



# CHAPTER 12

## Displaying Global Server Load-Balancing Configuration Information

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The GSS provides a comprehensive set of **show gslb-config** commands that display GSS global server load-balancing configuration information. These commands allow you to display resource, domain, keepalive, answer, dns rule, sticky, and proximity information for your GSS configuration. The **show gslb-config** commands are available in all CLI modes except interface configuration mode.

This chapter contains the following major sections:

- [Displaying Resource Configuration Information](#)
- [Displaying Source Address Configuration Information](#)
- [Displaying Domain Configuration Information](#)
- [Displaying Keepalive Configuration Information](#)
- [Displaying Shared Keepalive Configuration Information](#)
- [Displaying Answer Configuration Information](#)
- [Displaying Answer Group Configuration Information](#)
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## Displaying Resource Configuration Information

You can display configuration information about GSS locations, owners, regions and zones by using the **show gslb-config location**, **show gslb-config owner**, **show gslb-config region** and **gslb-config zone** commands.

## Displaying Location Configuration Information

You can display information for the currently configured locations on the GSS by using the **show gslb-config location** command.

The syntax of this command is as follows:

```
show gslb-config location [location_name]
```

The *location\_name* argument specifies the name of a previously created location. Enter the variable as a case-sensitive, unquoted text string.

[Table 12-1](#) describes the fields in the **show gslb-config location** command output.

**Table 12-1** Field Descriptions for the **show gslb-config location** Command

Field	Description
Location	Name of the location.
Region	Region associated with the location.
Zone	Zone associated with the location.
Comments	Comments about the location.

## Displaying Owner Configuration Information

You can display information for the currently configured owners on the GSS by using the **show gslb-config owner** command.

The syntax of this command is as follows:

```
show gslb-config owner [owner_name]
```

The *owner\_name* argument specifies the name of a previously created owner. Enter the variable as a case-sensitive, unquoted text string.

Table 12-2 describes the fields in the **show gslb-config owner** command output.

**Table 12-2** Field Descriptions for the **show gslb-config owner** Command

Field	Description
Owner	Name of the owner.
Comments	Comments about the owner.

## Displaying Region Configuration Information

You can display information for the currently configured regions on the GSS by using the **show gslb-config region** command.

The syntax of this command is as follows:

```
show gslb-config region [region_name]
```

The *region\_name* argument specifies the name of a previously created region. Enter the variable as a case-sensitive, unquoted text string.

Table 12-3 describes the fields in the **show gslb-config region** command output.

**Table 12-3** Field Descriptions for the **show gslb-config region** Command

Field	Description
Region	Name of the region.
Comments	Comments about the region

## Displaying Zone Configuration Information

You can display information for the currently configured zones on the GSS by using the **show gslb-config zone** command.

The syntax of this command is as follows:

```
show gslb-config zone [zone_name]
```

The *zone\_name* argument specifies the name of a previously created zone. Enter the variable as a case-sensitive, unquoted text string.

Table 12-4 describes the fields in the **show gslb-config zone** command output.

**Table 12-4** Field Descriptions for the **show gslb-config zone** Command

Field	Description
Zone	Name of the zone.
Backup IP address	IP address of the backup probe device servicing the zone.
Index	Numerical identifier for the zone.
Probe IP address	IP address of the primary probe device servicing the zone.

## Displaying Source Address Configuration Information

You can display configuration information about GSS source address lists and source addresses by using the **show gslb-config source-address-list** command.

The syntax of this command is as follows:

```
show gslb-config source-address-list [source-address-list_name]
```

The *source-address-list\_name* argument specifies the name of a previously created source address list. Enter the variable as a case-sensitive, unquoted text string.

Table 12-5 describes the fields in the **show gslb-config source-address-list** command output.

**Table 12-5** *Field Descriptions for the show gslb-config source-address-list Command*

Field	Description
Source address list	Name of the source address list.
Owner	Owner name associated with the source address list.
IP addresses	IP addresses or CIDR address blocks of the client DNS proxies for the source address list.
Comments	Comments about the source address list.

## Displaying Domain Configuration Information

You can display configuration information about GSS domain lists and domains by using the **show gslb-config domain-list** command.

The syntax of this command is as follows:

```
show gslb-config domain-list [domain-list_name]
```

The *domain-list\_name* argument specifies the name of a previously created domain list. Enter the variable as a case-sensitive, unquoted text string.

[Table 12-6](#) describes the fields in the **show gslb-config domain-list** command output.

**Table 12-6** *Field Descriptions for the show gslb-config domain list Command*

Field	Description
Domain address list	Name of the domain list.
Owner	owner name associated with the domain list.
Domains	Names of hosted domains that are part of the domain list and for which the GSS acts as the authoritative DNS server.
Comments	Comments about the domain list.

# Displaying Keepalive Configuration Information

You can display configuration information about GSS keepalive properties by using the **show gslb-config keepalive-properties** command. The displayed output shows the currently configured properties for ICMP, TCP, HTTP HEAD, KAL-AP, CRA, and NS type keepalives. Both Fast and Standard failure detection mode properties are displayed for ICMP, TCP, HTTP HEAD, KAL-AP, and Scripted Kal keepalive types.

The syntax of this command is as follows:

```
show gslb-config keepalive-properties
```

[Table 12-7](#) describes the fields in the **show gslb-config keepalive-properties** command output.

**Table 12-7** *Field Descriptions for the show gslb-config keepalive-properties Command*

Field	Description
<b>ICMP Keepalives—Standard Failure Detection Mode</b>	
interval min	Value that specifies the minimum frequency with which the GSS attempts to schedule ICMP keepalives.
<b>ICMP Keepalives—Fast Failure Detection Mode</b>	
retries	Value that specifies the number of times that the GSS retransmits an ICMP echo request packet before declaring the device offline.
successful probes	Number of consecutive successful ICMP keepalive attempts (probes) that must be recognized by the GSS before bringing an answer back online.
<b>TCP Keepalives—Standard Failure Detection Mode</b>	
port	Port on the remote device that is to receive the TCP-type keepalive request from the GSS.
termination	Method that the GSS initiates to close a TCP connection (graceful or reset).

**Table 12-7** *Field Descriptions for the show gslb-config keepalive-properties Command (continued)*

<b>Field</b>	<b>Description</b>
timeout	Length of time allowed before the GSS retransmits data to a device that is not responding to a request.
interval min	Minimum frequency with which the GSS attempts to schedule TCP keepalives.
<b>TCP Keepalives—Fast Failure Detection Mode</b>	
port	Port on the remote device that is to receive the TCP-type keepalive request from the GSS.
termination	Method that the GSS initiates to close a TCP connection (graceful or reset).
retries	Number of times that the GSS retransmits a TCP packet before declaring the device offline.
successful probes	Number of consecutive successful TCP keepalive attempts (probes) that must be recognized by the GSS before bringing an answer back online.
<b>HTTP HEAD Keepalives—Standard Failure Detection Mode</b>	
port	Port on the remote device that is to receive the HTTP HEAD-type keepalive request from the GSS.
path	Server website queried in the HTTP HEAD request (for example, /company/owner).
termination	Method that the GSS initiates to close an HTTP HEAD connection (graceful or reset).
timeout	Length of time allowed before the GSS retransmits data to a device that is not responding to a request.
interval min	Minimum frequency with which the GSS attempts to schedule HTTP HEAD keepalives.
<b>HTTP HEAD Keepalives—Fast Failure Detection Mode</b>	
port	Port on the remote device that is to receive the HTTP HEAD-type keepalive request from the GSS.
path	Server website queried in the HTTP HEAD request (for example, /company/owner).

**Table 12-7** *Field Descriptions for the show gslb-config keepalive-properties Command (continued)*

<b>Field</b>	<b>Description</b>
termination	Method that the GSS initiates to close an HTTP HEAD connection (graceful or reset).
interval min	Minimum frequency with which the GSS attempts to schedule HTTP HEAD keepalives.
<b>KAL-AP Keepalives—Standard Failure Detection Mode</b>	
capp-key	Secret key to be used for Content and Application Peering Protocol (CAPP) encryption.
interval min	Minimum frequency with which the GSS attempts to schedule KAL-AP keepalives.
<b>KAL-AP Keepalives—Fast Failure Detection Mode</b>	
capp-key	Secret key to be used for Content and Application Peering Protocol (CAPP) encryption.
retries	Number of times that the GSS retransmits an KAL-AP packet before declaring the device offline.
successful probes	Number of consecutive successful KAL-AP keepalive attempts (probes) that must be recognized by the GSS before bringing an answer back online.
<b>Scripted Kal Keepalives—Standard Failure Detection Mode</b>	
interval min	Value that specifies the minimum frequency with which the GSS attempts to schedule Scripted Kal keepalives.
<b>Scripted Kal Keepalives—Fast Failure Detection Mode</b>	
retries	Value that specifies the number of times that the GSS retransmits a Scripted keepalive request packet before declaring the device offline.
successful probes	Number of consecutive successful Scripted Kal keepalive attempts (probes) that must be recognized by the GSS before bringing an answer back online.



**Table 12-7** *Field Descriptions for the show gslb-config keepalive-properties Command (continued)*

Field	Description
<b>CRA Keepalives</b>	
cra-timing-decay	Value that the GSS uses to weigh recent DNS Round Trip Time (RTT) probe results relative to earlier RTT metrics.
interval min	Minimum frequency with which the GSS attempts to schedule CRA keepalives.
<b>Name Server Keepalives</b>	
query-domain	Name of the domain name server to which an NS-type keepalive is sent.
interval min	Minimum frequency with which the GSS attempts to schedule NS keepalives.

## Displaying Shared Keepalive Configuration Information

You can display configuration information about shared keepalives by using the **show gslb-config shared-keepalive** command. The displayed output shows the currently configured properties for ICMP, TCP, HTTP HEAD, KAL-AP, and Scripted keepalive shared keepalives.

The syntax of this command is as follows:

```
show gslb-config shared-keepalive [ip_address]
```

The *ip\_address* argument specifies the IP address that was specified for any previously configured shared keepalives.

[Table 12-8](#) describes the fields in the **show gslb-config shared-keepalive** command output.

**Table 12-8** *Field Descriptions for the show gslb-config shared-keepalive Command*

<b>Field</b>	<b>Description</b>
<b>ICMP Shared Keepalives</b>	
ip_address	IP address used to test the online status for the linked VIP.
<b>TCP Shared Keepalives</b>	
ip_address	IP address used to test the online status for the linked VIP.
port	Port on the remote device that is to receive the TCP-type keepalive request from the GSS.
termination	Method that the GSS initiates to close a TCP connection (graceful or reset).
<b>HTTP Shared Keepalives</b>	
ip_address	IP address used to test the online status for the linked VIP.
port	Port on the remote device that is to receive the HTTP HEAD-type keepalive request from the GSS.
host tag	Domain name that is sent to the VIP as part of the HTTP HEAD query.
path	Path that is relative to the server website being queried in the HTTP HEAD request.
<b>KAL-AP Shared Keepalives</b>	
ip_address	IP address used to test the online status for the linked VIP.
secondary ip_address	IP address used to query a second Cisco CSS or CSM in a virtual IP (VIP) redundancy and virtual interface redundancy configuration.
capp-secure enable	Indicates whether the capp-secure option is enabled. This option must be enabled if you intend to use Content and Application Peering Protocol (CAPP) encryption.

**Table 12-8** *Field Descriptions for the show gslb-config shared-keepalive Command (continued)*

Field	Description
key	Encryption key that is used to encrypt interbox communications using CAPP.
retries	Number of times that the GSS retransmits an KAL-AP packet before declaring the device offline. Applicable only for Fast failure detection mode.
successful probes	Number of consecutive successful KAL-AP keepalive attempts (probes) that must be recognized by the GSS before bringing an answer back online. Applicable only for Fast failure detection mode.
<b>Scripted Kal Shared Keepalives</b>	
ip_address	IP address used to test the online status for the linked VIP.

## Displaying Answer Configuration Information

You can display the current property settings for configured answers by using the **show gslb-config answer** command in global server load-balancing configuration mode.

The syntax of this command is as follows:

```
show gslb-config answer [ip_address {type} | name]
```

The arguments for this command are as follows:

- *ip\_address*—(Optional) Answers that specify the IP address. Enter an unquoted text string in dotted-decimal format.
- *type*—Answer type for the specified IP address. Valid options are as follows:
  - **cra**—Specifies a CRA-type answer
  - **ns**—Specifies an NS-type answer
  - **vip**—Specifies a VIP-type answer
- *name*—(Optional) Answer that uses the specified name.

Table 12-9 describes the fields in the `show gslb-config answer` command output for VIP-, CRA- and NS-type answers.

**Table 12-9** Field Descriptions for the `show gslb-config answer` Command

Field	Description
<b>Output for VIP-Type Answers</b>	
type	Answer type (VIP).
ip_address	VIP address field for the answer. This is the VIP address to which the GSS will forward requests.
name	Optional name for the answer.
location	Optional location name to which the answer is associated.
active/suspend	Current state of the answer (active or suspend).
keepalive type (and configuration information)	Type of keepalive (ICMP, TCP, HTTP HEAD, KAL-AP, or Scripted Kal). See the <a href="#">“Displaying Keepalive Configuration Information”</a> section for output details for these keepalive types.
<b>Output for CRA-Type Answers</b>	
type	Answer type (CRA).
ip_address	Interface or circuit address of the CRA.
name	Optional name for the answer.
location	Optional location name to which the answer is associated.
enable/disable	Enable indicates that the GSS is to perform keepalive checks on the answer. Disable indicates that the GSS uses a one-way delay to calculate a static RTT.
delay	One-way delay time in milliseconds that is used by the GSS to calculate a static round-trip time (RTT).
active/suspend	Current state of the answer (active or suspend).
<b>Output for Name Server-Type Answers</b>	
type	Answer type (NS).

**Table 12-9** *Field Descriptions for the show gslb-config answer Command (continued)*

Field	Description
ip_address	Name server that the GSS is to forward its requests.
name	Optional name for the answer.
enable/disable	Enable indicates that the GSS is to perform keepalive checks on the name server. Disable indicates that the GSS assumes that the name server is always online.
domain	Name of the domain name server to which an NS-type keepalive is sent (to determine the online status).
active/suspend	Current state of the answer (active or suspend).

## Displaying Answer Group Configuration Information

You can display the current property settings for configured answers by using the **show gslb-config answer-group** command in global server load-balancing configuration mode.

The syntax of this command is as follows:

```
show gslb-config answer-group [name]
```

The *name* argument specifies the name of a specific answer group.

[Table 12-10](#) describes the fields in the **show gslb-config answer-group** command output for VIP-, CRA- and NS-type answers.

**Table 12-10** *Field Descriptions for the show gslb-config answer group Command*

Field	Description
type	Answer group type (CRA, NS, or VIP).
name	Optional name for the answer group.
owner	Optional owner name to which the answer group is associated.

# Displaying DNS Rule Configuration Information

You can display the current property settings for all configured dns rules and balance clauses for each rule by using the **show gslb-config dns rule** command in global server load-balancing configuration mode.

The syntax of this command is as follows:

```
show gslb-config dns rule [name]
```

The *name* argument specifies the name of a previously created dns rule.

Table 12-11 describes the fields in the **show gslb-config dns rule** command output. Output for balance clauses that use VIP-, NS-, and CRA-type answer groups is also shown.

**Table 12-11** *Field Descriptions for the show gslb-config dns rule Command*

Field	Description
dns rule name	Name of the DNS rule.
owner	Name of the owner with whom the rule is associated.
source address list	Name of the source address list from which requests originate.
domain list	Name of the domain list to which DNS queries are addressed.
query	DNS query type (a or all) that is applied to the rule.
sticky method	Displays how (by domain or domain list) the GSS supports DNS stickiness in a DNS rule.
timeout	Time interval that can pass without the sticky database receiving a lookup request for an entry. This value overrides the global value (for this DNS rule).

## Output for Balance Clauses that Use VIP-Type Answer Groups

clause number	Balance Clause number (1, 2, or 3).
vip-group name	Name of the answer group specified for the clause.
method	Method type for the balance clause: ( <b>round-robin</b> , <b>least-loaded</b> , <b>ordered</b> , <b>weighted-round-robin</b> , or <b>hashed</b> ).

**Table 12-11** *Field Descriptions for the show gslb-config dns rule Command (continued)*

<b>Field</b>	<b>Description</b>
ttl number	Duration of time in seconds that the requesting DNS proxy caches the response sent from the GSS and considers it to be a valid answer.
count number	Duration of time in seconds that the requesting DNS proxy caches the response sent from the GSS and considers it to be a valid answer.
<b>Output for Balance Clauses that Use NS-Type Answer Groups</b>	
clause number	Balance Clause number ( <b>1, 2, or 3</b> ).
vip-group name	Name of the answer group specified for the clause.
method	Method type for the balance clause: ( <b>round-robin, ordered, weighted-round-robin, or hashed</b> ).
<b>Output for Balance Clauses that Use CRA-Type Answer Groups</b>	
clause number	Balance Clause number ( <b>1 or 2</b> ).
vip-group name	Name of the answer group specified for the clause.
ttl number	Duration of time in seconds that the requesting DNS proxy caches the response sent from the GSS and considers it to be a valid answer.
fragment number	Number of address records (A-records) that the GSS to returns for requests that match the DNS rule.
ip-ttl number	Maximum number of network hops that are utilized when returning a response to a CRA from a match on a DNS rule.
max-prop-delay number	Maximum propagation delay (in milliseconds) that is observed before the boomerang server component of the GSS forwards a DNS request to a CRA.
method boomerang	DNS rule that uses a boomerang DNS race to determine the best site.
pad	Amount of extra data (in bytes) included with each CRA response packet.

**Table 12-11** *Field Descriptions for the show gslb-config dns rule Command (continued)*

Field	Description
secret key	Key used to encrypt critical data sent between the GSS boomerang server and CRAs.
server-delay number	Maximum delay (in milliseconds) that is observed before the boomerang server component of the GSS returns the address of its “last gasp” server as a response to the requesting name server.

## Displaying DNS Sticky Configuration Information

You can display global sticky group and global sticky property information by using the **show gslb-config sticky-group** and **show gslb-config sticky-properties** commands. To display sticky method information for currently configured DNS rules, see the [“Displaying Answer Configuration Information”](#) section.

## Displaying Global Sticky Group Information

You can display global sticky group information by using the **show gslb-config sticky-group** command.

The syntax of this command is as follows:

```
show gslb-config sticky-group [name]
```

The *name* argument specifies the name of a previously created sticky group.

[Table 12-12](#) describes the fields in the **show gslb-config sticky-group** command output.



**Table 12-12** *Field Descriptions for the show gslb-config sticky-group Command*

Field	Description
name	Name of the previously created sticky group.
ip_address	IP address of the sticky group.
netmask	Netmask of the sticky group.

## Displaying Global Sticky Properties Information

You can display information about global sticky settings by using the **show gslb-config sticky-properties** command.

The syntax of this command is as follows:

```
show gslb-config sticky-properties
```

[Table 12-13](#) describes the fields in the **show gslb-config sticky-properties** command output.

**Table 12-13** *Field Descriptions for the show gslb-config sticky-properties Command*

Field	Description
enable	Stickiness enable state (global or local).
mask netmask	Global subnet mask value that the GSS uses to uniformly group contiguous D-proxy addresses to increase the number of clients that the sticky database can support.
timeout	Value for the maximum time period that an unused answer remains valid in the sticky database.

# Displaying DNS Proximity Configuration Information

You display global proximity group and global proximity property information by using the **show gslb-config static-proximity** and **show gslb-config proximity-properties** commands.

## Displaying Global Proximity Group Information

You can display global proximity group information by using the **show gslb-config static-proximity** command.

The syntax of this command is as follows:

```
show gslb-config static-proximity [name]
```

The *name* argument specifies the name of a previously created proximity group.

[Table 12-14](#) describes the fields in the **show gslb-config static-proximity** command output.

**Table 12-14** *Field Descriptions for the show gslb-config static-proximity Command*

Field	Description
name	Name of the previously created proximity group.
ip_address	IP address for the proximity group.
netmask	Netmask for the proximity group.

## Displaying Global Proximity Properties Information

You can display information about global proximity settings by using the **show gslb-config proximity-properties** command.

The syntax of this command is as follows:

```
show gslb-config proximity-properties
```

Table 12-15 describes the fields in the `show gslb-config proximity-properties` command output.

**Table 12-15** *Field Descriptions for the show gslb-config sticky-properties Command*

Field	Description
enable	Global proximity enable state.
mask netmask	Global subnet mask that the GSS uses to uniformly group contiguous D-proxy addresses to increase the number of supported D-proxies in the PDB.
timeout minutes	Maximum time interval that can pass without the PDB receiving a lookup request for an entry before the GSS removes that entry.
equivalence number	Percentage value that the GSS applies to the most proximate RTT value (the closest) to identify the relative RTT values of other zones that the GSS should consider as equally proximate.
refresh-interval hours	Frequency of the refresh probing process to probe and update RTT values for the entries in the PDB.
discovery-sequence	Type of probe method (TCP or ICMP) used initially by the Cisco IOS-based router during the probe discovery process with the requesting client's D-proxy.
acceptable-rtt number	Value that the GSS uses as an acceptable RTT value when determining the most proximate answer.
acceptable-zone number	Percentage value that the GSS uses to determine if an acceptable number of zones return valid RTT values.
wait enable	Wait enable state. When enabled, the GSS will wait to perform a proximity selection until it receives the appropriate RTT and zone information based on the proximity settings.
authentication drp enable	Authentication drp enable state. When enabled, the GSS authenticates packets that it exchanges with the DRP agent in a proximity probing agent through the exchange of DRP keys.

**Table 12-15** *Field Descriptions for the show gslb-config sticky-properties Command (continued)*

Field	Description
fallback-probe-method path-probe	Path-probe method enabled as the fallback probe method should the TCP and ICMP methods fail. The path-probe method is available for use only on a GSS configured to act as a DRP agent.
key drp	All configured DRP key ID numbers and names.

## Where to Go Next

[Chapter 13, Displaying GSS Global Server Load-Balancing Statistics](#), describes the tools that allow you to display the status of global server load balancing on your network, including the CLI commands and the GSSM GUI monitor pages.