View details of your domains with the registrar t arding to the description provided by	o no1 huaweicloud-dns.org, no1 hu The domain name service provider	awelcloud-dns.net, ns1.huawelcloud-dns.cn, and ns1.hua View Effective Time.	veicloud-dns.com. Learn how to	modily name servers.		
n add 995,616 more record s Id Record Set Batch	ets. Add Record Sets Delete	Enable Disable						
Search or filter by domain nar	ne.							
Domain Name 0	Status	Type 0	Tag	Line	TTL (5)	Value	Description	Operation
here and the second sec	Normal	SOA	-	Default	300	ns1.huaweicloud-dns.org. hwclou	-	Modify Disable Delete
h of co	Normal	NS		Default	172800	ns1.huaweicloud-dns.com. ns1.huaweicloud-dns.cn. ns1.huaweicloud-dns.net. ns1.huaweicloud-dns.org.		Modfy Disable Delete
he set on	Normal	٨	-	Chinese Mainland	300	2001	shanghai eip	Modify Disable Delet
n at en	Normal	CNAME	-	Globel	300	t	odn domain address	Modify Disable Detel
h at co	Normal	A	-	Default	300	.	shanghai eip	Modify Disable Delet

Verifying Acceleration

You can run the **curl** command on a Windows PC in the area where acceleration is required to check whether the access is accelerated.

Run the following command to check the latency of accessing the website over the public network:

curl -o /dev/null -s -w "time_connect: %{time_connect}\ntime_starttransfer: %{time_starttransfer} \ntime_total: %{time_total}\n" "http[s]://< *Website domain name*>[:<*Port*>]"

NOTE

- *Port*: port for end users to access the website.
- **time_connect**: time taken to establish a connection, in seconds. It is from the time when a TCP connection request is initiated to the time when the connection is established.
- **time_starttransfer**: time when transfer starts, in seconds. It is from the time when the client sends a request to the time when the endpoint replies with the first byte.
- **time_total**: total connection time, in seconds. It is from the time when the client sends a request to the time when the endpoint responds to the request.

3 Using Global Accelerator to Speed Up Cross-Border Access to Third-Party Onpremises Servers

Overview

Application scenario: Suppose you have a web server deployed in an on-premises data center in Hangzhou. Users can access your website over the public network. Due to unstable cross-border networks, users outside the Chinese mainland may face problems such as high latency, packet loss, and jitter. To address these issues, you need a global accelerator.

Solution architecture: To accelerate cross-border access to your website, you can use DNS to map your domain name to the anycast IP address of a global accelerator, so that users across the globe can access your website faster through the Huawei backbone network.



Resource and Cost Planning

The following table describes the planned resources.

Resourc e	Description	Quantity	Price
Global accelera tor	You are charged based on how long each global accelerator is retained in your account.	1	For details, see Global Accelerator
	The smallest billing unit is one hour. Partial hours are counted as full hours.		Pricing Details.
	Global accelerator price = Unit price x Required duration		
Data You are charged for either the transfer inbound or outbound traffic, in GB, whichever direction has more traffic.		Per actual use	
	Data transfer price = Unit price x Traffic used		
Record sets	Three A record sets are required for users in different areas:	3	Free
added to the public zone	 A record set with Line set to Default and Value set to the public IP address bound to the web server deployed in your on- premises data center. 		
	 A record set with Line set to Region > Chinese mainland and Value set to the public IP address bound to the web server deployed in your on-premises data center. 		
	 A record set with Line set to Region > Global and Value set to the anycast IP address of the global accelerator. 		

Table 3-1 Resource and cost planning

Flowchart



Step 1: Apply for a Cross-Border Permit

In accordance with the laws and administrative regulations of the Ministry of Industry and Information Technology (MIIT) of the People's Republic of China,

only China Mobile, China Telecom, and China Unicom are allowed for cross-border network communications, and a cross-border permit is required if you carry out business activities outside the Chinese mainland.

- 1. Log in to the **Cross-border Permits** page.
- 2. Click **Request a Cross-Border Permit**.

The Cross-Border Service Application System page is displayed.

Figure 3-1 Applying for a cross-border permit

Global Accelerator Console	Cross-border Permit
Global Accelerator	In accordance with the laws and regulations on cross-border communication, you need to popyly for a cross-border permit before purchasing a Clobal Accelerator. You need to apply only once for your account.
IP Address Groups Cross-border Permits	CLA Why do I need a cross-border permit? Why do I need a cross-border permit? How can lip at a cross-border permit? How can lip at a cross-border permit? How can lip at a cross-border permit by approved? How can lip at a cross-border permit by a cross-border permit before using Global Accelerator?
	Process Process

- 3. On the application page, set related parameters and upload related materials.
- 4. Click Submit.

Step 2: Buy a Global Accelerator

To use Global Accelerator for faster access, you first need to create a global accelerator.

- 1. Log in to the Global Accelerator console.
- 2. On the **Global Accelerator** page, click **Buy Global Accelerator**.

Figure 3-2 Buying a global accelerator



3. Set parameters. Select **Outside the Chinese mainland** for **Applicability**. For other parameters, see **Table 3-2**.

Figure 3-3 Creating	a glob	bal acce	lerator
< Buy Global Accelerator			

* Name	
Enterprise Project	Select- Create ③
Applicability	Outside the Chinese mainland Othrese mainland View Acceleration Areas
+ IP Address Type	IPv4 v
Tags	TMS's predefined tags are recommended for adding the same tag to different cloud resources. View Predefined Tags C To add a tag, enter a tag key and a tag value below.
	Enter a tag key Add
	Tags you can still add: 20
Description	
	0/255

Table 3-2 Parameters for configuring a global accelerator

Parameter	Description	
Name	Name of the global accelerator you want to create.	
	Only letters, digits, and hyphens are allowed.	
	You can enter up to 64 characters.	
Enterprise Project	An enterprise project you would like to use to centrally manage your Global Accelerator resources.	
	You can use an existing enterprise project or create one.	
Applicability	Where the global accelerator will be used.	
	There are two options: Outside the Chinese mainland or Chinese mainland. Outside the Chinese mainland is selected by default.	
	Outside the Chinese mainland is recommended for this practice.	
IP Address Type	The type of the IP address used by the global accelerator.	
	If you select Chinese mainland for Applicability , you can select IPv4 or IPv4+IPv6 .	
	Default value: IPv4.	

Parameter	Description
Tags	An identifier of the global accelerator. Each tag consists of a key and a value. You can add 20 tags for a global accelerator.
	NOTE If a predefined tag has been created in TMS, you can select the corresponding tag key and value.
	For details about predefined tags, see Predefined Tag Overview .
	If you have configured tag policies for Global Accelerator, you need to add tags to your accelerators based on the tag policies. If you add a tag that does not comply with the tag policies, global accelerators may fail to be created. Contact the administrator to learn more about tag policies.
Description	Supplementary information about the global accelerator.
	rou can enter up to 255 characters.

4. Click Next.

Step 3: Add a Listener to the Global Accelerator

Add a listener to the global accelerator to route requests across endpoints based on the client affinity you set.

Configure the parameters as described in Table 3-3.

Figure 3-4 Adding a listener

< Buy Global Accel	lerator						
(1) Create Instance	– 🕗 Add Listener ——— (3) Confirm ——	(4) Finish					
Listener + Add M	lore						
Listener (2)							
* Name			* Protocol/Port	TCP • Ente	r one or multiple ports or ranges separated with o	commas, for example, 80, 90-99.	
* Client Affinity No	one v		Tags	TMS's predefined tags are recommended for To add a tag, enter a tag key and a tag value	adding the same tag to different cloud resources. below.	View Predefined Tags C	
Description							
		0/255		20 tags available for addition.	r a tag value Add		
Fadaalat Crausa (
Each listener can be ass	9 sociated with only one endpoint group in each regio	cn.					
^							Delete
* Name			* Region	Q *			
Description			* Traffic Dial (?)	100			
	0/255						
* Endpoint (?)	IP Address	Туре		Enterprise Project	Weight 🕥	Operation	
Instance: \$0.36 USD/ho	our + Data transfer: Pay-per-use 🔞						Previous Next

Parameter	Description
Name	Listener name. Only letters, digits, and hyphens are allowed. You can enter up to 64 characters.
Protocol	The protocol used by the listener to receive requests from clients. The protocol can be TCP or UDP.
Port	The ports or port ranges used by the listener to receive requests from clients.
	The port number ranges from 1 to 65535. You can enter one or more ports or port ranges separated by commas (,).
Client Affinity	None: The listener routed. There are two options: None: The listener routes requests evenly among the endpoints in the endpoint group.
	Source IP address (only for TCP and UDP listeners): The source IP address of each request is calculated using the consistent hashing algorithm to obtain a unique hash key, and all the endpoints are numbered and mapped to the hash keys. Requests from the same IP address are forwarded to the same endpoint for processing.
Tags	An identifier of the listener. Each tag consists of a key and a value. You can add up to 20 tags to a listener.
	NOTE If a predefined tag has been created in TMS, you can select the corresponding tag key and value.
	For details about predefined tags, see Predefined Tag Overview .
	If you have configured tag policies for Global Accelerator, you need to add tags to your listeners based on the tag policies. If you add a tag that does not comply with the tag policies, listeners may fail to be created. Contact the administrator to learn more about tag policies.
Description	Supplementary information about the listener. You can enter up to 255 characters.

 Table 3-3 Parameters for configuring a listener

Step 4: Associate an Endpoint Group with the Listener

Associate an endpoint group with the listener. Select the region (**CN East-Shanghai1**) nearest to your web server and add an endpoint to this endpoint group as instructed by **Table 3-4**.

Tahla	3-1	Darameters	for	configuring	tho	andnoint	aroun	and	ondnoir	ht
ladie	5-4	ralameters	101	conniguning	uie	enupoint	group	anu	enupon	π

ltem	Parameter	Description
Endpoint group	Name	Name of the endpoint group. Each listener can be associated with only one endpoint group in a given region. Only letters, digits, and hyphens are allowed. You can enter up to 64 characters.
	Region	Region where the endpoint group is used. Select CN East-Shanghai1 for this practice.
	Description	Supplementary information about the endpoint group. You can enter up to 255 characters.
	Traffic Dial	The percentage of traffic directed to the endpoint group. If you increase the traffic dial, more requests will be distributed to this endpoint group. The value ranges from 0 to 100. If you set the traffic dial to 0, no requests will be distributed to this endpoint group. NOTE If a listener has multiple endpoint groups, traffic will be first distributed to the endpoint group with the lowest latency and then to other endpoint groups based on the traffic dial value you set.
	Endpoint	A single point of contact for clients. Global Accelerator distributes incoming traffic across healthy endpoints. Select the public IP address the domain name of your on-premises server.

ltem	Parameter	Description
Health Check	Health Check	Whether to enable health check. If you disable health check, requests may be forwarded to unhealthy endpoints.
	Protocol	The health check protocol can be TCP. Default value: TCP .
	Port	The port used for health check. The port number ranges from 1 to 65535.
	Advanced Settings	
	Interval (s)	The maximum time between two consecutive health checks, in seconds. The interval ranges from 1 to 60.
	Timeout (s)	The maximum time required for waiting for a response to a health check request, in seconds. The timeout ranges from 1 to 60.
	Maximum Retries	The maximum number of health check retries allowed. The value ranges from 1 to 10.

Step 5: Add Record Sets

Add record sets to map your domain name to the anycast IP address of the global accelerator or the public IP address bound to your web server deployed in the onpremises data center.

This section uses Huawei Cloud DNS as an example.

- 1. Go to the **Public Zones** page.
- On the Public Zones page, click the target domain name. The Record Sets page is displayed.
- 3. In the upper right corner of the page, click **Add Record Set**.
- 4. On Add Record Set page, add three record sets as instructed by Table 3-5.

Figure 3-5 Adding an A record set

Name			
Туре	A – Map domains to IPv4 addresses		•
Line	Default	-	•
TTL (s)	300 5 min 1 h	12 h	1 day
· Value	Example: 192.168.10.10		
Weight	1		/
Tag	It is recommended that you use TMS's predefine different cloud resources. View predefined tags (To add a tag, enter a tag key and a tag value bel	d tag function to add th C ow.	e same tag to
	Enter a tag key Enter a	tag value	Add
	You can add 20 tags more tags.		

Add Record Set

Table 3-5	Parameters	for	confiaurina	an A	record set
	i arannecers		connigannig	a	100010 500

Parameter	Description			
Name	Prefix of the domain name to be resolved.			
	For example, if the domain name is example.com , the prefix can be as follows:			
	• www : The domain name is www.example.com, which is usually used for a website.			
	 Left blank: The domain name is example.com. The Name field cannot be set to an at sign (@). Just leave it blank. 			
	• *: The domain name is *.example.com, which is a wildcard domain name, indicating all subdomains of example.com.			
Туре	Type of the record set. Select A – Map domains to IPv4 addresses for this practice.			

Parameter	Description		
Line	Resolution line. The DNS server will return the IP address of the specified line, depending on where end users come from.		
	Select Default , Region > Chinese Mainland , and Region > Global for the three record sets, respectively.		
TTL (s)	Cache duration of the record set on a local DNS server, in seconds.		
	The value ranges from 1 to 2147483647, and the default value is 300.		
	If your service address changes frequently, set TTL to a smaller value.		
	Retain the default value for this practice.		
Value	IPv4 addresses mapped to the domain name.		
	Set different values for the three record sets:		
	 If Line is set to Default or Chinese Mainland, set the value to the public IP address of your web server. 		
	 If Line is set to Global, set the value to the anycast IP address of the global accelerator. 		
Weight	(Optional) Weight of a record set.		
	The value ranges from 0 to 1000, and the default value is 1.		
	Retain the default value for this practice.		
Tags	(Optional) Identifier of a record set. Each tag contains a key and a value. You can add a maximum of 10 tags to a record set.		
Description	(Optional) Supplementary information about the record set.		
	You can enter a maximum of 255 characters.		

- 5. Click **OK**.
- 6. Switch back to the **Record Sets** tab.

View the record sets you have added and ensure that their status is Normal.

We have added new DNS so Public zones take effect only Change the effective time of	rivers to improve global DNS resolu after you update the name servers the domain name DNS server acco	tion. View details of your domains with the registrar t rding to the description provided by	o ns1 huaweicloud-dns.org, ns1.hr the domain name service provide	anveicloud das net, as 1 huavveicloud das .cn, and as 1 hua 1. View Effective Time.	weicloud-dns.com. Learn how to	modify name servers.		
can add 995,724 more record so Add Record Set Betch /	ets. Add Record Sets Dente	Enable Disable						
Domain Name ©	Status	Type ©	Tag	Line	TTL (5)	Value	Description	Operation
nu n	Normal	SOA	-	Default	300	ns1.huiweicloud-dns.org. hwclou	-	Modify Disable Delate
hu to	Normal	NB		Default	172800	ns1.huaweicloud-dns.com ns1.huaweicloud-dns.cn ns1.huaweicloud-dns.mat. ns1.huaweicloud-dns.org.		Modify Disobie Delete
hu hu	Normal	^		Chinese Mainland	300	*	shanghai eip	Modify Disable Delete
ha ha	🥺 Normal	^		Giobal	300	*	ga anycast eip	Modify Disable Delete
hullen	Normal		-	Default	300		shanghai eip	Modify Disable Delete

Verifying Acceleration

The listener uses TCP to receive requests from clients, so you can run the **curl** command to verify whether the access is accelerated. Run the **curl** command before and after you configure Global Accelerator and compare the values of **time_connect**.

 Before you configure Global Accelerator, run the following command on a server in the area where acceleration is required: curl -o /dev/null -s -w "time_connect: %{time_connect}\ntime_starttransfer: %{time_starttransfer} \ntime_total: %{time_total}\n" "http[s]://

NOTE

- **IP**: public IP address bound to your web server deployed in the on-premises data center.
- **Port**: HTTP port number used by the web server.
- **time_connect**: time taken to establish a connection, in seconds. It is from the time when a TCP connection request is initiated to the time when the connection is established.
- **time_starttransfer**: time when transfer starts, in seconds. It is from the time when the client sends a request to the time when the endpoint replies with the first byte.
- **time_total**: total connection time, in seconds. It is from the time when the client sends a request to the time when the endpoint responds to the request.
- 2. After you configure Global Accelerator, run the following command: curl -o /dev/null -s -w "time_connect: %{time_connect}\ntime_starttransfer: %{time_starttransfer} \ntime_total: %{time_total}\n" "http[s]://<*IP*>[:<*Port*>]"

NOTE

Set **IP** in the command to the anycast IP address provided by Global Accelerator.

3. Compare the values of **time_connect** and view the latency before and after acceleration.

4 Using Global Accelerator to Accelerate Communications Between Cloud and On-Premises Servers and Implement Multi-active DR

Overview

Application scenario: Suppose you have a web server deployed in your onpremises data center in the Chinese mainland and you want to deploy your services in one or more regions on Huawei Cloud for multi-active DR.

Solution architecture: To achieve multi-active DR, you can deploy your services both in on-premises data center and on the cloud (CN South-Guangzhou region). And also you can use Global Accelerator to speed up access while keeping services highly reliable.



Resource and Cost Planning

The following table describes the planned resources.

Resourc e	Description	Quantity	Price
Global accelera tor	You are charged based on how long each global accelerator is retained in your account.	1	For details, see Global Accelerator
	The smallest billing unit is one hour. Partial hours are counted as full hours.		Pricing Details.
	Global accelerator price = Unit price x Required duration		
Data transfer	You are charged for either the inbound or outbound traffic, in GB, whichever direction has more traffic. Data transfer price = Unit price x Traffic used	Per actual use	
Record sets added to the public zone	Add an A record set with Line set to Default and Value set to the anycast IP address of the global accelerator.	1	Free

Table 4-1 Resource and cost planning

Flowchart



Step 1: Buy a Global Accelerator

To use Global Accelerator for faster access, you first need to create a global accelerator.

- 1. Log in to the **Global Accelerator console**.
- 2. On the **Global Accelerator** page, click **Buy Global Accelerator**.

Figure 4-1 Creating a global accelerator

Global Accelerator Console	Global Accelerator ③								Buy Global Accelerator
Global Accelerator	Delete				All enterprise proj	ects • Ni	ama v Q		⊗ ⊑ C
IP Address Groups	NameID	Status	IP Address	Listener (Protocol	Enterprise Project	Billing Mode	Tags	Description	Operation
Cross-border Permits				No data av	ailable.				

3. Configure the parameters. For details, see **Table 4-2**.

Figure 4-2 Creating a global accelerator

* Name	
Enterprise Project	-Select- Create ()
* Applicability	Outside the Chinese mainland Chinese mainland View Acceleration Areas
+ IP Address Type	IP/4 •
Tags	TMS's predefined tags are recommended for adding the same tag to different cloud resources. View Predefined Tags C To add a tag, enter a tag key and a tag value below.
	Enter a tag key Enter a tag value Add
	Tags you can still add: 20
Description	
	ے۔۔۔۔۔۔۔۔۔۔۔۔۔۔۔۔۔۔۔۔۔۔۔۔۔۔۔۔۔۔۔۔۔۔۔۔

Table 4-2	Parameters	for	configuring	а	alobal	accelerator
	rarameters	101	conniguning	u	giobai	accelerator

Parameter	Description
Name	Name of the global accelerator you want to create. Only letters, digits, and hyphens are allowed. You can enter up to 64 characters.
Enterprise Project	An enterprise project you would like to use to centrally manage your Global Accelerator resources. You can use an existing enterprise project or create one.
Applicability	Where the global accelerator will be used. There are two options: Outside the Chinese mainland or Chinese mainland . Outside the Chinese mainland is selected by default. Chinese mainland is recommended for this practice.

Parameter	Description
IP Address Type	The type of the IP address used by the global accelerator.
	If you select Chinese mainland for Applicability , you can select IPv4 or IPv4+IPv6 .
	Default value: IPv4.
Tags	An identifier of the global accelerator. Each tag consists of a key and a value. You can add 20 tags for a global accelerator.
	NOTE If a predefined tag has been created in TMS, you can select the corresponding tag key and value.
	For details about predefined tags, see Predefined Tag Overview .
	If you have configured tag policies for Global Accelerator, you need to add tags to your accelerators based on the tag policies. If you add a tag that does not comply with the tag policies, global accelerators may fail to be created. Contact the administrator to learn more about tag policies.
Description	Supplementary information about the global accelerator.
	You can enter up to 255 characters.

4. Click Next.

Step 2: Add a Listener to the Global Accelerator

Add a listener to the global accelerator to route requests across endpoints based on the client affinity you set.

Configure the parameters as described in Table 4-3.

Figure 4-3 Adding a listener

< Buy Global Accele	erator						
(1) Create Instance	Add Listener — ③ Co	nfirm ——— (4) Finish					
Listener + Add Mo	ore						
Listener ⑦							
* Name			* Protocol/Port	TCP •	1 to 65535 (One or multiple separab	ed by comma)	
★ Client Affinity No	ne 💌		Tags	TMS's predefined tags are recommend To add a tag, enter a tag key and a tag	led for adding the same tag to different value below.	cloud resources. View Predefined Tags C	
Description							
		0255		Enter a tag key	Enter a tag value	Add	
				20 tags available for addition.			
Endpoint Groups (2) Each listener can be asso	ociated with only one endpoint group i	n each region.					
^							
* Name				* Region	Ŷ	¥	
Description				* Traffic D	ial (?) 100		
	0/255						
* Endpoint (?)	IP Address	Туре		Enterprise Project	Weight	0	Operation
				ĺ.	1		

Table 4-3 Adding a listener

Parameter	Description
Name	Listener name. Only letters, digits, and hyphens are allowed. You can enter up to 64 characters.
Protocol	The protocol used by the listener to receive requests from clients. The protocol can be TCP or UDP.
Port	The ports or port ranges used by the listener to receive requests from clients. The port number ranges from 1 to 65535. You can enter one or more ports or port ranges separated by commas (,). Example: 1-10,11-50,51,52-200
Client Affinity	How requests are routed. There are two options: None : The listener routes requests evenly among the endpoints in the endpoint group. Source IP address (only for TCP and UDP listeners): The source IP address of each request is calculated using the consistent hashing algorithm to obtain a unique hash key, and all the endpoints are numbered and mapped to the hash keys. Requests from the same IP address are forwarded to the same endpoint for processing.

Parameter	Description
Tags	An identifier of the listener. Each tag consists of a key and a value. You can add up to 20 tags to a listener.
	NOTE If a predefined tag has been created in TMS, you can select the corresponding tag key and value.
	For details about predefined tags, see Predefined Tag Overview .
	If you have configured tag policies for Global Accelerator, you need to add tags to listeners based on the tag policies. If you add a tag that does not comply with the tag policies, listeners may fail to be created. Contact the administrator to learn more about tag policies.
Description	Supplementary information about the listener.
	You can enter up to 255 characters.

Step 3: Associate Two Endpoints Group with the Listener

Associate two endpoint groups with the listener, one in CN East-Shanghai1 and the other in CN South-Guangzhou. For details, see Table 4-4.

ltem	Parameter	Description
Endpoint group	Name	Name of the endpoint group.
		Each listener can be associated with only one endpoint group in a given region.
		Only letters, digits, and hyphens are allowed.
		You can enter up to 64 characters.
	Region	Region where the endpoint group is used.
		Add one endpoint group in CN East-Shanghai1 and one in CN South-Guangzhou.
	Description	Supplementary information about the endpoint group.
		You can enter up to 255 characters.

Table 4-4 Parameters for configurin	g the endpoint groups and endpoints
-------------------------------------	-------------------------------------

Item	Parameter	Description
	Traffic Dial	The percentage of traffic directed to each endpoint group.
		If you increase the traffic dial, more requests will be distributed to this endpoint group.
		The value ranges from 0 to 100. If you set the traffic dial to 0, no requests will be distributed to this endpoint group.
		Set the traffic dial of both endpoint groups to 100.
		NOTE If a listener has multiple endpoint groups, traffic will be first distributed to the endpoint group with the lowest latency and then to other endpoint groups based on the traffic dial value you set.
	Endpoint	A single point of contact for clients. Global Accelerator distributes incoming traffic across healthy endpoints.
		Add the public IP address of your web server to the endpoint group in CN East-Shanghai1 and the EIP to the endpoint group in CN South-Guangzhou.
Health Check	Health Check	Whether to enable health check.
		If you disable health check, requests may be forwarded to unhealthy endpoints.
	Protocol	The health check protocol can be TCP.
		Default value: TCP .
	Port	The port used for health check. The port number ranges from 1 to 65535.
	Advanced Settings	
	Interval (s)	The maximum time between two consecutive health checks, in seconds.
		The interval ranges from 1 to 60.

Item	Parameter	Description
	Timeout (s)	The maximum time required for waiting for a response to a health check request, in seconds. The timeout ranges from 1 to 60 .
	Maximum Retries	The maximum number of health check retries allowed. The value ranges from 1 to 10 .

Step 4: Add a Record Set

Add an A record set to map your domain name to the anycast IP address of the global accelerator.

This section uses Huawei Cloud DNS as an example.

- 1. Go to the **Public Zones** page.
- 2. On the **Public Zones** page, click the target domain name. The **Record Sets** page is displayed.
- 3. In the upper right corner of the page, click **Add Record Set**.
- 4. On Add Record Set page, add an A record set as instructed by Table 4-5.

Figure 4-4 Adding an A record set Add Record Set

Name					D
🗙 Туре	A – Map domains to IPv4 add	resses		•	
★ Line	Default			*	?
★ TTL (s)	300 5 min	1 h	12 h	1 day	?
★ Value	Example: 192.168.10.10				
					?
Weight	1				?
Tag	It is recommended that you use different cloud resources. View p To add a tag, enter a tag key an	TMS's predefined ta predefined tags C d a tag value below	ag function to add th	ne same tag to	7
		_			
	Enter a tag key	Enter a tag	g value	Add	
	You can add 20 tags more tags.				
Description					
	L				_
				ОК	Cancel

Parameter	Description
Name	Prefix of the domain name to be resolved.
	For example, if the domain name is example.com , the prefix can be as follows:
	• www : The domain name is www.example.com, which is usually used for a website.
	 Left blank: The domain name is example.com. The Name field cannot be set to an at sign (@). Just leave it blank.
	 *: The domain name is *.example.com, which is a wildcard domain name, indicating all subdomains of example.com.
Туре	Type of the record set. Select A – Map domains to IPv4 addresses for this practice.
Line	Resolution line. The DNS server will return the IP address of the specified line, depending on where end users come from.
	Set the value to Default .
TTL (s)	Cache duration of the record set on a local DNS server, in seconds.
	The value ranges from 1 to 2147483647, and the default value is 300.
	If your service address changes frequently, set TTL to a smaller value.
	Retain the default value for this practice.
Value	IPv4 addresses mapped to the domain name.
	Set the value to the anycast IP address of the global accelerator.
Weight	(Optional) Weight of a record set.
	The value ranges from 0 to 1000, and the default value is 1.
	Retain the default value for this practice.
Tags	(Optional) Identifier of a record set. Each tag contains a key and a value. You can add a maximum of 10 tags to a record set.
Description	(Optional) Supplementary information about the record set.
	You can enter a maximum of 255 characters.

Table 4-5 Parameters for configuring an A record set

5. Click OK.

6. Switch back to the **Record Sets** tab.

View the record set you have added and ensure that its status is Normal.

5 Transferring the Source IP Address of a Client

Scenarios

Global Accelerator can transfer the client IP address to backend servers.

This section describes how the source IP addresses are transferred in different scenarios.

Constraints

The constraints on this feature vary by the listener's protocol.

- UDP: The client IP address cannot be transferred.
- TCP: The backend server must be configured differently depending on the endpoint type.

For details, see the below table.

Endpoin t Type	Support for Client IP Address Transferrin g	Backend Server Configuratio n	Description
ECS	Supported	Not required (The source IP address in the packet received by the backend service is the source IP address of the client.)	 By default, Global Accelerator uses the TCP Option Address (TOA) kernel module to transfer client IP addresses to backend servers. You need to configure the TOA plug-in on each backend server to obtain the source IP addresses. For details, see Configuring the TOA Module. If Proxy Protocol is enabled, the global accelerator uses it to transfer the source IP address of the client to backend servers. Ensure that Proxy Protocol is also enabled on your backend servers.
EIP		Required	
ELB			
IP address			
Custom domain name			
Custom EIP			

Transferring Client IP Addresses Using Proxy Protocol

The following uses an EIP as an endpoint to describe how to enable Proxy Protocol and view the obtained client IP addresses.

- 1. **Submit a service ticket** to enable Proxy Protocol.
- 2. Enable Proxy Protocol on the backend servers.

To enable Proxy Protocol, add the corresponding port to either the http{} or stream{} module of Nginx.

```
http {
    #...
    server {
        listen 8080 proxy_protocol; #Enable proxy protocol parsing on port 8080.
    #...
    }
}
stream {
    #...
    server {
        listen 8090 proxy_protocol; #Enable proxy protocol parsing on port 8090.
        #...
    }
}
```

3. Transfer the client IP addresses.

After Proxy Protocol is enabled, Nginx preserves the source IP addresses of the clients in **proxy_protocol_addr**. You can save it in logs.

```
http {
    #...
    log_format main '[$time_local] $proxy_protocol_addr : $proxy_protocol_port $host "$request" '
    '$status $body_bytes_sent "$http_referer" '
    '"$http_user_agent" "$http_x_forwarded_for";
}
stream {
    #...
    log_format main '[$time_local] $proxy_protocol_addr : $proxy_protocol_port $host "$request" '
    '$status $body_bytes_sent "$http_referer" '
    '"$http_user_agent" "$http_x_forwarded_for";
}
```

- }
- 4. Check the log to view the source IP addresses of the clients.

[22/Jan/2025:10:45:13 +0800]	190.	.168 : 54262 www.	"GET / HTTP/1.1" 200 4840 "-" "curl/7.29.0" "-"
[22/Jan/2025:10:46:27 +0800]	159.	.204 : 57604 www.	"GET / HTTP/1.1" 200 4840 "-" "curl/7.29.0" "-"
[22/Jan/2025:10:47:59 +0800]	101.	.77 : 34354 www.	"GET / HTTP/1.1" 200 4840 "-" "curl/7.29.0" "-"