Global Server Load-Balancing Configuration Mode Commands

This section describes the commands in global server load-balancing configuration mode. Global server load-balancing configuration mode allows you to configure server load balancing for your GSS network. Using the CLI at the primary GSSM, you configure source addresses and domain names, identify your network resources (GSSs) through the use of keepalives, and create the Domain Name System (DNS) rules to process incoming content requests.

To access the global server load-balancing configuration mode, use the **gslb** command in global configuration mode. The CLI prompt changes to (config-gslb) as follows:

```
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)#
```

In global configuration mode, you can also use the **gslb** command with a keyword to perform its corresponding global server load-balancing function. For example, use the **gslb** command with the **location** keyword to enter location parameters. After the command is executed, you remain in global configuration mode as follows:

```
gssm1.example.com(config)# gslb locations SAN_FRANCISCO region WESTERN_USA comments "UNION SQUARE"
gssm1.example.com(config)#
```

> **gslb** [**answer** {**cra** | **ns** | **vip**} | **answer-group** | **dns rule** | **domain-list** | **keepalive-properties** {**cra** | **http-head** | **icmp** | **kalap** | **scripted-kal** | **ns** | **tcp**} | **location** | **manual reactivation** {**activate-MR-answers all** | **activate-MR-clauses all** | **enable**} | **owner** | **proximity** {**assign** | **group**} | **proximity-properties** | **region** | **script** | **shared-keepalive** {**http-head** | **icmp** | **kalap** | **scripted-kal** | **tcp**} | **show** | **source-address-list** | **sticky group** | **sticky-properties** | **zone**]

Syntax Description		
answer cra	See the **(config-gslb) answer cra** command for a detailed syntax description.	
answer ns	See the **(config-gslb) answer ns** command for a detailed syntax description.	
answer vip	See the **(config-gslb) answer vip** command for a detailed syntax description.	
answer-group	See the **(config-gslb) answer-group** command for a detailed syntax description.	
dns rule	See the **(config-gslb) dns rule** command for a detailed syntax description.	
domain-list	See the **(config-gslb) domain-list** command for a detailed syntax description.	
keepalive-properties cra	See the **(config-gslb) keepalive-properties cra** command for a detailed syntax description.	
keepalive-properties http-head	See the **(config-gslb) keepalive-properties http-head** command for a detailed syntax description.	
keepalive-properties icmp	See the **(config-gslb) keepalive-properties icmp** command for a detailed syntax description.	
keepalive-properties kalap	See the **(config-gslb) keepalive-properties kalap** command for a detailed syntax description.	
keepalive-properties scripted-kal	See the **(config-gslb) keepalive-properties scripted-kal** command for a detailed syntax description.	
keepalive-properties ns	See the **(config-gslb) keepalive-properties ns** command for a detailed syntax description.	

keepalive-properties tcp	See the **(config-gslb) keepalive-properties tcp** command for a detailed syntax description.
location	See the **(config-gslb) location** command for a detailed syntax description.
manual reactivation	See the **(config-gslb) manual-reactivation** command for a detailed syntax description.
owner	See the **(config-gslb) owner** command for a detailed syntax description.
proximity assign	See the **(config-gslb) proximity assign** command for a detailed syntax description.
proximity group	See the **(config-gslb) proximity group** command for a detailed syntax description.
proximity-properties	See the **(config-gslb) proximity-properties** command for a detailed syntax description.
region	See the **(config-gslb) region** command for a detailed syntax description.
script play-config	See the **(config-gslb) script play-config** command for a detailed syntax description.
shared-keepalive http-head	See the **(config-gslb) shared-keepalive http-head** command for a detailed syntax description.
shared-keepalive icmp	See the **(config-gslb) shared-keepalive icmp** command for a detailed syntax description.
shared-keepalive kalap	See the **(config-gslb) shared-keepalive kalap** command for a detailed syntax description.
shared-keepalive scripted-kal	See the **(config-gslb) shared-keepalive scripted-kal** command for a detailed syntax description.
shared-keepalive tcp	See the **(config-gslb) shared-keepalive scripted-kal** command for a detailed syntax description.
show	See the **show gslb-config**, **show gslb-errors**, **show proximity**, **show running-config**, and **show sticky** commands in the "General Commands" section for detailed syntax descriptions.
source-address-list	See the **(config-gslb) source-address-list** command for a detailed syntax description.
sticky group	See the **(config-gslb) sticky group** command for a detailed syntax description.
sticky-properties	See the **(config-gslb) sticky-properties** command for a detailed syntax description.
zone	See the **(config-gslb) zone** command for a detailed syntax description.

(config-gslb) answer cra

To configure a content routing agent (CRA)-type answer, use the **answer cra** *ip_address* command in global server load-balancing configuration mode. To delete a CRA-type answer, use the **no** form of this command.

> **answer cra** *ip_address* [**activate** | **delay** *number* | **disable** | **enable** | **location** *name* | **manual-reactivation** {**disable** | **enable**} | **name** *name* | **suspend**]

> **no answer cra** *ip_address* [**activate** | **delay** *number* | **disable** | **enable** | **location** *name* | **manual-reactivation enable** | **name** *name* | **suspend**]

Syntax Description

ip_address	Interface or circuit address of the CRA. Enter an unquoted text string in dotted decimal format (for example, 192.168.10.1).
activate	(Optional) Reactivates a suspended CRA answer. This is the default setting.
delay *number*	(Optional) Specifies a one-way delay time in milliseconds. The GSS uses this value to calculate a static RTT with the one-way delay constituting one-half of the round-trip time that is used for all Domain Name System (DNS) races involving this answer. Valid entries are 0–1000 milliseconds. The default is 0.
disable	(Optional) Specifies that the GSS uses the one-way **delay** variable to calculate a static RTT. See the **delay** keyword for more information about static RTT.
enable	(Optional) Specifies that the GSS performs keepalive checks on the answer. This is the default setting. Use **disable** if you plan to specify a one-way delay to calculate a static round-trip time (RTT). See the **delay** option for information about static RTT.
location *name*	(Optional) Specifies an existing location name with which the answer is to be associated.
manual-reactivation	Determines whether the GSS reactivates the answer automatically when its state changes from offline to online or if you must manually reactivate the answer. Use one of the following keywords with this option: • **enable**—Enables the manual reactivation function. The GSS suspends the answer if it goes offline and changes its status to "operational suspend." The answer remains suspended until you reactivate it. ✎ **Note** If you enable the manual reactivate function for an answer, you must also enable the global manual reactivate function for it to work (see (config-gslb) manual-reactivation). • **disable**—Disables manual reactivation (default). If the answer goes offline, the GSS automatically reactivates the answer when it returns to an online state.

name *name*	(Optional) Specifies a name for the CRA-type answer. Enter a unique alphanumeric name, with a maximum of 80 characters. Names with spaces must be entered in quotes (for example, "name 1").
suspend	(Optional) Suspends an active CRA answer.

Command Modes   Global server load-balancing configuration

Examples   The following example shows how to create a CRA-type answer with a one-way delay:

```
gssm1.example.com# config
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# answer cra 10.86.209.22 name CRA-ANS1 delay 3
gssm1.example.com(config-gslb)
```

The following example shows how to delete a CRA-type answer:

```
gssm1.example.com(config-gslb)# no answer cra 10.86.209.22 name CRA-ANS1 delay 3
gssm1.example.com(config-gslb)
```

Related Commands   **(config-gslb) answer ns**

(config-gslb) answer vip

(config-gslb) answer-group

(config-gslb) manual-reactivation

(config-gslb) answer ns

To configure a name server (NS)-type answer, use the **answer ns** *ip_address* command in global server load-balancing configuration mode. To delete an NS-type answer, use the **no** form of this command.

answer ns *ip_address* [**activate** | **disable** | **domain** *name* | **enable** | **location** *name* | **manual-reactivation** {**enable** | **disable**} | **name** *name* | **suspend**]

no answer ns *ip_address* [**activate** | **disable** | **domain** *name* | **enable** | **location** *name* | **manual-reactivation enable** | **name** *name* | **suspend**]

Syntax Description

ip_address	Name server that the GSS is to forward its requests. Enter an unquoted text string in dotted decimal format (for example, 192.168.10.1).
activate	(Optional) Reactivates a suspended NS answer. This is the default setting.
disable	(Optional) Specifies that the GSS disables keepalive checks on the specified name server. The GSS assumes that the name server is always online.
domain *name*	(Optional) Specifies the name of the domain name server to which an NS-type keepalive is sent (to determine the online status). Enter the name as an unquoted text string with no spaces and a maximum length of 100 characters (for example, www.home.com).
enable	(Optional) Specifies that the GSS performs keepalive checks on the specified name server. The GSS queries the name server IP address to determine the online status. This is the default.
location *name*	(Optional) Specifies an existing location name with which the answer is to be associated.
manual-reactivation	Determines whether the GSS reactivates the answer automatically when its state changes from offline to online or if you must manually reactivate the answer.
	Use one of the following keywords with this option:
	• **enable**—Enables the manual reactivation function. The GSS suspends the answer if it goes offline and changes its status to "operational suspend." The answer remains suspended until you reactivate it.
	Note If you enable the manual reactivate function for an answer, you must also enable the global manual reactivate function for it to work (see (config-gslb) manual-reactivation).
	• **disable**—Disables manual reactivation (default). If the answer goes offline, the GSS automatically reactivates the answer when it returns to an online state.
name *name*	(Optional) Specifies a name for the NS-type answer. Enter a unique alphanumeric name, with a maximum of 80 characters. Names with spaces must be entered in quotes (for example, "name 1").
suspend	(Optional) Suspends an active NS answer.

Command Modes   Global server load-balancing configuration

Usage Guidelines   If no domain is specified, the GSS queries the globally configured query domain. For instructions about configuring the global query domain, see Chapter 5, Configuring Keepalives in the *Cisco Global Site Selector CLI-Based Global Server Load-Balancing Configuration Guide*.

Examples   The following example shows how to create an NS-type answer that specifies a domain name server:

```
gssm1.example.com# config
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# answer ns 10.86.209.4 domain WWW.HOME.COM enable
gssm1.example.com(config-gslb)
```

The following example shows how to delete an NS-type answer:

```
gssm1.example.com(config-gslb)# no answer ns 10.86.209.4 domain WWW.HOME.COM enable
gssm1.example.com(config-gslb)
```

Related Commands   **(config-gslb) answer vip**

(config-gslb) answer-group

(config-gslb) manual-reactivation

(config-gslb) answer vip

To configure a virtual IP (VIP)-type answer, use the **answer vip** *ip_address* command in global server load-balancing configuration mode. To delete a VIP-type answer, use the **no** form of this command.

answer vip *ip_address* [**activate** | **location** *name* | **manual-reactivation** {**enable** | **disable**} | **name** *name* | **suspend**]

no answer vip *ip_address* [**activate** | **location** *name* | **manual-reactivation enable** | **name** *name* | **suspend**]

Syntax Description

ip_address	VIP address field to which the GSS will forward requests. Enter an unquoted text string in *A.B.C.D* format.
activate	(Optional) Reactivates a suspended VIP answer. This is the default setting.
location *name*	(Optional) Specifies an existing location name with which the answer is to be associated.
manual-reactivation	Determines whether the GSS reactivates the answer automatically when its state changes from offline to online or if you must manually reactivate the answer.
	Use one of the following keywords with this option:
	• **enable**—Enables the manual reactivation function. The GSS suspends the answer if it goes offline and changes its status to "operational suspend." The answer remains suspended until you reactivate it.
	✎ **Note** If you enable the manual reactivate function for an answer, you must also enable the global manual reactivate function for it to work (see (config-gslb) manual-reactivation).
	• **disable**—Disables manual reactivation (default). If the answer goes offline, the GSS automatically reactivates the answer when it returns to an online state.
name *name*	(Optional) Specifies a name for the VIP-type answer that you are creating. Enter a unique alphanumeric name with a maximum of 80 characters. Names that include spaces must be entered in quotes (for example, "name 1").
suspend	(Optional) Suspends an active VIP answer.

Command Modes   Global server load-balancing configuration

Usage Guidelines   After you enter the **answer vip** *ip_address* command, the prompt changes to the answer vip configuration mode where you can optionally specify and configure keepalives for your VIP-type answer by using the **keepalive type** command.

Examples   The following example shows how to create a VIP answer called SEC-LONDON1 and associate it with the London location:

```
gssm1.example.com# config
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# answer vip 10.86.209.232 name SEC-LONDON1 location LONDON
gssm1.example.com(config-ansvip[ans-ip])
```

The following example shows how to delete a VIP answer:

```
gssm1.example.com# config
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# no answer vip 10.86.209.232 name SEC-LONDON1 location
LONDON
gssm1.example.com(config-gslb)
```

Related Commands   **(config-gslb) answer ns**

(config-gslb) answer-group

(config-gslb) manual-reactivation

(config-gslb-ansvip) keepalive type http-head

(config-gslb-ansvip) keepalive type icmp

(config-gslb-ansvip) keepalive type kalap

(config-gslb-ansvip) keepalive type scripted-kal

(config-gslb-ansvip) keepalive type tcp

(config-gslb-ansvip) keepalive type http-head

To define an HTTP HEAD keepalive for your virtual IP (VIP) answer, use the **keepalive type http-head** command. To reset keepalive properties to their default values, use the **no** form of this command.

keepalive type http-head [**host-tag** *domain_name* | **path** *path* | **port** *number* | **retries** *number* | **shared** *ip_address* | **successful-probes** *number* | **termination** {**graceful** | **reset**}]

no keepalive type http-head [**host-tag** *domain_name* | **path** *path* | **port** *number* | **retries** *number* | **shared** *ip_address* | **successful-probes** *number* | **termination** {**graceful** | **reset**}]

Syntax Description	
host-tag *domain_name*	(Optional) Specifies an optional domain name that is sent to the VIP as part of the HTTP HEAD query. This tag allows an SLB to resolve the keepalive request to a particular website even when multiple sites are represented by the same VIP.
path *path*	(Optional) Specifies the server website queried in the HTTP HEAD request (for example, /company/owner). The default path "/" specifies the virtual root of the web server.
port *number*	(Optional) Specifies the port on the remote device that is to receive the HTTP HEAD-type keepalive request from the GSS. The valid entries are 1–65535. The default port is 80.
retries *number*	(Optional) Specifies the number of times that the GSS retransmits a HTTP HEAD packet before declaring the device offline. As you adjust the retries value, you change the detection time determined by the GSS. By increasing the number of retries, you increase the detection time. Reducing the number of retries has the reverse effect. The valid entries are 1–10 retries. The default is 1.
shared *ip_address*	(Optional) Specifies the IP address of an existing HTTP HEAD shared keepalive. Enter an unquoted text string in dotted decimal format (for example, 192.168.10.1).
successful-probes *number*	(Optional) Specifies the number of consecutive successful HTTP HEAD keepalive attempts (probes) that must be recognized by the GSS before bringing an answer back online. The valid entries are 1–5 attempts. The default is 1.
termination	(Optional) Specifies one of the following HTTP HEAD keepalive connection termination methods: • **graceful**—The GSS initiates the graceful closing of a HTTP HEAD connection by using the standard three-way connection termination method. • **reset**—The GSS immediately terminates the TCP connection by using a hard reset. If you do not specify a connection termination method, the GSS uses this method type.

Command Modes   Answer vip configuration mode

Usage Guidelines   This command sends a TCP-format HTTP HEAD request to an origin web server at the address specified for the VIP answer.

The GSS determines the online status of the device in the form of an HTTP Response Status Code of 200 (for example, HTTP/1.0 200 OK) from the server and information about the web page status and content size.

Examples

The following example shows how to configure an HTTP HEAD keepalive for the VIP-type answer servicing VIP address 192.168.200.1:

```
gssm1.example.com(config-gslb)# answer vip 192.168.200.1
gssm1.example.com(config-ansvip[ans-ip])# keepalive type http-head host-tag WWW.HOME.COM
termination graceful
gssm1.example.com(config-ansvip[ans-ip])#
```

Related Commands   (config-gslb) answer vip

(config-gslb-ansvip) keepalive type icmp

To define an Internet Control Message Protocol (ICMP) keepalive for your virtual IP (VIP) answer, use the **keepalive type icmp** command in answer vip configuration mode. To reset keepalive properties to their default values, use the **no** form of this command.

keepalive type icmp [**shared** *ip_address* | **retries** *number* | **successful-probes** *number*]

no keepalive type icmp [**shared** *ip_address* | **retries** *number* | **successful-probes** *number*]

Syntax Description		
shared *ip_address*		(Optional) Specifies the IP address of an existing ICMP shared keepalive. Enter an unquoted text string in dotted decimal format (for example, 192.168.10.1).
retries *number*		(Optional) Specifies the number of times that the GSS retransmits an ICMP echo request packet before declaring the device offline. The valid entries are 1–10 retries. The default is 1.
successful-probes *number*		(Optional) Specifies the number of consecutive successful ICMP keepalive attempts (probes) that must be recognized by the GSS before bringing an answer back online. The valid entries are 1–5 attempts. The default is 1.

Command Modes   Answer vip configuration mode

Usage Guidelines   This command sends an ICMP echo message (ping) to the address specified for the VIP answer. The GSS determines the online status by the response received from the device, indicating connectivity to the network.

As you adjust the **retries** value, you change the detection time determined by the GSS. By increasing the number of retries, you increase the detection time. Reducing the number of retries has the reverse effect.

Examples   The following example shows how to configure an ICMP keepalive for the VIP-type answer servicing VIP address 10.86.209.232:

```
gssm1.example.com(config-gslb)# answer vip 10.86.209.232
gssm1.example.com(config-ansvip[ans-ip])# keepalive type icmp retries 2
gssm1.example.com(config-ansvip[ans-ip])
```

Related Commands   (config-gslb) answer vip

(config-gslb-ansvip) keepalive type kalap

To define a KAL-AP keepalive for your virtual IP (VIP) answer, use the **keepalive type kalap** command in answer vip configuration mode. To reset keepalive properties to their default values, use the **no** form of this command.

keepalive type kalap {**tag** *ip_address* {*tag_name*} | **vip** *ip_address*}}

no keepalive type kalap {**tag** *ip_address* {*tag_name*} | **vip** *ip_address*}}

Syntax Description

tag *ip_address*	Specifies the shared KAL-AP-type keepalive address in the KAL-AP request. The KAL-AP queries the keepalive address to determine the online status. Enter an unquoted text string in dotted decimal format (for example, 192.168.10.1).
tag_name	Alphanumeric tag associated with the VIP in the KAL-AP request. Enter a unique alphanumeric name with a maximum of 80 characters. Names that include spaces must be entered in quotes (for example, "name 1").
vip *ip_address*	Specifies the shared KAL-AP-type keepalive address in the KAL-AP request. The KAL-AP queries the keepalive address to determine the online status. Enter an unquoted text string in *A.B.C.D* format.

Command Modes   Answer vip configuration mode

Usage Guidelines   This command sends a detailed query to the Cisco Content Services Switch (CSS) or Cisco Content Switching Module (CSM) at the address specified for the VIP answer to extract load and availability. The GSS determines the online status when the server load balancers (SLBs) respond with information about a hosted domain name, host VIP address, or a configured tag on a content rule.

The tag name value is used to match the correct shared keepalive VIP, avoiding confusion that can be caused when probing for the status of a VIP that is located behind a firewall network address translation (NAT).

Examples   The following example shows how to configure a KAL-AP keepalive for the VIP-type answer servicing VIP address 192.168.200.1:

```
gssm1.example.com(config-gslb)# answer vip 192.168.200.1
gssm1.example.com(config-ansvip[ans-ip])# keepalive type kalap tag 192.168.50.41 TAG1
gssm1.example.com(config-ansvip[ans-ip])
```

Related Commands   [(config-gslb) answer vip](#)

(config-gslb-ansvip) keepalive type scripted-kal

To define Scripted Kal keepalives for your virtual IP (VIP) answer, use the **keepalive type scripted-kal** command in answer vip configuration mode. To reset keepalive properties to their default values, use the **no** form of this command.

> **keepalive type scripted-kal kal-name** *name* **max-load** *max-load value* **match-string** *string* [**use-load** {**enable** | **disable**}]
>
> **no keepalive type scripted-kal kal-name** *name* **max-load** *max-load value*

Syntax Description		
	kal-name *name*	Specifies the name of an existing Scripted Kal shared keepalive.
	max-load *max-load value*	Specifies the maximum allowable load when adding a Scripted Kal probe to the VIP.
	match-string *string*	Specifies the character string used match the OID value for the online status (all non-matching strings indicate an offline status). Enter 1 to 16 alphanumeric characters (special characters are allowed, but spaces are not allowed).
	use-load	(Optional) Specifies whether or not the GSS uses the load value obtained by the Scripted keepalive. Enter one of the following keywords:
		• **enable**—Specifies that the GSS uses the load value of the Scripted KAL.
		• **disable**—Specifies that the GSS ignores the load value of the Scripted KAL and uses a static value to determine online or offline status of the device.

Command Modes   Answer vip configuration mode

Usage Guidelines   This command allows you to specify a KAL name and maximum load in order to add a Scripted Kal probe to the VIP. The GSS determines the online status by the response received from the device, indicating connectivity to the network.

Examples   The following example shows how to configure a Scripted keepalive for the VIP-type answer servicing VIP address 192.168.200.1:

```
gssm1.example.com(config-gslb)# answer vip 192.168.200.1
gssm1.example.com(config-ansvip[ans-ip])# keepalive type scripted-kal kal-name samplekal
max-load 50
gssm1.example.com(config-ansvip[ans-ip])
```

Related Commands   **(config-gslb) answer vip**

(config-gslb-ansvip) keepalive type tcp

To define a TCP keepalive for your VIP answer, use the **keepalive type tcp** command in answer vip configuration mode. To reset keepalive properties to their default values, use the **no** form of this command.

keepalive type tcp [**shared** *ip_address* | **port** *number* | **retries** *number* | **successful-probes** *number* | **termination** {**graceful** | **reset**}]

no keepalive type tcp [**shared** *ip_address* | **port** *number* | **retries** *number* | **successful-probes** *number* | **termination** {**graceful** | **reset**}]

Syntax Description		
shared *ip_address*	(Optional) Specifies the IP address of an existing TCP shared keepalive. Enter an unquoted text string in dotted decimal format (for example, 192.168.10.1).
port *number*	(Optional) Specifies the port on the remote device that is to receive the TCP-type keepalive request from the GSS. The valid entries are 1–65535. The default port is 80.
retries *number*	Optional) Specifies the number of times that the GSS retransmits a TCP packet before declaring the device offline. If TCP keepalives are being used for different devices or ports and you are using **keepalive type tcp** to configure keepalives on a per-TCP keepalive basis, you should change the value of the retries option. Valid values are 1–10 with a default of 1.
successful-probes *number*	(Optional) Specifies the number of consecutive successful TCP keepalive attempts (probes) that must be recognized by the GSS before bringing an answer back online. The valid entries are 1–5 attempts. The default is 1.
termination	(Optional) Specifies one of the following TCP keepalive connection termination methods: • **graceful**—The GSS initiates the graceful closing of a TCP connection by using the standard three-way connection termination method. • **reset**—The GSS immediately terminates the TCP connection by using a hard reset. If you do not specify a connection termination method, the GSS uses this method type.

Command Modes   Answer vip configuration mode

Usage Guidelines   This command sends a TCP handshake to the address specified for the VIP answer and port number of the remote device to determine service viability (three-way handshake and connection termination method), returning the online status of the device.

As you adjust the **retries** value, you change the detection time determined by the GSS. By increasing the number of retries, you increase the detection time. Reducing the number of retries has the reverse effect.

Examples   The following example shows how to configure a TCP keepalive for the VIP-type answer that services VIP address 192.168.200.1:

```
gssm1.example.com(config-gslb)# answer vip 192.168.200.1
gssm1.example.com(config-ansvip[ans-ip])# keepalive type tcp port 23 successful-probes 4
gssm1.example.com(config-ansvip[ans-ip])
```

Related Commands   **(config-gslb) answer vip**

(config-gslb) answer-group

To create an answer group, use the **answer-group** command in global server load-balancing configuration mode. To delete an answer group, use the **no** form of this command.

answer-group *name* {**owner** *name* **type** {**cra** | **ns** |**vip**}}

no answer-group *name* {**owner** *name* **type** {**cra** | **ns** |**vip**}}

Syntax Description		
name	Name of the answer group. Enter a unique alphanumeric name with a maximum of 80 characters. Names should not contain spaces.	
owner *name*	Specifies the name of an existing owner with which the answer group will be associated.	
type	Specifies a type for the answer group. The following options are available: • **cra**—The answer group consists of content routing agents (CRAs) for use with the boomerang server component of the GSS. • **ns**—The answer group consists of configured name servers. • **vip**—The answer group consists of virtual IPs (VIPs) controlled by an server load balancer (SLB) device such as a Cisco Content Services Switch (CSS) or a Cisco Content Switching Module (CSM).	

Command Modes   Global server load-balancing configuration

Usage Guidelines   Answer groups are lists of GSS resources that are candidates to respond to Domain Name System (DNS) queries received from a user for a hosted domain. By using the DNS rules feature, you associate these lists of network resources with a particular balance method that is used to resolve the request.

After you enter the **answer-group** command to configure a CRA, NS, or virtual IP (VIP) answer group, the prompt changes to the corresponding answer group configuration mode (for example, "config-gslb-agvip[ag-name]" for a VIP-type answer group). In this mode, you add previously configured answers to the group by using the **answer-add** command. See the **answer-add** command in the CRA, NS, and VIP answer group configuration mode descriptions that follow.

Examples   The following example shows how to create a VIP answer group:

```
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# answer-group ANSGRPVIP1 owner WEB-SERVICES type vip
gssm1.example.com(config-gslb-agvip[ag-name)#
```

The following example shows how to delete a VIP answer group:

```
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# no answer-group ANSGRPVIP1 owner WEB-SERVICES type vip
gssm1.example.com(config-gslb)#
```

Related Commands   (config-gslb) answer ns

(config-gslb) answer vip

(config-gslb-agvip) answer-add

(config-gslb-agcra) answer-add

(config-gslb-agns) answer-add

(config-gslb-agcra) answer-add

After you create a content routing agent (CRA)-type answer group using the **answer-group** command, to add previously configured CRA-type answers to the group, use the **answer-add** command in the CRA answer group configuration mode. To delete an answer from an answer group, use the **no** form of this command.

> **answer-add** *ip_address* [**activate** | **name** | **suspend**]

> **no answer-add** *ip_address* [**activate** | **name** | **suspend**]

Syntax Description		
	ip_address	IP address of a previously configured CRA-type answer. Enter an unquoted text string in dotted decimal format (for example, 192.168.10.1).
	activate	(Optional) Reactivates a suspended CRA answer. This is the default setting.
	name	(Optional) Specifies the name of a previously configured CRA-type answer. Enter a unique alphanumeric name with a maximum of 80 characters. Names that include spaces must be entered in quotes (for example, "name 1").
	suspend	(Optional) Suspends an active CRA answer.

Command Modes   CRA answer group configuration mode

Examples   The following example shows how to add answers to and configure a CRA answer group:

```
gssm1.example.com(config-gslb-agcra[ag-name])# answer-add 192.168.10.1 name www-boston-1
gssm1.example.com(config-gslb-agcra[ag-name])# answer-add 192.172.24.1 name www-ny-1
gssm1.example.com(config-gslb-agcra[ag-name])# answer-add 192.186.14.1 name www-atlanta-1
gssm1.example.com(config-gslb-agcra[ag-name])#
```

The following example shows how to delete an answer from a CRA answer group:

```
gssm1.example.com(config-gslb-agcra[ag-name])# no answer-add 192.186.14.1 name
www-atlanta-1
```

Related Commands   **(config-gslb-agvip) answer-add**

(config-gslb-agns) answer-add

(config-gslb-agns) answer-add

After you create a name server (NS)-type answer group using the **answer-group** command, to add previously configured NS-type answers to the group, use the **answer-add** command in the NS answer group configuration mode. To delete an answer from an answer group, use the **no** form of this command.

answer-add *ip_address* [**name** | **order** *number* | **weight** *number* | **activate** | **suspend**]

no answer-add *ip_address* [**name** | **order** *number* | **weight** *number* | **activate** | **suspend**]

Syntax Description		
	ip_address	IP address of a previously configured NS-type answer. Enter an unquoted text string in dotted decimal format (for example, 192.168.10.1).
	name	(Optional) Specifies the name of a previously configured NS-type answer. Enter a unique alphanumeric name with a maximum of 80 characters. Names that include spaces must be entered in quotes (for example, "name 1").
	order *number*	(Optional) Assigns the specified order to the answer that is to be added to the answer group. Specify this option when using an ordered balance method type.
	weight *number*	(Optional) Assigns the specified weight to the answer that is to be added to the answer group. Specify this option when using a weighted round-robin or least-loaded balance method type.
	activate	(Optional) Reactivates a suspended NS answer. This is the default setting.
	suspend	(Optional) Suspends an active NS answer.

Command Modes   NS answer group configuration mode

Usage Guidelines   For more information about the order and weight settings, see Chapter 1, Introducing the Global Site Selector in the *Cisco Global Site Selector CLI-Based Global Server Load-Balancing Configuration Guide.*

Examples   The following example shows how to add answers to and configure an NS answer group:

```
gssm1.example.com(config-gslb-agns[ag-name])# answer-add 192.168.10.1 name www-zurich-1
order 10
gssm1.example.com(config-gslb-agns[ag-name])# answer-add 192.172.20.1 name www-barcelona-1
order 20
gssm1.example.com(config-gslb-agns[ag-name])# answer-add 192.188.30.1 name www-brussels-30
gssm1.example.com(config-gslb-agns[ag-name])#
```

The following example shows how to delete an answer from an NS answer group:

```
gssm1.example.com(config-gslb-agns[ag-name])# no answer-add 192.168.10.1 name www-zurich-1
order 10
```

Related Commands   **(config-gslb) answer ns**

(config-gslb-agvip) answer-add

(config-gslb-agcra) answer-add

(config-gslb-agvip) answer-add

After you create a virtual IP (VIP)-type answer group using the **answer-group** command, to add previously configured VIP-type answers to the group, use the **answer-add** command in the VIP answer group configuration mode. To delete an answer from an answer group, use the **no** form of this command.

answer-add *ip_address* [**name** | **load-threshold** *number* | **order** *number* | **weight** *number* | **activate** | **suspend**]

no answer-add *ip_address* [**name** | **load-threshold** *number* | **order** *number* | **weight** *number* | **activate** | **suspend**]

ip_address	IP address of a previously configured VIP-type answer. Enter an unquoted text string in dotted decimal format (for example, 192.168.10.1).
name	(Optional) Specifies the name of a previously configured VIP-type answer. Enter a unique alphanumeric name with a maximum of 80 characters. Names that include spaces must be entered in quotes (for example, "name 1").
load-threshold *number*	(Optional) Assigns the specified load threshold to the answer that is to be added to the answer group. Use this option to determine whether an answer is available, regardless of the balance method type.
order *number*	(Optional) Assigns the specified order to the answer that is to be added to the answer group. Specify this option when using an ordered balance method type.
weight *number*	(Optional) Assigns the specified weight to the answer that is to be added to the answer group. Specify this option when using a weighted round-robin or least-loaded balance method type.
activate	(Optional) Reactivates a suspended VIP answer. This is the default setting.
suspend	(Optional) Suspends an active VIP answer.

Command Modes   VIP answer group configuration mode

Usage Guidelines   For more information about the order, weight, and load threshold settings, see Chapter 1, Introducing the Global Site Selector in the *Cisco Global Site Selector CLI-Based Global Server Load-Balancing Configuration Guide.*

Examples   The following example shows how to add answers to and configure a VIP answer group:

```
gssm1.example.com(config-gslb-agvip[ag-name])# answer-add 192.168.30.1 name www-hk-1
weight 1
gssm1.example.com(config-gslb-agvip[ag-name])# answer-add 192.174.20.1 name www-sf-1
weight 2
gssm1.example.com(config-gslb-agvip[ag-name])# answer-add 192.188.40.1 name www-london-1
weight 4
gssm1.example.com(config-gslb-agvip[ag-name])#
```

The following example shows how to delete an answer from a VIP answer group:

```
gssm1.example.com(config-gslb-agvip[ag-name])# no answer-add 192.168.30.1 name www-hk-1
weight 1
```

Related Commands   (config-gslb) answer vip

(config-gslb-agns) answer-add

(config-gslb-agcra) answer-add

(config-gslb-agns) auth-domain

To add an authority domain to an answer group, use the **auth-domain** command. To delete an authority domain from an answer group, use the **no** form of this command.

auth-domain *domain-name*

no auth-domain *domain-name*

Syntax Description	*domain_name*	Answer group domain name that you want to add or delete.
	Note	The **auth-domain** command will not accept regular expressions or wildcards. It will only accept well-defined domain names.

Command Modes   Answer group configuration

Usage Guidelines   For more information about adding or deleting an authority domain, see Chapter 6, Configuring and Modifying Answer Groups in the *Cisco Global Site Selector CLI-Based Global Server Load-Balancing Configuration Guide.*

Examples   The following example shows how to configure an answer group and add an NS answer and its associated authority domains:

```
gssm1.example.com (config-gslb)# answer-group ag1 owner System type ns
gssm1.example.com (config-gslb-agns)# answer-add 1.2.3.4 name ns1
gssm1.example.com (config-gslb-agns)# auth-domain soa.test
gssm1.example.com (config-gslb-agns)# auth-domain soa.org
```

The following example shows how to delete associated authority domains:

```
gssm1.example.com(config-gslb-agns)# no auth-domain soa.test
gssm1.example.com(config-gslb-agns)# no auth-domain soa.org
```

Related Commands   **(config-gslb) answer-group**

(config-gslb) dns rule

To build, activate, or suspend the Domain Name System (DNS) rules that specify the actions that each GSS is to perform when it receives a request from a known source for a known hosted domain, use the **dns rule** command in global server load-balancing configuration mode. To delete a DNS rule, use the **no** form of this command.

dns rule *name* {**activate** | **owner** *name* | **source-address-list** *name* | **domain-list** *name* | **query** {**a** | **all**} | **suspend**}

no dns rule *name* {**owner** *name* | **source-address-list** *name* | **domain-list** *name* | **query** {**a** | **all**}}

Syntax Description

name	Name for the DNS rule. Enter a unique alphanumeric name with a maximum of 80 characters. Names should not contain spaces.
activate	Reactivates the operation of a suspended DNS rule.
owner *name*	Specifies the name of a previously created owner with whom the rule will be associated. The default owner is System.
source-address-list *name*	Specifies the name of a previously created source address list from which requests will originate. The DNS rule is applied only to requests that come from one of the addresses in the source address list. If you do not choose a source address list, the GSS automatically uses the default list Anywhere.
domain-list *name*	Specifies the name of a previously created domain list to which DNS queries will be addressed. The DNS rule is applied only to requests that come from one of the addresses in the source address list and for a domain on the specified domain list.
query	Specifies the type of DNS query to apply to the rule. Choose one of the following options: • **a**—The DNS rule is applied only to answer address record (A record) requests that originate from a host on the configured source address list. • **all**—The DNS rule is applied to all DNS queries that originate from a host on the configured source address list.
suspend	Stops requests from being processed by the DNS rule.

Command Modes   Global server load-balancing configuration

Usage Guidelines   After you enter the **dns rule** *name* command, the prompt changes to the rule configuration mode where you specify and configure load-balance clauses and optional DNS sticky and network proximity settings by using the **clause** command. See the rule configuration mode commands in the Rule Configuration Mode Commands section.

The following guidelines apply to use of the **query** command:

• When you specify the **a** (A record) option, any request with unsupported query types (for example, MX, PTR, or CNAME records) that match this DNS rule are dropped and not answered by the GSS. For an AAAA query with a configured host domain, the GSS returns a NODATA (No Answer, No Error) response for the requester to make a subsequent A-record query.

- When you specify the **all** option, the GSS forwards any request other than an A-record query (for example, MX or CNAME record) to a name server configured in one of the three balance clauses. When the GSS receives the response from the name server, it delivers the response to the requesting client D-proxy.

- When you specify **all** for the query type, you must configure one balance clause to include a name server-type answer group.

Examples

The following example shows how to create a DNS rule called drule02:

```
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# dns rule drule02 owner WEB-SERVICES source-address-list
WEB-GLOBAL-LISTS domain-list E-COMMERCE query A
gssm1.example.com(config-gslb-rule[rule-name])#
```

The following example shows how to delete a DNS rule called drule02:

```
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# no dns rule drule02 owner WEB-SERVICES source-address-list
WEB-GLOBAL-LISTS domain-list E-COMMERCE query A
```

Related Commands

(config-gslb-rule) clause number cra-group

(config-gslb-rule) clause number ns-group

(config-gslb-rule) clause number vip-group

(config-gslb) domain-list

To configure a domain list, use the **domain-list** command in global server load-balancing configuration mode. To delete a domain list, use the **no** form of this command.

domain-list *name* [**comments** *text* | **owner** *name*]

no domain-list *name* [**comments** *text* | **owner** *name*]

Syntax Description

name	Name for the new domain. Enter a unique alphanumeric name, with a maximum of 80 characters. Spaces are not allowed.
comments *text*	(Optional) Specifies descriptive information or important notes about the domain list. Enter up a maximum of 256 alphanumeric characters. Comments with spaces must be entered in quotes.
owner *name*	(Optional) Specifies an existing owner name with which the domain list is to be associated.

Command Modes

Global server load-balancing configuration

Usage Guidelines

After you enter the **domain-list** command, the prompt changes to the domain list configuration mode, where you specify domains to be added to the domain list using the **domain** command.

Examples

The following example shows how to create a domain list called E-COMMERCE:

```
gssm1.example.com# config
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# domain-list E-COMMERCE owner WEB-SERVICES
gssm1.example.com(config-gslb)# domain-list E-COMMERCE comments "GLOBAL DOMAIN LIST FOR
ECOMMERCE"
```

The following example shows how to delete a domain list:

```
gssm1.example.com(config-gslb)# no domain-list E-COMMERCE
```

Related Commands   (config-gslb-dl) domain

(config-gslb-dl) domain

After you create a domain list using the **domain-list** command, to add domains to the list, use the **domain** command in the domain list configuration mode. To delete a domain from a domain list, use the **no** form of this command.

> **domain** *name*
>
> **no domain** *name*

Syntax Description   See the "Usage Guidelines" section for details about entering domains.

Command Modes   Domain list configuration mode

Usage Guidelines   You can enter a maximum of 500 domains for each list. You can enter complete domain names or any regular expression that specifies a pattern by which the GSS can match incoming addresses. Enter the domain names of resources for which the GSS acts as the authoritative Domain Name System (DNS) server.

Domain names cannot exceed 128 characters. The following examples show domain names configured on the GSS:

```
cisco.com
www.cisco.com
www.support.cisco.com
```

With the exception of the "?" wildcard, which is not supported, the GSS supports domain names that use wildcards. Wildcard syntax is based on POSIX 1003.2 extended regular expressions. Any request for a hosted domain that matches the pattern is directed accordingly.

The use of the "?" wildcard is allowed for domain names when using the **script play-config** command to play a GSLB configuration file. See the Configuring Domain Lists in the *Cisco Global Site Selector CLI-Based Global Server Load-Balancing Configuration Guide* for more information.

For example, assume that you have 20 or more possible domains, such as www1.cisco.com, www2.cisco.com, and so on. You can create a wildcard expression that covers all of those domains:

```
.*\.cisco\.com
```

For domain names with wildcards that are valid regular expressions, the GSS can match strings up to 256 characters.

Examples   The following example shows how to create a domain list called E-COMMERCE and add the domain DATABASEEXAMPLE.COM to the list:

```
gssm1.example.com# config
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# domain-list E-COMMERCE owner WEB-SERVICES
gssm1.example.com(config-gslb-dl[dl-name])# domain DATABASEEXAMPLE.COM
```

The following example shows how to add multiple domains to the domain list:

```
gssm1.example.com(config-gslb-dl[dl-name])# domain WWW.EXAMPLE.COM
gssm1.example.com(config-gslb-dl[dl-name])# domain SUPPORT.EXAMPLE.COM
```

```
gssm1.example.com(config-gslb-dl[dl-name])# domain CDM.EXAMPLE.COM
```

The following example shows how to delete a domain:

```
gssm1.example.com(config-gslb-dl[dl-name])# no domain CDM.EXAMPLE.COM
```

Related Commands   **(config-gslb) domain-list**

(config-gslb) keepalive-properties cra

To change content routing agent (CRA) global keepalive configuration settings, use the **keepalive-properties cra** command in global server load-balancing configuration mode. To reset the keepalive properties to the default settings, use the **no** form of this command.

> **keepalive-properties cra** {**min-interval** *number*} | **timing-decay** *number*}

> **no keepalive-properties cra** {**min-interval** *number*} | **timing-decay** *number*}

Syntax Description

min-interval *number*	Specifies the minimum frequency with which the GSS attempts to schedule CRA keepalives. The valid entries are 1–60 seconds. The default is 10.
timing-decay *number*	Specifies how heavily the GSS should weigh recent Domain Name System (DNS) round-trip time (RTT) probe results that relate to earlier RTT metrics. A setting of 1 indicates that recent results should not be weighed any more than previous RTT results. The valid entries are 1–10. The default is 2.

Command Modes   Global server load-balancing configuration

Examples   The following example shows how to change the CRA global keepalive configuration settings:

```
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# keepalive-properties cra min-interval 60 timing-decay 1
```

The following example shows how to reset the keepalive properties to the default settings:

```
gssm1.example.com(config-gslb)# no keepalive-properties cra min-interval 60 timing-decay 1
```

Related Commands   **(config-gslb) keepalive-properties http-head**

(config-gslb) keepalive-properties icmp

(config-gslb) keepalive-properties kalap

(config-gslb) keepalive-properties ns

(config-gslb) keepalive-properties tcp

(config-gslb) keepalive-properties http-head

To change HTTP-HEAD global keepalive configuration settings, use the **keepalive-properties http-head** command in global server load-balancing configuration mode. To reset the keepalive properties to the default settings, use the **no** form of this command.

keepalive-properties http-head {**standard** {**min-interval** *number* | **path** *path* | **port** *number* | **termination** {**graceful** | **reset**} | **timeout** *number* | **fast** {**path** *path* | **port** *number* | **retries** *number* | **successful-probes** *number* | **termination** {**graceful** | **reset**}}}}

no keepalive-properties http-head {**standard** {**min-interval** *number* | **path** *path* | **port** *number* | **termination** {**graceful** | **reset**} | **timeout** *number* | **fast** {**path** *path* | **port** *number* | **retries** *number* | **successful-probes** *number* | **termination** {**graceful** | **reset**}}}}

Syntax Description	**standard**	Specifies the standard failure detection mode. Failure detection time is the amount of time between when a device failure occurred (the answer resource goes offline) and when the GSS realized the failure occurred.
	min-interval *number*	Specifies the minimum frequency with which the GSS attempts to schedule HTTP-HEAD keepalives. The valid entries are 40–255 seconds. The default is 40.
	path *path*	Specifies the server website queried in the HTTP HEAD request (for example, /company/owner). The default path "/" specifies the virtual root of the web server.
	port *number*	Specifies the port on the remote device that is to receive the HTTP HEAD-type keepalive request from the GSS. The valid entries are 1–65535. The default port is 80.
	termination	Specifies one of the following HTTP HEAD keepalive connection termination methods:
		• **graceful**—The GSS initiates the graceful closing of an HTTP HEAD connection by using the standard three-way connection termination method.
		• **reset**—The GSS immediately terminates the TCP-formatted HTTP HEAD connection by using a hard reset. If you do not specify a connection termination method, the GSS uses this method type.
	timeout *number*	Specifies the length of time allowed before the GSS retransmits data to a device that is not responding to a request. The valid entries are 20–60 seconds. The default is 20.
	fast	Specifies the fast failure detection mode. Failure detection time is the amount of time between when a device failure occurred (the answer resource goes offline) and when the GSS realized the failure occurred.
	path *path*	Specifies the server website queried in the HTTP HEAD request (for example, /company/owner). The default path "/" specifies the virtual root of the webserver.
	port *number*	Specifies the port on the remote device that is to receive the HTTP HEAD-type keepalive request from the GSS. The valid entries are 1– 65535. The default port is 80.

retries *number*	Specifies the number of times that the GSS retransmits an HTTP HEAD packet before declaring the device offline. The valid entries are 1–10 retries. The default is 1.
successful-probes *number*	Specifies the number of consecutive successful HTTP HEAD keepalive attempts (probes) that must be recognized by the GSS before bringing an answer back online. The valid entries are 1–5 attempts. The default is 1.

Command Modes   Global server load-balancing configuration

Usage Guidelines   The requirements for your network should determine which failure detection mode (fast or standard) properties to modify. The GSS supports a maximum of 500 HTTP HEAD keepalives when using the standard detection method and a maximum of 100 HTTP HEAD keepalives when using the fast detection method.

As you adjust the **retries** value, you change the detection time determined by the GSS. By increasing the number of retries, you increase the detection time. Reducing the number of retries has the reverse effect.

See Chapter 1, Introducing the Global Site Selector in the *Cisco Global Site Selector CLI-Based Global Server Load-Balancing Configuration Guide* for more information about keepalives.

Examples   The following example shows how to configure HTTP HEAD keepalive properties in standard failure detection mode:

```
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# keepalive-properties http-head standard min-interval 60
path /COMPANY/OWNER
```

The following example shows how to configure HTTP HEAD keepalive properties in fast failure detection mode:

```
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# keepalive-properties http-head fast path /COMPANY/OWNER
retries 2 successful-probes 2
```

The following example shows how to reset the keepalive properties to the default settings:

```
gssm1.example.com(config-gslb)# no keepalive-properties http-head fast path /COMPANY/OWNER
retries 2 successful-probes 2
```

Related Commands   **(config-gslb) keepalive-properties cra**

(config-gslb) keepalive-properties icmp

(config-gslb) keepalive-properties kalap

(config-gslb) keepalive-properties ns

(config-gslb) keepalive-properties tcp

(config-gslb) keepalive-properties icmp

To change Internet Control Message Protocol (ICMP) global keepalive configuration settings, use the **keepalive-properties icmp** command in global server load-balancing configuration mode. To reset the keepalive properties to the default settings, use the **no** form of this command.

keepalive-properties icmp {**standard** {**min-interval** *number*} | **fast** {**retries** *number* | **successful-probes** *number*}}

no keepalive-properties icmp {**standard** {**min-interval** *number*} | **fast** {**retries** *number* | **successful-probes** *number*}}

Syntax Description

standard	Specifies the standard failure detection mode. Failure detection time is the amount of time between when a device failure occurred (the answer resource goes offline) and when the GSS realized the failure occurred.
min-interval *number*	Specifies the minimum frequency with which the GSS attempts to schedule ICMP keepalives. The valid entries are 40 to 255 seconds. The default is 40.
fast	Specifies the fast failure detection mode. Failure detection time is the amount of time between when a device failure occurred (the answer resource goes offline) and when the GSS realized the failure occurred.
retries *number*	Specifies the number of times that the GSS retransmits an ICMP echo request packet before declaring the device offline. The valid entries are 1 to 10 retries. The default is 1.
successful-probes *number*	Specifies the number of consecutive successful ICMP keepalive attempts (probes) that must be recognized by the GSS before bringing an answer back online. The valid entries are 1 to 5 attempts. The default is 1.

Command Modes   Global server load-balancing configuration

Usage Guidelines   The requirements for your network should determine which failure detection mode (fast or standard) properties to modify. The GSS supports a maximum of 750 ICMP keepalives when using the standard detection method and a maximum of 150 ICMP keepalives when using the fast detection method.

As you adjust the **retries** value, you change the detection time determined by the GSS. By increasing the number of retries, you increase the detection time. Reducing the number of retries has the reverse effect.

See Chapter 1, Introducing the Global Site Selector in the *Cisco Global Site Selector CLI-Based Global Server Load-Balancing Configuration Guide* for more information about keepalives.

Examples   The following example shows how to configure ICMP keepalive properties in standard failure detection mode:

```
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# keepalive-properties icmp standard min-interval 60
```

The following example shows how to configure ICMP keepalive properties in fast failure detection mode:

```
gssm1.example.com(config)# gslb
```

```
gssm1.example.com(config-gslb)# keepalive-properties icmp fast retries 3 successful-probes
2
```

The following example shows how to reset the keepalive properties to the default settings:

```
gssm1.example.com(config-gslb)# no keepalive-properties icmp fast retries 3
successful-probes 2
```

Related Commands   **(config-gslb) keepalive-properties http-head**

(config-gslb) keepalive-properties cra

(config-gslb) keepalive-properties kalap

(config-gslb) keepalive-properties ns

(config-gslb) keepalive-properties tcp

(config-gslb) keepalive-properties kalap

To change the KAL-AP global keepalive configuration settings, use the **keepalive-properties kalap** command in global server load-balancing configuration mode. To reset the keepalive properties to the default settings, use the **no** form of this command.

> **keepalive-properties kalap** {**standard** {**capp-key** *key* | **min-interval** *number*} | **fast** {**capp-key** *key* | **retries** *number* | **successful-probes** *number*}}

> **no keepalive-properties kalap** {**standard** {**capp-key** *key* | **min-interval** *number*} | **fast** {**capp-key** *key* | **retries** *number* | **successful-probes** *number*}}

Syntax Description

standard	Specifies the standard failure detection mode. Failure detection time is the amount of time between when a device failure occurred (the answer resource goes offline) and when the GSS realized the failure occurred.
capp-key *key*	Specifies the secret key to be used for Content and Application Peering Protocol (CAPP) encryption. The alphanumeric string that you enter is used to encrypt interbox communications using CAPP. You must also configure the same encryption value on the Cisco Content Services Switch (CSS) or Content Switching Module (CSM).
min-interval *number*	Specifies the minimum frequency with which the GSS attempts to schedule KAL-AP keepalives. The valid entries are 40–255 seconds. The default is 40.
fast	Specifies the fast failure detection mode. Failure detection time is the amount of time between when a device failure occurred (the answer resource goes offline) and when the GSS realized the failure occurred.
capp-key *key*	Specifies the secret key to be used for CAPP encryption. The alphanumeric string that you enter is used to encrypt interbox communications using CAPP. You must also configure the same encryption value on the CSS or CSM.
retries *number*	Specifies the number of times the GSS retransmits a KAL-AP packet before declaring the device offline. The valid entries are 1–10 retries. The default is 1.
successful-probes *number*	Specifies the number of consecutive successful KAL-AP keepalive attempts (probes) that must be recognized by the GSS before bringing an answer back online. The valid entries are 1–5 attempts. The default is 1.

Command Modes   Global server load-balancing configuration

Usage Guidelines   The requirements for your network should determine which failure detection mode (fast or standard) properties to modify. The GSS supports a maximum of 128 primary and 128 secondary KAL-AP keepalives when using the standard detection method and a maximum of 40 primary and 40 secondary KAL-AP keepalives when using the fast detection method.

As you adjust the **retries** value, you change the detection time determined by the GSS. By increasing the number of retries, you increase the detection time. Reducing the number of retries has the reverse effect.

See Chapter 1, Introducing the Global Site Selector in the *Cisco Global Site Selector CLI-Based Global Server Load-Balancing Configuration Guide* for more information about keepalives.

Examples   The following example shows how to configure KAL-AP keepalive properties in standard failure
detection mode:

```
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# keepalive-properties kalap standard capp-key
SECRET-KEY-101 min-interval 80
```

The following example shows how to configure KAL-AP keepalive properties in fast failure detection
mode:

```
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# keepalive-properties kalap fast capp-key SECRET-KEY-101
retries 5 successful-probes 2
```

The following example shows how to reset the keepalive properties to the default settings:

```
gssm1.example.com(config-gslb)# no keepalive-properties kalap fast capp-key SECRET-KEY-101
retries 5 successful-probes 2
```

Related Commands   **(config-gslb) keepalive-properties http-head**

(config-gslb) keepalive-properties icmp

(config-gslb) keepalive-properties cra

(config-gslb) keepalive-properties ns

(config-gslb) keepalive-properties tcp

(config-gslb) keepalive-properties scripted-kal

To change the Scripted Kal global keepalive configuration settings, use the **keepalive-properties scripted-kal** command in global server load-balancing configuration mode. To reset the keepalive properties to the default settings, use the **no** form of this command.

keepalive-properties scripted-kal {**standard min-interval** *number* | **fast retries** *number* | **successful-probes** *number*}

no keepalive-properties {**standard min-interval** *number* | **fast retries** *number* | **successful-probes** *number*}

Syntax Description

standard min-interval *number*	In standard failure detection mode, specifies the minimum frequency with which the GSS attempts to schedule Scripted keepalives. The valid entries are 40–255 seconds with a default of 40.
fast retries *number*	In fast failure detection mode, specifies the number of times that the GSS retransmits a Scripted Kal packet before declaring the device offline. The valid entries are 1–5 retries with a default of 1.
successful-probes *number*	Specifies the number of consecutive successful Scripted keepalive attempts (probes) that must be recognized by the GSS before bringing an answer back online. The valid entries are 1–5 attempts with a default of 1.

Command Modes

Global server load-balancing configuration

Usage Guidelines

The requirements for your network should determine which failure detection mode (fast or standard) properties to modify.

In the standard detection mode, the GSS supports a maximum of the following:

- 256 Scripted keepalives of the scalar type
- 128 Scripted keepalives of the nonscalar type (each target device contains 128 VIPs)
- 32 Scripted keepalives of the nonscalar type (each target device contains 1000 VIPs)

When using the fast detection method, GSS supports a maximum of the following:

- 60 Scripted keepalives of the scalar type
- 30 Scripted keepalives of the non-scalar type (each target device contains 128 VIPs)
- 8 Scripted keepalives of the non-scalar type (each target device contains 128 VIPs)

As you adjust the **fast retries** value, you change the detection time determined by the GSS. By increasing the number of retries, you increase the detection time. Reducing the number of retries has the reverse effect.

See Chapter 1, Introducing the Global Site Selector in the *Cisco Global Site Selector CLI-Based Global Server Load-Balancing Configuration Guide* for more information about keepalives.

Examples   The following example shows how to configure Scripted keepalive properties in standard failure detection mode:

```
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# keepalive-properties scripted-kal standard min-interval 60
```

The following example shows how to configure Scripted keepalive properties in fast failure detection mode:

```
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# keepalive-properties scripted-kal fast retries 3
successful-probes 2
```

The following example shows how to reset the keepalive properties to the default settings:

```
gssm1.example.com(config-gslb)# no keepalive-properties kalap fast capp-key SECRET-KEY-101
retries 3 successful-probes 2
```

Related Commands   **(config-gslb) keepalive-properties http-head**

(config-gslb) keepalive-properties icmp

(config-gslb) keepalive-properties cra

(config-gslb) keepalive-properties ns

(config-gslb) keepalive-properties tcp

(config-gslb) keepalive-properties ns

To change the name server (NS) global keepalive configuration settings, use the **keepalive-properties ns** command in global server load-balancing configuration mode. To reset the keepalive properties to the default settings, use the **no** form of this command.

keepalive-properties ns {**min-interval** *number*} | **query-domain** *domain_name*}

no keepalive-properties ns {**min-interval** *number*} | **query-domain** *domain_name*}

Syntax Description

min-interval *number*	Specifies the minimum frequency with which the GSS attempts to schedule NS keepalives. The valid entries are 40–255 seconds. The default is 40.
query-domain *domain_name*	Specifies the name of the domain name server to which an NS-type keepalive is sent. Enter the name as an unquoted text string with no spaces and a maximum length of 100 characters. The default domain "." specifies the root of the domain name server.

Command Modes   Global server load-balancing configuration

Examples   The following example shows how to change the NS global keepalive configuration settings:

```
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# keepalive-properties ns min-interval 60 query-domain
WWW.HOME.COM
```

The following example shows how to reset the keepalive properties to the default settings:

```
gssm1.example.com(config-gslb)# no keepalive-properties ns min-interval 60 query-domain
WWW.HOME.COM
```

Related Commands   (config-gslb) keepalive-properties http-head

(config-gslb) keepalive-properties icmp

(config-gslb) keepalive-properties kalap

(config-gslb) keepalive-properties cra

(config-gslb) keepalive-properties tcp

(config-gslb) keepalive-properties tcp

To change TCP global keepalive configuration settings, use the **keepalive-properties tcp** command in global server load-balancing configuration mode. To reset the keepalive properties to the default settings, use the **no** form of this command.

> **keepalive-properties tcp** {**standard** {**min-interval** *number* | **port** *number* | **termination** {**graceful** | **reset**} | **timeout** *number* | **fast** {**port** *number* | **retries** *number* | **successful-probes** *number* | **termination** {**graceful** | **reset**}}}}

> **no keepalive-properties tcp** {**standard** {**min-interval** *number* | **port** *number* | **termination** {**graceful** | **reset**} | **timeout** *number* | **fast** {**port** *number* | **retries** *number* | **successful-probes** *number* | **termination** {**graceful** | **reset**}}}}

Syntax Description		
standard	Specifies the standard failure detection mode. Failure detection time is the amount of time between when a device failure occurred (the answer resource goes offline) and when the GSS realized the failure occurred.	
min-interval *number*	Specifies the minimum frequency with which the GSS attempts to schedule TCP keepalives. The valid entries are 40–255 seconds. The default is 40.	
port *number*	Specifies the port on the remote device that is to receive the TCP-type keepalive request from the GSS. The valid entries are 1–65535. The default port is 80.	
termination	Specifies one of the following TCP keepalive connection termination methods:	
	• **graceful**—The GSS initiates the graceful closing of a TCP connection by using the standard three-way connection termination method.	
	• **reset**—The GSS immediately terminates the TCP connection by using a hard reset. If you do not specify a connection termination method, the GSS uses this method type.	
timeout *number*	Specifies the length of time allowed before the GSS retransmits data to a device that is not responding to a request. The valid entries are 20–60 seconds. The default is 20.	
fast	Specifies the fast failure detection mode. Failure detection time is the amount of time between when a device failure occurred (the answer resource goes offline) and when the GSS realized the failure occurred.	
port *number*	Specifies the port on the remote device that is to receive the TCP-type keepalive request from the GSS. The valid entries are 1–65535. The default port is 80.	
retries *number*	Specifies the number of times that the GSS retransmits a TCP packet before declaring the device offline.	
	When the GSS is transmitting numerous TCP keepalives using port 23, you should change the value of the **retries** option. Valid entries range from 1–10 with a default of 1.	
successful-probes *number*	Specifies the number of consecutive successful TCP keepalive attempts (probes) that must be recognized by the GSS before bringing an answer back online. The valid entries are 1–5 attempts. The default is 1.	

Command Modes   Global server load-balancing configuration

Usage Guidelines   The requirements for your network should determine which failure detection mode (fast or standard) properties to modify. The GSS supports a maximum of 1500 TCP keepalives when using the standard detection method and a maximum of 150 TCP keepalives when using the fast detection method.

As you adjust the **retries** value, you change the detection time determined by the GSS. By increasing the number of retries, you increase the detection time. Reducing the number of retries has the reverse effect.

See Chapter 1, Introducing the Global Site Selector in the *Cisco Global Site Selector CLI-Based Global Server Load-Balancing Configuration Guide* for more information about keepalives.

Examples   The following example shows how to configure TCP keepalive properties in standard failure detection mode:

```
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# keepalive-properties tcp standard min-interval 60 timeout
25
```

The following example shows how to configure TCP keepalive properties in fast failure detection mode:

```
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# keepalive-properties tcp fast retries 3 successful-probes
2 termination graceful
```

The following example shows how to reset the keepalive properties to the default settings:

```
gssm1.example.com(config-gslb)# no keepalive-properties tcp standard min-interval 60
timeout 25
```

Related Commands   **(config-gslb) keepalive-properties http-head**

(config-gslb) keepalive-properties icmp

(config-gslb) keepalive-properties kalap

(config-gslb) keepalive-properties ns

(config-gslb) keepalive-properties cra

(config-gslb) location

To configure a location, use the **location** command in global server load-balancing configuration mode. To delete a location, use the **no** form of this command.

> **location** *name* [**region** *name* | **comments** *text* | **zone** *name* | **suspend-all-answers** | **activate-all-answers**]

> **no location** *name* [**region** *name* | **comments** *text* | **zone** *name* | **suspend-all-answers** | **activate-all-answers**]

Syntax Description

name	Geographical group name entities such as a city, data center, or content site for the location. Enter a unique alphanumeric name with a maximum of 80 characters. Enter names that include spaces in quotes (for example, "name 1").
region *name*	(Optional) Specifies a region with which the location will be associated. There should be a logical connection between the region and location. Enter a unique alphanumeric name with a maximum of 80 characters. Enter names that include spaces in quotes (for example, "name 1").
comments *text*	(Optional) Specifies descriptive information or important notes about the location. Enter a maximum of 256 alphanumeric characters. Comments with spaces must be entered in quotes.
zone *name*	(Optional) Specifies the name of an existing zone that is to be associated with the location. Specify this option if you are performing network proximity. There should be a logical connection between the zone and the location.
suspend-all-answers	(Optional) Suspends all answers associated with the specified location name.
activate-all-answers	(Optional) Reactivates all answers associated with the specified location name.

Command Modes   Global server load-balancing configuration

Usage Guidelines   If you need to delete a location, ensure that you know about the dependencies associated with a resource. For example, answers associated with locations that are deleted are automatically associated with the "Unspecified" location.

Deletions of any kind cannot be undone in the primary GSSM. If you want to use the deleted data at a later point in time, we recommend that you back up the database of your primary GSSM. See the *Global Site Selector Administration Guide* for details.

Suspending all answers for a location overrides the active or suspended state of an individual answer.

Examples   The following example shows how to create a location called San_Francisco and associate it with the region Western_USA:

```
gssm1.example.com# config
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# location SAN_FRANCISCO region WESTERN_USA
gssm1.example.com(config-gslb)# location SAN_FRANCISCO comments "UNION SQUARE"
```

The following example shows how to delete a location:

```
gssm1.example.com(config-gslb)# no location SAN_FRANCISCO
```

Related Commands   **(config-gslb) owner**

(config-gslb) region

(config-gslb) manual-reactivation

To enable the global manual reactivation function or to enable all operationally suspended answers or clauses, use the **manual-reactivation** command in global server load-balancing configuration mode. To disable the global manual reactivation function, use the **no** form of this command.

manual-reactivation {**activate-MR-answers all** | **activate-MT-clauses all** | **enable**}

no manual-reactivation enable

Syntax Description		
	activate-MR-answers all	Reactivates all of the answers that the GSS operationally suspended.
	activate-MT-clauses all	Reactivates all of the clauses that the GSS operationally suspended.
	enable	Enables the manaul reactivation function. By default, this function is disabled.

Command Modes   Global server load-balancing configuration

Usage Guidelines   You must have the manual reactivation function enabled to activate all operationally suspended answers or clauses.

Disabling global manual reactivation causes the GSS to automatically reactivate all answers and clauses when they return to an online state, including any answers and clauses that you configure for manual reactivation.

For more information on the manual reactivation function, see the *Cisco Global Site Selector CLI-Based Global Server Load-Balancing Configuration Guide*.

Examples   The following example shows how to enable the global manual reactivation function:

```
gssm1.example.com# config
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# manual-reactivation enable
```

The following example shows activate all operationally suspended answers:

```
gssm1.example.com(config-gslb)# manual-reactivation activate-answers-all
```

The following example shows how to disable the global manual reactivation function:

```
gssm1.example.com# config
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# no manual-reactivation enable
```

Related Commands   (config-gslb) answer cra

(config-gslb) answer ns

(config-gslb) answer vip

(config-gslb-rule) clause number cra-group

(config-gslb-rule) clause number ns-group

(config-gslb-rule) clause number vip-group

(config-gslb) no

To negate a CLI command or set it to its default settings, use the **no** command. Some GSS CLI commands do not have a **no** form.

no *command*

Syntax Description

answer cra	Deletes a content routing agent (CRA)-type answer.
answer ns	Deletes a name server (NS)-type answer.
answer vip	Deletes a virtual IP (VIP)-type answer.
answer-group	Deletes an answer group.
dns rule	Deletes a Domain Name System (DNS) rule.
domain-list	Deletes a domain list.
keepalive-properties cra	Resets the keepalive properties to the default settings.
keepalive-properties http-head	Resets the keepalive properties to the default settings.
keepalive-properties icmp	Resets the keepalive properties to the default settings.
keepalive-properties kalap	Resets the keepalive properties to the default settings.
keepalive-properties ns	Resets the keepalive properties to the default settings.
keepalive-properties scripted-kal	Resets the keepalive properties to the default settings
keepalive-properties tcp	Resets the keepalive properties to the default settings.
location	Deletes a location.
owner	Deletes an owner.
proximity assign	Deletes static entries from the proximity database in the GSS memory.
proximity group	Deletes a previously configured IP address block from a proximity group or deletes a proximity group and all configured IP address blocks
region	Deletes a region.
shared-keepalive http-head	Removes a shared keepalive.
shared-keepalive icmp	Removes a shared keepalive.
shared-keepalive kalap	Removes a shared keepalive.
shared-keepalive tcp	Removes a shared keepalive.
source-address-list	Removes a source address list.
sticky group	Deletes a previously configured IP address block from a sticky group or deletes a sticky group.
zone	Deletes a zone.

Command Modes   Global server load-balancing configuration

Usage Guidelines   Use the **no** command to disable functions or negate a command. If you need to negate a specific command, such as the default gateway IP address, you must include the specific string in your command, such as **no ip default-gateway** *ip-address*.

Examples   The following example shows how to negate a CLI command or set it to its default settings:

```
gss1.example.com(config)# no ip name-server 10.11.12.14

gss1.example.com(config)# no ntp-server 172.16.22.44
```

(config-gslb) owner

To configure an owner, use the **owner** command in global server load-balancing configuration mode. To delete an owner, use the **no** form of this command.

> **owner** *name* [**comments** *text* | **activate-all-answers** | **activate-all-rules** | **suspend-all-answers** | **suspend-all-rules**]

> **no owner** *name* [**comments** *text*]

Syntax Description

name	Logical name such as a business or organizational structure for the owner. Enter a unique alphanumeric name with a maximum of 80 characters. Names that include spaces must be entered in quotes (for example, "name 1").
comments *text*	(Optional) Specifies descriptive information or important notes about the owner. Enter a maximum of 256 alphanumeric characters. Comments with spaces must be entered in quotes.
activate-all-answers	Reactivates all answers in answer groups associated with the specified owner.
activate-all-rules	Reactivates all Domain Name System (DNS) rules associated with the specified owner.
suspend-all-answers	Suspends all answers in answer groups associated with the specified owner.
suspend-all-rules	Suspends all DNS rules associated with the specified owner.

Command Modes

Global server load-balancing configuration

Usage Guidelines

Owners are logical groupings for GSS network resources that correspond to business or organizational structures. For example, an owner might be a hosting customer, an internal department such as human resources, or an IT staff resource.

If you need to delete an owner, be sure that you know the dependencies of that resource. For example, answer groups, DNS rules, and domain lists associated with an owner will, if that owner is deleted, automatically be associated with the "System" owner account.

Deletions of any kind cannot be undone in the primary GSSM. If you want to use the deleted data at a later point in time, we recommend that you back up the database of your primary GSSM. See the *Global Site Selector Administration Guide* for details.

Examples

The following example shows how to configure an owner:

```
gssm1.example.com# config
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# owner WEB-SERVICES comments "INCLUDES MARKETING,
ADVERTISING, AND ECOMMERCE CONTENT PROVIDERS"
```

The following example shows how to delete an owner:

```
gssm1.example.com(config-gslb)# no owner WEB-SERVICES comments "INCLUDES MARKETING,
ADVERTISING, AND ECOMMERCE CONTENT PROVIDERS"
```

Related Commands   **(config-gslb) location**

(config-gslb) region

(config-gslb) proximity assign

To configure static proximity metrics for zones in your GSS network or to assign probing devices to specific D-proxies, use the **proximity assign** command. To delete static entries from the proximity database in the GSS memory, use the **no** form of this command.

> **proximity assign** {**group** {*groupname*}} | **ip** {*entryaddress*} | [**probe-target** {*ip-address*} | **zone-data** {*"zoneId:RTT"*}]

> **no proximity assign** {**group** {*groupname*}} | **ip** {*entryaddress*} | [**probe-target** {*ip-address*} | **zone-data** {*"zoneId:RTT"*}]

group *groupname*	Specifies a unique alphanumeric name with a maximum of 80 characters. Names that include spaces must be entered in quotes (for example, "name 1"). Each static proximity group must have a unique name.
ip *entryaddress*	Specifies the D-proxy IP address entry to be created in the proximity database (PDB).
probe-target *ip-address*	(Optional) Specifies an alternate IP address for the probing device to probe. Typically, the probing device transmits a probe to the requesting D-proxy IP address to calculate the round-trip time (RTT). If you find that the D-proxy cannot be probed from the probing device, you can identify the IP address of another device that can be probed to obtain the equivalent RTT data.
zone-data *"zoneId:RTT"*	(Optional) Specifies the calculated RTT value for a zone in *"zoneId:RTT"* format. For example, enter **1:100** to specify zone 3 with an RTT of 100 seconds. Valid entries for *zoneID* are 1–32 and must match the proximity zone index specified through the primary GSSM GUI. Valid entries for the *RTT* value are 0–86400 seconds (one day). To specify multiple static *zone:RTT* pairs in the proximity group, separate each entry within the quotation marks by a comma, but without spaces between the entries (for example, "3:450,22:3890,31:1000").

Command Modes   Global server load-balancing configuration

Usage Guidelines   Entries in the PDB can be both dynamic and static. The GSS creates dynamic entries in the proximity database as the result of requests from new D-proxy IP addresses. If you need to configure static proximity metrics for zones in your GSS network or assign probing devices to specific D-proxies, define a series of static entries in the proximity database by using the **proximity assign** global server load-balancing configuration mode command. If the same entry, dynamic or static, already exists in the proximity database, the GSS will overwrite that entry with the newly assigned entry.

Static entries in the PDB do not age out and remain in the PDB until you delete them. In addition, static entries are not subject to the automatic database cleanup of least recently used entries when the PDB size is almost at the maximum number of entries. Use the **no proximity assign** command to delete static entries from the PDB.

Note   Ensure that you want to permanently delete static entries from the PDB before you enter the **no proximity assign** command. You cannot retrieve those static entries once they are deleted.

You can specify permanent RTT values for the static entries. When the GSS uses permanent RTT values, it does not perform active probing with the Director Response Protocol (DRP) agent. Instead of RTT values, you can specify alternate IP addresses as targets for probing by the probing devices to obtain the RTT data. The GSS probes the alternate probe target for requests from D-proxies matching these static entries.

The GSS accepts commands up to 1024 characters. Ensure that the **proximity database-entry create** command does not exceed that length when you configure RTT for a large number of proximity zones.

Examples   The following example shows how to configure static RTT metrics for the proximity group ISP2 using zone indexes created previously through the primary GSSM GUI:

```
gssm1.example.com# config
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# proximity assign group ISP1 zone-data
"1:100,2:200,3:300,4:400,5:500"
```

The following example shows how to delete static RTT entries for the proximity group ISP1:

```
gssm1.example.com# config
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# no proximity assign group ISP1 zone-data
"1:100,2:200,3:300,4:400,5:500"
```

Related Commands   **proximity database delete**

proximity database dump

(config-gslb) proximity group

proximity play-config

show statistics

(config-gslb) proximity group

To create a proximity group of multiple D-proxy IP addresses, use the **proximity group** command. To delete a previously configured IP address block from a proximity group or to delete a proximity group and all configured IP address blocks, use the **no** form of this command.

proximity group {*groupname*} **ip** {*ip-address*} **netmask** {*netmask*}

no proximity group {*groupname*} **ip** {*ip-address*} **netmask** {*netmask*}

Syntax Description

groupname	Unique alphanumeric name with a maximum of 80 characters. Names that include spaces are not allowed.
ip *ip-address*	Specifies the IP address block in dotted-decimal notation (for example, 192.168.9.0).
netmask *netmask*	Specifies the subnet mask of the IP address block in dotted-decimal notation (for example, 255.255.255.0).

Command Modes   Global server load-balancing configuration

Usage Guidelines   The primary GSSM supports the creation of proximity groups. A proximity group allows you to configure multiple blocks of D-proxy IP addresses that each GSS device stores in its proximity database (PDB) as a single entry. Instead of multiple PDB entries, the GSS uses only one entry in the PDB for multiple D-proxies. The GSS treats all D-proxies in a proximity group as a single D-proxy when responding to Domain Name System (DNS) requests with the most proximate answers. Requests from D-proxies within the same proximity group receive the RTT values from the database entry for the group. The benefits of proximity grouping include less probing activities performed by the GSS, less space required for the PDB, and user flexibility in assigning alternative probing targets or static proximity metrics to a group.

Reenter the **proximity group** command to add multiple IP blocks to a proximity group or create additional proximity groups.

Create proximity groups at the CLI of the primary GSSM to obtain better scalability of your configuration and to allow for ease of proximity group creation through automation scripts. Proximity groups are saved in the primary GSSM database. All GSS devices in the network receive the same proximity group configuration. You cannot create proximity groups at the CLI of a standby GSSM or individual GSS devices.

The primary GSSM supports a maximum of 5000 proximity groups. Each proximity group contains one to 30 blocks of IP addresses and subnet masks (in dotted-decimal format).

In addition to creating proximity groups of multiple D-proxy IP addresses from the CLI, you can configure a global netmask from the primary GSSM GUI to uniformly group contiguous D-proxies (see the *Cisco Global Site Selector CLI-Based Global Server Load-Balancing Configuration Guide,* Chapter 9, Configuring Network Proximity). The GSS uses the global netmask when no proximity group matches the incoming D-proxy address. The GSS uses the full incoming D-proxy IP address and the global netmask as the key to looking up entries in the proximity database.

Examples   The following example shows how to create a proximity group called ProxyGroup1 with an IP address block of 192.168.12.0 255.255.255.0:

```
gssm1.example.com# config
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# proximity group ProxyGroup1 ip 192.168.12.0 netmask
255.255.255.0
```

The following example shows how to delete a previously configured IP address block from a proximity group:

```
gssm1.example.com# config
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# no proximity group ProxyGroup1 IP 192.168.12.0 netmask
255.255.255.0
```

The following example shows how to delete a proximity group and all configured IP address blocks:

```
gssm1.example.com# config
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# no proximity group ProxyGroup1
```

Related Commands   **(config-gslb) proximity assign**

proximity database delete

proximity database dump

proximity play-config

show statistics

(config-gslb) proximity-properties

From global server load-balancing configuration mode, to enter the proximity properties configuration mode, use the **proximity-properties** command.

> **proximity-properties**

Syntax Description   This command has no keywords or arguments.

Command Modes   Global server load-balancing configuration

Usage Guidelines   In the proximity properties configuration mode, you enter commands to enable proximity and modify the Domain Name System (DNS) proximity settings for the GSS network.

Proximity settings are applied as soon as you exit from the sticky properties configuration mode or enter a new mode.

See the Proximity Properties Configuration Mode Commands section for information about the commands used to configure proximity.

Examples   The following example shows how to enter the proximity properties configuration mode:

```
gssm1.example.com(config-gslb)# proximity-properties
gssm1.example.com(config-proxprop)#
```

Related Commands   **(config-gslb) proximity assign**

proximity database delete

proximity database dump

proximity play-config

(config-gslb) region

To configure a region, use the **region** command in global server load-balancing configuration mode. To delete a region, use the **no** form of this command.

> **region** *name* [**comments** *text*]

> **no region** *name* [**comments** *text*]

Syntax Description

name	High-level geographical group name for the region assigned to the GSS network. Enter a unique alphanumeric name with a maximum of 80 characters. Enter names that include spaces in quotes (for example, "name 1").
comments *text*	(Optional) Specifies descriptive information or important notes about the region. Enter up to 256 alphanumeric characters. Comments with spaces must be entered in quotes.

Command Modes   Global server load-balancing configuration

Usage Guidelines   If you need to delete a region, you must know about the dependencies associated with it. For example, regions that have locations associated with them cannot be deleted. You must first delete any associated locations.

Deletions of any kind cannot be undone in the primary GSSM. If you want to use the deleted data at a later point in time, we recommend that you back up the database of your primary GSSM. See the *Global Site Selector Administration Guide* for details.

If an error appears informing you that a GSS location is still linked to the region that you want to delete, change the region associated with the location, and then attempt to delete the region again.

Examples   The following example shows how to create a region called Western_EU and provide comments about its location and purpose:

```
gssm1.example.com# config
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# region Western_EU comments "London and future data
centers"
```

The following example shows how to delete a region:

```
gssm1.example.com(config-gslb)# no region Western_EU
```

Related Commands   **(config-gslb) location**

(config-gslb) owner

(config-gslb) script play-config

To execute a previously created global server load-balancing configuration file, use the **script play-config** command in global server load-balancing configuration mode. To disable the execution of a previously-created GSLB configuration file, use the **no** form of this command.

> **script play-config** *filename*

> **no script play-config** *filename*

Syntax Description

filename	Name of a previously configured global server load-balancing configuration file. Enter a unique alphanumeric name with a maximum of 80 characters. Names with spaces must be entered in quotes (for example, "name 1").

Command Modes

Global server load-balancing configuration

Usage Guidelines

Executing the file allows you to import the GSLB configuration file to a new or previously configured GSS network to automatically update its global server load-balancing configuration.

Entering the **script play-config** command overwrites existing duplicate GSLB commands on the primary GSSM.

To view additional information for errors encountered during a play, use the **show gslb-error** command in privileged EXEC mode.

Examples

The following example shows how to play the GSLB configuration file called GSLB_CONFIG_1.txt:

```
gssm1.example.com(config-gslb)# script play-config GSLB_CONFIG_1.TXT
```

If any errors are encountered with a command line, they are displayed and the file continues to play to completion. Any additional command line errors that are encountered are also displayed as follows:

```
gssm1.example.com(config-gslb)# script play-config GSLB_CONFIG_1.TXT
ERROR:Unable To Perform Source-Address-List Operation.Please Configure Owner Prior To
Source-Address-List
ip address 192.168.10.1 255.255.255.0

% Invalid input detected at '^' marker.
ip address 192.168.10.6 255.255.255.255
^
% Invalid input detected at '^' marker.
gssm1.example.com(config-gslb)#
```

Related Commands

show gslb-config

show gslb-errors

(config-gslb) shared-keepalive http-head

To configure an HHTP HEAD shared keepalive, use the **shared-keepalive http-head** command in global server load-balancing configuration mode. To remove a shared keepalive, use the **no** form of this command to remove a shared keepalive.

shared-keepalive http-head *ip_address* [**port** *port_number*] | [**host-tag** *domain_name*] | [**path** *path*]

no shared-keepalive http-head *ip_address* [**port** *port_number*] | [**host-tag** *domain_name*] | [**path** *path*]

Syntax Description

ip_address	IP address of the SLB that hosts the VIP. Enter the address in dotted-decimal IP notation (for example, 192.168.11.1).
port *port_number*	(Optional) Specifies the port on the remote device that is to receive the HHTP HEAD-type keepalive request. The port range is 1 to 65535. If you do not specify a destination port, the GSS uses the globally configured value.
host-tag *domain_name*	(Optional) Specifies an optional domain name that is sent to the VIP as part of the HTTP HEAD query. This tag allows an SLB to resolve the keepalive request to a particular website even when multiple sites are represented by the same VIP.
path *path*	(Optional) Specifies the path that relates to the server website being queried in the HTTP HEAD request. If you do not specify a default path, the GSS uses the globally configured value. The default path "/" specifies the virtual root of the web server.

Command Modes   Global server load-balancing configuration

Usage Guidelines   If you need to delete a shared keepalive from your GSS network, and that shared keepalive is in use by the GSS, you must first disassociate any answers that are using the keepalive. See the "Deleting a Shared KeepAlive" section in Chapter 5, Configuring Keepalives in the *Cisco Global Site Selector CLI-Based Global Server Load-Balancing Configuration Guide* for steps to disassociate your answers and remove a shared keepalive from your GSS network.

Examples   The following example shows how to configure an HHTP HEAD shared keepalive:

```
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# shared-keepalive http-head 192.168.1.48 port 23 host-tag
WWW.HOME.COM
```

The following example shows how to delete an HTTP HEAD shared keepalive:

```
gssm1.example.com(config-gslb)# no shared-keepalive http-head 192.168.1.48 port 23
host-tag WWW.HOME.COM
gssm1.example.com(config-gslb)#
```

Related Commands   **(config-gslb) shared-keepalive icmp**

(config-gslb) shared-keepalive kalap

(config-gslb) shared-keepalive scripted-kal

(config-gslb) shared-keepalive icmp

To configure an Internet Control Message Protocol (ICMP)-shared keepalive, use the **shared-keepalive icmp** command in global server load-balancing configuration mode. To remove an ICMP shared keepalive, use the **no** form of this command.

> **shared-keepalive icmp** *ip_address*

> **no shared-keepalive icmp** *ip_address*

Syntax Description

ip_address	IP address of the SLB that hosts the VIP. Enter the address in dotted-decimal IP notation (for example, 192.168.11.1).

Command Modes   Global server load-balancing configuration

Usage Guidelines   If you need to delete a shared keepalive from your GSS network, and that shared keepalive is in use by the GSS, you must first disassociate any answers that are using the keepalive. See the "Deleting a Shared KeepAlive" section in Chapter 5, Configuring Keepalives in the *Cisco Global Site Selector CLI-Based Global Server Load-Balancing Configuration Guide* for steps to disassociate your answers and remove a shared keepalive from your GSS network.

Examples   The following example shows how to configure an ICMP-shared keepalive:

```
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# shared-keepalive icmp 192.168.1.47
gssm1.example.com(config-gslb)#
```

The following example shows how to delete an ICMP shared keepalive:

```
gssm1.example.com(config-gslb)# no shared-keepalive icmp 192.168.1.47
gssm1.example.com(config-gslb)#
```

Related Commands   **(config-gslb) shared-keepalive http-head**

(config-gslb) shared-keepalive kalap

(config-gslb) shared-keepalive scripted-kal

(config-gslb) shared-keepalive kalap

To configure a KAL-AP shared keepalive, use the **shared-keepalive kalap** command in global server load-balancing configuration mode. To remove a shared keepalive, use the **no** form of this command.

> **shared-keepalive kalap** *ip_address* [**secondary** *ip_address*] | [**capp-secure enable** [**key** *secret*]] | [**retries** *number*] | [**successful probes** *number*]

> **no shared-keepalive kalap** *ip_address* [**secondary** *ip_address*] | [**capp-secure enable** [**key** *secret*]] | [**retries** *number*] | [**successful probes** *number*]

Syntax Description

ip_address	IP address of the SLB that hosts the VIP. Enter the address in dotted-decimal IP notation (for example, 192.168.11.1).
secondary *ip_address*	(Optional) Specifies IP address is to query a second Cisco Content Services Switch (CSS) or Content Switching Module (CSM) in a VIP redundancy and virtual interface redundancy configuration.
capp-secure enable	(Optional) Specifies that you intend to use Content and Application Peering Protocol (CAPP) encryption. If you do not specify an optional key, the GSS uses the globally configured setting.
key *secret*	(Optional) Specifies an encryption key that is used to encrypt interbox communications using CAPP. You must also configure the same encryption key on the CSS or CSM. Enter an unquoted alphanumeric text string with a maximum of 31 characters. If you do not specify a key, the GSS uses the globally configured setting.
retries *number*	(Optional) Specifies the number of times that the GSS retransmits a KAL-AP packet before declaring the device offline. As you adjust the retries value, you change the detection time determined by the GSS. By increasing the number of retries, you increase the detection time. Reducing the number of retries has the reverse effect. The valid entries are 1 to 10 retries. If you do not specify a value, the GSS uses the globally configured setting.
successful probes *number*	(Optional) Specifies the number of consecutive successful KAL-AP keepalive attempts (probes) that must be recognized by the GSS before bringing an answer back online (and reintroducing it into the GSS network). The valid entries are 1 to 5. If you do not specify a value, the GSS uses the globally configured setting.

Command Modes   Global server load-balancing configuration

Usage Guidelines   You can specify the optional **retries** and **successful probes** options only if the KAL-AP global keepalive configuration is set to the Fast KAL Type. See Chapter 5, Configuring Keepalives in the *Cisco Global Site Selector CLI-Based Global Server Load-Balancing Configuration Guide* for more information.

As you adjust the **retries** value, you change the detection time determined by the GSS. By increasing the number of retries, you increase the detection time. Reducing the number of retries has the reverse effect.

If you need to delete a shared keepalive from your GSS network, and that shared keepalive is in use by the GSS, you must first disassociate any answers that are using the keepalive. See the "Deleting a Shared KeepAlive" section in Chapter 5, Configuring Keepalives in the *Cisco Global Site Selector CLI-Based Global Server Load-Balancing Configuration Guide* for steps to disassociate your answers and remove a shared keepalive from your GSS network.

Examples   The following example shows how to configure a KAL-AP shared keepalive:

```
gssm1.example.com# config
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# shared-keepalive kalap 192.168.1.40 secondary 192.168.1.42
retries
```

The following example shows how to delete a KAL-AP shared keepalive:

```
gssm1.example.com(config-gslb)# no shared-keepalive kalap 192.168.1.40 secondary
192.168.1.42 retries
gssm1.example.com(config-gslb)#
```

Related Commands   **(config-gslb) shared-keepalive icmp**

(config-gslb) shared-keepalive http-head

(config-gslb) shared-keepalive scripted-kal

(config-gslb) shared-keepalive scripted-kal

To configure a Scripted Kal shared keepalive, use the **shared-keepalive scripted-kal** command in global server load-balancing configuration mode. To remove a shared keepalive, use the **no** form of this command to remove a shared keepalive.

> **shared-keepalive scripted-kal** *ip_address* **kal-name** *name*
> [**csm** [**community** *community_name*] | **css** [**community** *community_name*] |
> **ios-slb** [**community** *community_name*] |
> **snmp-mib-indexed-by-vip** [**community** *community_name* | **load-filter** *string* | **oid** *oid* |
> **return-load** | **return-offline-value** *offline_value* | **return-online-value** *online_value*] |
> **snmp-mib-not-indexed-by-vip** [**address-filter** *string* | **community** *community_name* | **load-filter**
> *string* | **oid** *oid* | **return-load** | **return-offline-value** *offline_value* | **return-online-value**
> *online_value*] |
> **snmp-scalar** [**community** *community_name* | **oid** *oid* | **return-load** | **return-offline-value**
> *offline_value* | **return-online-value** *online_value*] |
> [**retries** *number*] | [**successful-probes** *number*]

Syntax Description		
ip_address	IP address of the SLB that hosts the VIP.
kal-name *name*	Specifies the name of the applicable KAL. The answer attaches a Scripted Kal to it.
csm	Specifies a Cisco CSM performing server load balancing
css	Specifies a Cisco CSS performing server load balancing
ios-slb	Specifies a Cisco IOS performing server load balancing
community *community name*	(Optional) Specifies the SNMP community name
snmp-mib-indexed-by-vip	(Optional) Configures the OID, community, and filter strings to select the load metric from a remote machine's MIB (indexed by a VIP address). You also configure the answer online and offline values. Configure the following parameters: • **community** *community_name*—Specifies the SNMP community name. • **load-filter** *string*—Specifies the load filter string. • **oid** *oid*—Specifies the OID. • **return-load**—Specifies the OID return load value. • **return-offline-value** *offline_value*—Specifies the OID return offline value. The answer is offline if the returned value matches the specified offline value. The answer is online if the returned value does not match. • **return-online-value** *online_value*—Specifies the OID return online value. The answer is online if the returned value matches the specified online value. The answer is offline if the returned value does not match.

snmp-mib-not-indexed -by-vip	(Optional) Configures the OID, community, and filter strings to select the load metric from a remote machine. You also configure the answer online and offline values. Configure the following parameters: • **address-filter** *string*—Specifies the address filter string. • **community** *community_name*—Specifies the SNMP community name. • **load-filter** *string—*Specifies the load filter string. • **oid** *oid—*Specifies the OID. • **return-load**—Specifies the OID return load value. • **return-offline-value** *offline_value*—Specifies the OID return offline value. The answer is offline if the returned value matches the specified offline value. The answer is online if the returned value does not match. • **return-online-value** *online_value*—Specifies the OID return online value. The answer is online if the returned value matches the specified online value. The answer is offline if the returned value does not match.
snmp-scalar	(Optional) Configures the OID and community to obtain a load from the target device and configures the online and offline return values. Configure the following parameters: • **community** *community_name*—Specifies the SNMP community name. • **oid** *oid*—Specifies the OID.—(Optional) Configures the OID and community to obtain a load from the target device. • **return-load**—Specifies the OID return load value. • **return-offline-value** *offline_value*—Specifies the OID return offline value. The answer is offline if the returned value matches the specified offline value. The answer is online if the returned value does not match. • **return-online-value** *online_value*—Specifies the OID return online value. The answer is online if the returned value matches the specified online value. The answer is offline if the returned value does not match.
retries *number*	Specifies the number of times that the GSS retransmits a Simple Network Management Protocol (SNMP) request packet before declaring the device offline. As you adjust the retries value, you change the detection time determined by the GSS. By increasing the number of retries, you increase the detection time. Reducing the number of retries has the reverse effect. The valid entries are 1–10 retries. If you do not specify a value, the GSS uses the globally configured setting.
successful probes *number*	Specifies the number of consecutive successful SNMP request keepalive attempts (probes) that must be recognized by the GSS before bringing an answer back online (and reintroducing it into the GSS network). The valid entries are 1–5. If you do not specify a value, the GSS uses the globally configured setting.

Command Modes   Global server load-balancing configuration

Usage Guidelines   See Chapter 5, Configuring Keepalives in the *Cisco Global Site Selector CLI-Based Global Server Load-Balancing Configuration Guide* for more information about the wrappers, OIDs, address and load filters that are appropriate for different SLB devices. Be aware also that you can only specify the optional **retries** and **successful probes** options if the Scripted Kal global keepalive configuration is set to the Fast KAL Type.

As you adjust the **retries** value, you change the detection time determined by the GSS. By increasing the number of retries, you increase the detection time. Reducing the number of retries has the reverse effect.

Examples   The following example shows how to configure a Scripted Kal shared keepalive:

```
gssm1.example.com# config
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# shared-keepalive scripted-kal 192.168.1.46 kal-name
samplekal ios-slb community samplecommunity
```

Related Commands   **(config-gslb) shared-keepalive icmp**

(config-gslb) shared-keepalive http-head

(config-gslb) shared-keepalive kalap

(config-gslb) shared-keepalive tcp

To configure a TCP shared keepalive, use the **shared-keepalive tcp** command in global server load-balancing configuration mode. To remove a shared keepalive, use the **no** form of this command.

shared-keepalive tcp *ip_address* [**port** *port_number*] | [**termination** {**graceful** | **reset**}]

no shared-keepalive tcp *ip_address* [**port** *port_number*] | [**termination** {**graceful** | **reset**}]

Syntax Description		
ip_address	IP address of the SLB that hosts the VIP. Enter the address in dotted-decimal IP notation (for example, 192.168.11.1).
port *port_number*	(Optional) Specifies the port on the remote device that is to receive the TCP keepalive request. The port range is 1–65535. If you do not specify a destination port, the GSS uses the globally configured setting.
termination	(Optional) Specifies the TCP keepalive connection termination method. If you do not specify a connection termination method, the GSS uses globally configured setting. Valid options are as follows: • **graceful**—The GSS initiates the graceful closing of a HTTP HEAD connection by using the standard three-way connection termination method. • **reset**—The GSS immediately terminates the TCP connection by using a hard reset.

Command Modes   Global server load-balancing configuration

Usage Guidelines   If you need to delete a shared keepalive from your GSS network, and that shared keepalive is in use by the GSS, you must first disassociate any answers that are using the keepalive. See the "Deleting a Shared KeepAlive" section in Chapter 5, Configuring Keepalives in the *Cisco Global Site Selector CLI-Based Global Server Load-Balancing Configuration Guide* for steps to disassociate your answers and remove a shared keepalive from your GSS network.

Examples   The following example shows how to configure a TCP shared keepalive:

```
gssm1.example.com# config
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# shared-keepalive tcp 192.168.1.46 port 23 termination
graceful
```

The following example shows how to delete a TCP shared keepalive:

```
gssm1.example.com(config-gslb)# no shared-keepalive tcp 192.168.1.46 port 23 termination
graceful
gssm1.example.com(config-gslb)#
```

Related Commands   (config-gslb) shared-keepalive icmp

(config-gslb) shared-keepalive kalap

(config-gslb) shared-keepalive http-head

(config-gslb) source-address-list

To configure a source address list, use the **source-address-list** command in global server load-balancing configuration mode. To delete a source address list, use the **no** form of this command.

source-address-list *name* **owner** *name* [**comments** *text*]

no source-address-list *name* **owner** *name* [**comments** *text*]

Syntax Description

name	Name for the source address list. Enter a unique alphanumeric name with a maximum of 80 characters. Names that include spaces must be entered in quotes (for example, "name 1").
owner *name*	Specifies an existing owner name with which the source address list is to be associated. See the **(config-gslb) owner** command for more information.
comments *text*	(Optional) Specifies descriptive information or important notes about the source address list. Enter a maximum of 256 alphanumeric characters. Comments with spaces must be entered in quotes.

Command Modes   Global server load-balancing configuration

Usage Guidelines   After you enter the **source-address-list** command, the prompt changes to the source address list mode where you specify IP addresses of the client Domain Name System (DNS) proxies. You can enter up to 30 addresses for each list. See the **ip address** command that follows for information about adding IP addresses to a source address list.

If you need to delete a source address list, first verify that none of your DNS rules reference the source address list that you want to delete. You cannot delete source address lists associated with an existing DNS rule. If necessary, remove the source address list from the DNS rule. See the *Cisco Global Site Selector CLI-Based Global Server Load-Balancing Configuration Guide* for information about modifying a DNS rule.

Deletions of any kind cannot be undone in the primary GSSM. If you want to use the deleted data at a later point in time, we recommend that you back up the database of your GSSM. See the *Cisco Global Site Selector Administration Guide* for details.

Examples   The following example shows how to create a source address list called WEB-GLOBAL-LISTS:

```
gssm1.example.com# config
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# source-address-list WEB-GLOBAL-LISTS owner WEB-SERVICES
comments "GLOBAL ALIST FOR ECOMMERCE"
```

The following example shows how to delete a source address list:

```
gssm1.example.com(config-gslb)# no source-address-list WEB-GLOBAL-LISTS
gssm1.example.com(config-gslb)#
```

Related Commands   **(config-gslb-sal) ip address**

(config-gslb-sal) ip address

To create a source address list, use the **source-address-list** command. To delete an address from a source address list, use the **no** form of this command.

ip address *ip_address netmask*

no ip address *ip_address netmask*

Syntax Description

ip_address	IP address of the client Domain Name System (DNS) proxy. Enter the IP address in dotted-decimal notation (for example, 172.16.56.76).
netmask *netmask*	Specifies the network mask that applies to the IP address. Enter a network mask in dotted-decimal notation (for example, 255.255.255.0).

Command Modes

Source address list configuration mode

Usage Guidelines

You can enter up to 30 addresses for each list. To add addresses to a source address list, use the **ip address** command in source address list configuration mode.

After you create a source address list by using the **source-address-list** command, the prompt changes to the source address list mode (config-gslb-sal), where you specify addresses of the client DNS proxies.

Examples

The following example shows how to create a source address list called WEB-GLOBAL-LISTS and add two IP addresses and subnet masks to the list:

```
gssm1.example.com(config-gslb)# source-address-list WEB-GLOBAL-LISTS owner WEB-SERVICES
comments "GLOBAL ALIST FOR ECOMMERCE"
gssm1.example.com(config-gslb-sal)#ip address 1024 172.27.16.4 255.255.255.0
gssm1.example.com(config-gslb-sal)# ip address 1024 172.27.28.4 255.255.255.0
```

The following example shows how to delete an IP address that is included in the source address list GLOBAL-SERVICE-LISTS:

```
gssm1.example.com(config-gslb)# source-address-list GLOBAL-SERVICE-LISTS
gssm1.example.com(config-gslb-sal)# no ip address 1024 172.27.16.4 255.255.255.0
gssm1.example.com(config-gslb-sal)#
```

Related Commands

(config-gslb) source-address-list

(config-gslb) sticky group

To create a Domain Name System (DNS) sticky group, use the **sticky group** global server load-balancing command from the primary GSSM CLI to identify the name of the DNS sticky group and add an IP address block to the group. To delete a previously configured IP address block from a sticky group or to delete a sticky group, use the **no** form of this command.

> **sticky group** *groupname* **ip** *ip_address* **netmask** *netmask*
>
> **no sticky group** *groupname* **ip** *ip-address* **netmask** *netmask*

Syntax Description

groupname	Alphanumeric name for the DNS sticky group with a maximum of 80 characters. Names that include spaces are not allowed.
ip *ip_address*	Specifies the IP address block in dotted-decimal notation (for example, 192.168.9.0).
netmask *netmask*	Specifies the subnet mask of the IP address block in dotted-decimal notation (for example, 255.255.255.0).

Command Modes

Global server load-balancing configuration

Usage Guidelines

The sticky groups are saved in the primary GSSM database and all GSS devices in the network receive the same sticky group configuration. You cannot create sticky groups using the CLI of a standby GSSM or individual GSS devices.

Reenter the **sticky group** command if you want to add multiple IP address blocks to a DNS sticky group or create additional DNS sticky groups.

Examples

The following example shows how to create a sticky group called StickyGroup1 with an IP address block of 192.168.9.0 255.255.255.0:

```
gssm1.example.com# config
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# sticky group StickyGroup1 ip 192.168.9.0 netmask
255.255.255.0
```

The following example shows how to delete a sticky group:

```
gssm1.example.com# config
gssm1.example.com(config)# gslb
gssm1.example.com(config-gslb)# no sticky group StickyGroup1
```

Related Commands   **(config-gslb) sticky-properties**

(config-gslb) sticky-properties

From global server load-balancing configuration mode, to enter the sticky properties configuration mode, use the **sticky-properties** command.

> **sticky-properties**

Syntax Description   This command has no keywords or arguments.

Command Modes   Global server load-balancing configuration

Usage Guidelines   In the sticky properties configuration mode, you issue commands to enable sticky and modify the Domain Name System (DNS) sticky settings for the GSS network. Sticky settings are applied as soon as you exit from the sticky properties configuration mode or enter a new mode.

See the Sticky Properties Configuration Mode Commands section for information about the commands used to configure stickiness.

Examples   The following example shows how to enter the sticky properties configuration mode:

```
gssm1.example.com(config-gslb)# sticky-properties
gssm1.example.com(config-gslb-stkyprop)#
```

Related Commands   **(config-gslb) sticky group**

(config-gslb) zone

To configure a proximity zone from the primary GSSM, use the **zone** command in global server load-balancing configuration mode. To delete a zone, use the **no** form of this command.

zone *name* {**index** *number* | **probe** *ip_address*} [**backup** *ip_address*]

no zone *name* {**index** *number* | **probe** *ip_address*} [**backup** *ip_address*]

Syntax Description		
	name	Zone name. Enter a unique alphanumeric name with a maximum of 80 characters. Names with spaces must be entered in quotes (for example, "name 1").
	index *number*	Specifies the numerical identifier of the proximity zone. Enter an integer from 1 to 32. There is no default.
	probe *ip_address*	Specifies the IP address of the primary probe device that services this zone. Enter the IP address in dotted-decimal notation (for example, 192.168.11.1).
	backup *ip_address*	(Optional) Specifies the IP address of a backup probe device that services this zone. Enter the IP address in dotted-decimal notation (for example, 192.168.11.1).

Command Modes   Global server load-balancing configuration

Usage Guidelines   You cannot modify the **index** value. To change the zone index, delete the zone, and then create a new zone containing a different index.

Examples   The following example shows how to configure a proximity zone from the primary GSSM:

```
gssm1.example.com(config-gslb)# zone Z1 index 1 probe 192.168.11.1 backup 192.168.11.5
```

The following example shows how to delete zone z1:

```
gssm1.example.com(config-gslb)# no zone Z1 index 1 probe 192.168.11.1 backup 192.168.11.5
```

or

```
gssm1.example.com(config-gslb)# no zone Z1
```

Related Commands   **(config-gslb) proximity-properties**

(config-gslb) proximity group

(config-gslb) proximity assign