



INDEX

A

activating

a DNS rule [7-21](#)

answer

associating with a proximity-based location [9-37](#)

configuring [6-1](#)

CRA-type answer, creating [6-15](#)

CRA-type answer, overview [1-22](#)

deleting [6-26](#)

displaying [13-98](#)

error messages [A-2](#)

keepalive [1-22](#)

keepalive statistics [13-98](#)

modifying all in location [6-23](#)

modifying an answer [6-19](#)

name server-type answer, creating [6-17](#)

name server-type answer, overview [1-21](#)

overview [1-19, 6-1](#)

reactivating [6-22](#)

statistics, displaying [13-4](#)

status [13-100](#)

suspending [6-21](#)

suspending all answers in a location [6-23](#)

VIP-type answer, creating [6-3](#)

VIP-type answer, multiport [1-31](#)

VIP-type answer, overview [1-20](#)

answer group

adding answers [6-30, 6-32](#)

balance method options [1-35](#)

balance methods [6-27](#)

creating [6-28](#)

deleting [6-38](#)

displaying current members [6-38](#)

DNS rule [1-16, 1-20, 6-2, 7-5](#)

error messages [A-4](#)

load threshold [6-32](#)

modifying [6-33](#)

order [6-32](#)

overview [1-20, 6-27](#)

removing answers [6-30, 6-31, 6-33](#)

statistics, displaying [13-8](#)

suspending [6-35, 6-36](#)

suspending or reactivating all for an owner [6-37](#)

weight [6-32](#)

answer hit counts [13-97](#)

answer keepalive statistics [13-98](#)

Anywhere source address [1-18, 3-1](#)

appliance-based global server load balancing [1-10](#)

A record [7-4](#)

attacks command [13-21](#)

authentication [9-30](#)

B

balance clause [6-28, 7-5, 7-9, 7-11, 7-14, 7-15, 8-12, 8-21, 8-23, 9-13, 9-44, 9-46](#)

balance method

answer group options [1-35](#)

answer group pair [6-27](#)

balance clauses [6-28](#)

boomerang [1-34](#)

DNS rule [1-16, 1-20, 6-2, 7-5](#)

hash [1-34, 7-8, 7-10, 8-24, 9-47](#)

least loaded [1-33](#)

ordered list [1-32, 7-7, 7-10, 8-23, 9-47](#)

- order option [1-36](#)
- overview [1-32](#)
- proximity [9-45](#)
- round robin [1-33, 7-7, 7-10, 8-23, 9-46](#)
- sticky [8-21](#)
- weighted round robin [1-33, 7-7, 7-10, 8-24, 9-47](#)
- weight option [1-36](#)

BIND sample zone configuration file [7-24](#)

boomerang

- activity, displaying [13-2](#)
- balance method [1-34](#)
- clear statistics [13-94](#)
- DNS race [1-34](#)
- server [1-35](#)
- server, displaying status [13-2](#)
- server status [13-2](#)

C

Cisco IOS-based router

- DRP agent, configuring [9-29](#)
- IOS release 12.1 interoperability considerations [9-30](#)
- selecting as DRP agent [9-29](#)
- supported releases [9-30](#)

clause

- reactivating [7-17](#)
- suspending [7-16](#)

clauses (balance clause) in answer group [6-28](#)

CLI device management [1-46](#)

closeness (DNS race) [6-15](#)

CNR

See Cisco Network Registrar

communication between nodes [1-44](#)

configuration file

- global server load balancing [11-1](#)
- playing [11-1](#)

Content Services Switch

- data center deployment [1-45](#)
- definition [G-2](#)

- global load-balancing [1-2](#)

- GSS network deployment [1-10](#)

- VIP answers [1-20](#)

Content Switching Module

- data center deployment [1-45](#)

- definition [G-2](#)

- global load-balancing [1-2](#)

- GSS network deployment [1-10](#)

- VIP answers [1-20](#)

CRA

- answer, creating [6-15](#)

- balance method [1-35, 6-27](#)

- clear statistics [13-95](#)

- closeness [6-15](#)

- CRA answer overview [1-22](#)

- definition [G-2](#)

- DNS race [6-15](#)

- global keepalive configuration [5-19](#)

- keepalive [1-28](#)

- last gasp address [7-12](#)

- minimum frequency [5-20](#)

- one way delay [6-15](#)

- overview [1-28](#)

- proximity DNS race [6-15](#)

- round-trip time [6-15](#)

- showing statistics [13-32](#)

- timing decay [5-20](#)

CSM

See Content Switching Module

CSS

See Content Services Switch

D

data center

- definition [G-2](#)

- deployment [1-45](#)

DDoS

- attacks statistics, clearing [13-94](#)

- attack statistics, displaying [13-21](#)
- clear statistics [13-94](#)
- detection and mitigation
 - affected network areas [1-39](#)
 - anti-spoofing [1-41](#)
 - configuration [1-39](#)
 - filter checking [1-40](#)
 - overview [1-39](#)
 - rate-limiting [1-41](#)
 - types of attacks prevented [1-39](#)
- failed DNS queries, displaying [13-24](#)
- global statistics, clearing [13-94](#)
- global statistics, displaying [13-28](#)
- rate-limits, displaying [13-25](#)
- running configuration, displaying [13-26](#), [13-31](#)
- spoofed/non-spoofed D-proxies, displaying [13-23](#)
- statistics, monitoring [13-109](#)
- show [13-21](#), [13-23](#), [13-24](#), [13-25](#), [13-28](#), [13-31](#)
- delay [6-15](#)
- delegation
 - definition [1-3](#)
 - domains to GSS [1-43](#), [7-23](#)
 - GSS devices [7-23](#)
 - subdomains to GSS [1-43](#), [7-23](#)
- deployment
 - configuring name servers [7-23](#)
 - data center [1-45](#)
 - locations and regions [2-1](#)
 - overview [1-42](#)
 - resources [2-1](#)
 - typical GSS deployment [1-42](#)
- displaying
 - answer hit counts [13-97](#)
 - answer keepalive statistics [13-98](#)
 - answer status [13-100](#)
 - DNS rule statistics [13-103](#)
 - domain configuration information [12-5](#)
 - global load-balancing configuration information [12-1](#)
 - global load-balancing status [13-96](#)
 - global statistics [13-109](#)
 - global sticky mesh statistics [13-68](#), [13-84](#)
 - global sticky messaging statistics [13-64](#), [13-77](#), [13-80](#)
 - GSS network status through CLI [13-1](#)
 - hosted domain statistics [13-104](#)
 - location configuration information [12-2](#)
 - owner configuration information [12-2](#)
 - proximity database statistics [13-51](#), [13-115](#)
 - proximity DNS rule hit count statistics [13-113](#)
 - proximity group configuration [13-59](#), [13-60](#)
 - proximity group statistics [13-53](#), [13-54](#)
 - proximity lookup statistics [13-13](#), [13-51](#), [13-55](#), [13-117](#)
 - proximity probe statistics [13-56](#), [13-57](#), [13-118](#)
 - proximity properties information [12-18](#)
 - proximity status [13-58](#)
 - region configuration information [12-3](#)
 - source address statistics [13-106](#)
 - status of GSS devices from the GUI [13-48](#)
 - sticky configuration information [12-16](#)
 - sticky database statistics [13-62](#), [13-75](#), [13-122](#)
 - sticky DNS rule hit count statistics [13-120](#)
 - sticky global mesh statistics [13-124](#)
 - sticky group information [12-16](#)
 - sticky group statistics [13-71](#), [13-72](#), [13-93](#)
 - sticky lookup statistics [13-19](#), [13-62](#)
 - sticky properties [12-17](#)
 - sticky status [13-73](#)
 - zone configuration information [12-3](#)
- DistributedDirector
 - configuration file [11-2](#)
 - playing script files [11-2](#)
 - text file [11-2](#)
- DNS
 - all [7-4](#)
 - A record [7-4](#)
 - balance clause [7-5](#), [7-6](#), [7-9](#), [7-11](#), [7-14](#), [7-15](#), [8-12](#), [8-21](#), [8-23](#), [9-13](#), [9-44](#), [9-46](#)
 - clear statistics [13-94](#)
 - creating DNS rules [7-3](#)

- delegation [7-23](#)
 - DNS query [7-3, 7-14](#)
 - glue A records [7-23](#)
 - GSS as an appliance
 - GSS role in hierarchy [1-9](#)
 - hosted domain [1-18](#)
 - iterative request [1-7](#)
 - negative response queries [1-5](#)
 - common response codes [1-6](#)
 - query [1-18](#)
 - race [1-22, 6-15, 7-12, 12-15](#)
 - record request [7-4](#)
 - recursive request [1-7](#)
 - request resolution [1-8](#)
 - resource records [1-4](#)
 - routing overview [1-3](#)
 - sample BIND zone configuration [7-24](#)
 - server, displaying [13-3](#)
 - server, modifying [7-23](#)
 - SOA records [1-4](#)
 - configuring for negative responses [1-6](#)
 - fields [1-5](#)
 - format [1-4](#)
 - TTL [1-6](#)
 - TTL fields [1-5, 1-9](#)
 - traditional routing [1-3](#)
 - unmatched queries [13-107](#)
 - zone configuration file [7-24](#)
- DNS race
- balance method [1-34](#)
 - closeness [6-15](#)
 - coordinate start time [6-15](#)
 - CRAs [1-22, 7-12, 12-15](#)
- DNS rule
- adding sticky to [8-21](#)
 - answer [1-16, G-1](#)
 - balance clause [6-28](#)
 - components [1-16](#)
 - creating [7-3](#)
 - definition [G-3](#)
 - deleting [7-22](#)
 - displaying [7-16](#)
 - error messages [A-5](#)
 - filters, configuring [7-23](#)
 - hit count [13-103](#)
 - modifying [7-14, 7-15](#)
 - overview [1-15](#)
 - proximity, enabling/disabling [9-39](#)
 - reactivating all by owner [7-21](#)
 - statistics, displaying [13-14](#)
 - sticky, disabling [8-22](#)
 - sticky, enabling/disabling [8-20, 8-23](#)
 - sticky, enabling by domain [8-22](#)
 - sticky, enabling by domain list [8-22](#)
 - sticky overview [8-21](#)
 - sticky timeout [8-22](#)
- DNS sticky
- See sticky
- documentation
- audience [xv](#)
 - caution and note overview [xx](#)
 - conventions [xviii, xix](#)
 - organization [xvi](#)
 - related [xviii](#)
 - set [xviii](#)
 - symbols and conventions [xix](#)
- domain lists
- adding domains to [4-4](#)
 - creating [4-3](#)
 - deleting [4-5](#)
 - displaying [4-6](#)
 - error messages [A-14](#)
 - maximum domains [1-19](#)
 - maximum nonwildcard domain length [4-5](#)
 - overview [1-19, 4-1](#)
 - regular expressions [4-5](#)
 - statistics, displaying [13-10](#)
 - sticky by domain list [8-22](#)

- wildcards in domains [4-5](#)
- domain name space [1-3](#)
- Domain Name System
 - See DNS
- domains
 - delegating to GSS [1-43, 7-24](#)
 - displaying configured [12-5](#)
 - hit counts [13-104](#)
 - maximum length [4-5](#)
 - maximum name length [4-4](#)
 - maximum per domain list [1-19, 4-1](#)
 - statistics, displaying [13-9](#)
 - sticky by domain [8-22](#)
 - wildcards maximum length [4-5](#)
- D-proxy
 - background [1-7](#)
 - definition [G-3](#)
 - iterative requests [1-7](#)
 - name server forwarding [1-21](#)
 - query GSS [1-18](#)
- dproxy command [13-23](#)
- DRP
 - authentication, enabling (Cisco IOS router) [9-30](#)
 - authentication, enabling (GSS) [9-12, 9-42, 9-43](#)
 - key chain (Cisco IOS router) [9-30](#)
 - key identification number (GSS) [9-42](#)
 - key number [9-42](#)
 - keys, creating (Cisco IOS router) [9-30](#)
 - keys, creating (GSS) [9-42, 9-43](#)
 - keys, deleting (GSS) [9-44](#)
 - overview [9-3](#)
- DRP agent
 - clear statistics [13-94](#)
 - configuring Cisco IOS-based router [9-29](#)
 - displaying status [13-20](#)
 - enabling [9-30](#)
 - IOS release 12.1 interoperability considerations [9-30](#)
 - overview [9-3](#)
 - RTT measurement [9-3](#)

- selecting Cisco IOS-based router [9-29](#)
- supported Cisco IOS releases [9-30](#)
- drpagent
 - server status [13-20](#)
- drpagent displaying [13-20](#)

E

- enable command password [2-3, 10-2](#)
- error messages
 - answer [A-2](#)
 - answer group [A-4](#)
 - DNS rule [A-5](#)
 - domain list [A-14](#)
 - GSSM [A-23](#)
 - location [A-17](#)
 - owner [A-18](#)
 - proximity [A-19](#)
 - region [A-19](#)
 - shared keepalive [A-14](#)
 - source address list [A-23](#)
 - sticky [A-25](#)
 - user [A-26](#)
 - user view [A-27](#)
 - user views [A-27](#)

F

- failed-dns command [13-24](#)
- failure detection time, adjusting [1-28](#)
- firewall
 - deploying GSS devices [1-44](#)
 - permitting traffic to GSS [1-44](#)
- fully qualified domain name [G-3, G-4](#)

G

- global keepalives

- CRA configuration settings [5-19](#)
- fast transmission rate [1-28](#)
- HTTP HEAD configuration settings [5-11](#)
- ICMP configuration settings [5-6](#), [5-16](#)
- KAL-AP configuration settings [5-14](#)
- modifying [5-3](#)
- name server configuration settings [5-20](#)
- overview [5-3](#)
- Scripted keepalive configuration settings [5-18](#)
- standard transmission rate [1-28](#)
- TCP configuration settings [5-8](#)
- global manual reactivation [6-24](#)
- global server load balancing
 - balance clauses [6-28](#)
 - configuration file, copying [11-3](#), [11-4](#)
 - configuration file, creating [11-3](#)
 - configuration file, modifying [11-5](#)
 - configuration file, playing [11-7](#)
 - configuration file modification guidelines [11-5](#)
 - configuration file overview [11-2](#)
 - configuration files [11-1](#)
 - configuration order [1-48](#)
 - data centers [1-45](#)
 - definition [G-3](#)
 - delegation of GSS devices [7-23](#)
 - displaying [13-96](#)
 - global statistics [13-106](#)
 - overview [1-10](#)
 - playing script files [11-1](#)
 - script play [11-1](#)
 - summary [1-47](#)
 - traffic management overview [1-37](#)
 - using the GSS [1-10](#)
- Global Site Selector
 - acting as GSSM [1-14](#), [1-42](#)
 - authoritative DNS server [1-11](#)
 - balancing data centers [1-45](#)
 - boomerang server [13-2](#)
 - CLI-based management [1-46](#)
 - communication [1-44](#)
 - delegation of devices [7-23](#)
 - deployment [1-42](#), [1-44](#), [1-45](#), [7-23](#)
 - DNS server, displaying [13-3](#)
 - factors in responding to a request [1-11](#)
 - general statistics, displaying [13-11](#)
 - global server load balancing [1-10](#)
 - GSLB configuration [1-47](#)
 - GUI-based management [1-47](#)
 - hardware [1-14](#)
 - interact with SLBs [1-10](#)
 - inter-GSS communications [1-44](#)
 - keepalives overview [1-23](#), [5-1](#)
 - locating [1-43](#)
 - network management [1-46](#)
 - overview [1-2](#), [1-14](#)
 - packet filtering [1-44](#)
 - resources, grouping [2-7](#)
 - software architecture [1-13](#)
 - synchronized with GSSM [1-14](#), [1-45](#)
- Global Site Selector Manager
 - communication [1-44](#)
 - database [1-14](#), [1-44](#)
 - definition [G-3](#)
 - deployment [1-42](#)
 - DNS rules [1-15](#)
 - error messages [A-23](#)
 - GSLB configuration [1-47](#)
 - inter-GSS communication [1-44](#)
 - keepalives overview [5-1](#)
 - locating [1-43](#)
 - overview [1-14](#)
 - primary [1-14](#)
 - redundancy [1-45](#)
 - resources, grouping [2-7](#)
 - standby [1-14](#)
 - standby, as backup [1-43](#)
 - standby acting as primary [1-44](#)
 - global statistics [13-109](#), [13-113](#)

global sticky

- authentication [8-6](#)
- by domain, enabling [8-22](#)
- by domain list, enabling [8-22](#)
- clearing sticky mesh statistics [13-95](#)
- encryption [8-6](#)
- favorable peer [8-8](#)
- joining the mesh [8-7](#)
- mesh, communicating [8-7](#)
- mesh conflict resolution [8-6, 8-7](#)
- mesh statistics [13-68, 13-84](#)
- mesh updates [8-5](#)
- messaging statistics [13-64, 13-77, 13-80](#)
- overview [8-4](#)
- peer mesh [8-5](#)
- synchronizing GSS system clock with peers [8-14](#)

glossary of terms [G-1](#)

glue A records [7-23](#)

GSLB

- See global server load balancing

GSS

- See Global Site Selector

GSSM

- See Global Site Selector Manager

GSS network

- configuration [1-14, 1-44](#)
- definition [G-4](#)
- deployment [1-42](#)
- displaying through CLI [13-1](#)
- displaying through GUI [13-96](#)
- global statistics [13-106, 13-109, 13-113](#)
- GSLB status [13-96](#)
- management [1-46](#)
- organizing [2-1](#)
- primary GSSM [1-14](#)
- resource grouping [2-7](#)

GSS role in DNS hierarchy [1-9](#)

GUI

- device management [1-46](#)

- displaying GSS device status [13-48](#)
- error messages [A-1](#)

GUI error messages [A-1](#)

H

hashed balance method [1-34, 7-8, 7-10, 8-24, 9-47](#)

hosted domain

- definition [G-4](#)
- domain names [1-18](#)
- name examples [1-19](#)
- overview [1-18, 4-1](#)
- regular expressions [1-18](#)
- requested [1-16](#)
- statistics [13-104](#)

HTTP HEAD keepalive

- global keepalive configuration [5-11](#)
- host tag [5-24, 6-9](#)
- overview [1-26](#)
- shared keepalive configuration [5-24](#)
- statistics [13-38](#)
- VIP answer [6-8](#)

HTTP Head keepalive

- default path [5-11](#)
- destination port [5-11](#)
- termination method [5-11](#)

I

ICMP keepalive

- global keepalive configuration [5-6, 5-16](#)
- overview [1-26](#)
- shared keepalive configuration [5-22](#)
- statistics [13-40](#)
- VIP answer [6-6](#)

inter-GSS communication [1-44](#)

iterative requests [1-7](#)

K

- KAL
 - See keepalive
- KAL-AP keepalive
 - by tag [6-10](#)
 - by VIP [6-10](#)
 - CAPP hash secret [5-14, 5-15](#)
 - global keepalive configuration [5-14](#)
 - overview [1-27](#)
 - primary and secondary IP addresses [5-25](#)
 - shared keepalive configuration [5-25](#)
 - statistics [13-41](#)
 - VIP answer [6-10](#)
- keepalive [6-12](#)
 - clear statistics [13-94, 13-95](#)
 - cra, clear statistics [13-95](#)
 - CRA overview [1-28](#)
 - CRA statistics, displaying [13-32](#)
 - CRA type [1-28](#)
 - definition [G-5](#)
 - deleting a shared keepalive [5-31](#)
 - error messages [A-14](#)
 - failure detection time, adjusting [1-28](#)
 - fast transmission rate [1-28](#)
 - global properties, modifying [5-3](#)
 - global properties, overview [5-3](#)
 - global statistics, displaying [13-34](#)
 - http-head, clear statistics [13-95](#)
 - HTTP HEAD overview [1-26](#)
 - HTTP HEAD statistics, displaying [13-38](#)
 - ICMP statistics, displaying [13-40](#)
 - ICMP type [1-26](#)
 - kalap, clear statistics [13-95](#)
 - KAL-AP overview [1-27](#)
 - KAL-AP statistics, displaying [13-41](#)
 - keepalive attempts [1-31, 5-26](#)
 - multi-port [1-24](#)
 - name server [1-28](#)
 - name server overview [1-28](#)
 - name server statistics, displaying [13-46](#)
 - none [1-28](#)
 - ns, clear statistics [13-95](#)
 - number of retries [1-30, 5-7, 5-9, 5-10, 5-13, 5-15, 5-17, 5-25, 5-28, 6-6, 6-7, 6-9](#)
 - overview [1-22](#)
 - probes [1-31, 5-7, 5-10, 5-13, 5-15, 5-17, 5-26, 6-6, 6-8, 6-9](#)
 - probes per second [13-107](#)
 - scripted-keepalive clear statistics [13-95](#)
 - Scripted keepalive configuration [5-26](#)
 - Scripted keepalive overview [1-27](#)
 - Scripted statistics, displaying [13-43](#)
 - shared keepalive, creating [5-23](#)
 - shared keepalive overview [5-22](#)
 - shared VIP keepalives, overview [5-22](#)
 - standard transmission rate [1-28](#)
 - supported types [1-23](#)
 - TCP connection termination method [5-23, 6-8](#)
 - TCP overview [1-26](#)
 - TCP statistics, displaying [13-47, 13-48](#)
 - transmission interval formula [1-29](#)
 - VIP [1-26, 1-27, 5-22](#)

L

- last gasp address [7-12](#)
- least loaded
 - balance method [1-33, 7-7, 7-10, 8-23, 9-46](#)
 - overview [1-33, 7-7, 7-10, 8-23, 9-46](#)
 - weight option [1-36](#)
- local sticky
 - disabling on a GSS [8-33](#)
 - enabling on a GSS [8-33](#)
 - overview [8-2](#)
- location
 - associating with a proximity zone [9-13, 9-36](#)
 - creating [2-4](#)
 - definition [G-5](#)

- deleting [2-5](#)
- displaying configured [12-2](#)
- error messages [A-17](#)
- modify all answers in [6-23](#)
- modifying [2-4](#)
- organizing resources [2-7](#)
- overview [1-16, 2-1](#)
- suspending all answers [6-23](#)

M

monitoring

- global statistics [13-113](#)
- See displaying

N

name server

- answer type, creating [6-17](#)
- authoritative [1-9](#)
- authoritative name server (ANS) [1-7](#)
- balance method [6-28](#)
- balance method options [1-35](#)
- balance methods [7-7, 7-10, 8-13, 8-23, 9-46, 12-14, 12-15](#)
- clear statistics [13-95](#)
- client name server (CNS) [1-7](#)
- definition [G-6](#)
- DNS resolvers (DNSR) [1-7](#)
- forwarding [1-21](#)
- intermediate name server (INS) [1-7](#)
- keepalive [1-28](#)
- name server answer overview [1-21](#)
- overview [1-7](#)
- query [6-18](#)
- records, adding to zone configuration file [7-23](#)
- root name servers (RNS) [1-7](#)

name server keepalive

- global keepalive configuration [5-20](#)

- interval min (minimum frequency) [5-21](#)
- overview [1-28](#)
- query domain [5-21](#)
- statistics [13-46](#)

negative DNS response queries [1-5](#)

- common response codes [1-6](#)

negative DNS responses queries SOA configuration [1-6](#)

network

- deployment [1-42](#)
- locating GSS on [1-43](#)

network design guidelines for proximity [9-9](#)

network management [1-46](#)

- CLI-based [1-46](#)
- displaying global server load-balancing statistics [13-96](#)
- GUI-based [1-47](#)

network proximity

- See proximity

node communication [1-44](#)

NTP server

- enabling [8-14, 9-33](#)
- identifying [8-14, 9-33](#)
- synchronizing GSS system clock with peers [8-14, 9-33](#)

number of retries for keepalive types [1-30, 5-7, 5-10, 5-17, 6-6, 6-7, 6-9](#)

O

one-way delay [6-15](#)

ordered list

- balance method [1-32, 7-7, 7-10, 8-23, 9-47](#)
- definition [G-6](#)
- overview [1-32](#)

order option, balance method [1-36](#)

origin server [G-6](#)

owner

- creating [2-6](#)
- deleting [2-6](#)
- displaying configured [12-2](#)

error messages [A-18](#)
 organizing resources [2-7](#)
 overview [1-17, 2-1](#)
 reactivating all DNS rules [7-21](#)
 suspending all answer groups for [6-37](#)
 suspending all DNS rules [7-21](#)

P

PDB

See proximity database

proximity

acceptable-rtt value [9-41](#)
 acceptable-zone value [9-42](#)
 clearing statistics [13-95](#)
 configuring [9-39](#)
 database statistics, displaying [13-51, 13-115](#)
 deleting database entries [9-57](#)
 deleting static entries [9-57](#)
 disabling [9-39](#)
 DNS rule, adding to [9-46](#)
 DNS rule hit count statistics, displaying [13-113](#)
 DNS rule overview [9-45](#)
 DNS rule statistics, displaying [13-13, 13-51](#)
 dumping proximity database entries [9-59, B-1](#)
 enabling [9-39](#)
 equivalence [9-39](#)
 error messages [A-19, A-27](#)
 group configuration, displaying [13-59, 13-60](#)
 group statistics, displaying [13-53, 13-54](#)
 inactivity timeout [9-6](#)
 initial probe method [9-11, 9-40, 12-19](#)
 loading proximity database entries [9-61](#)
 locally disabling/enabling proximity on a GSS [9-63](#)
 lookup statistics, displaying [13-55, 13-117](#)
 manually initiating probing [9-63](#)
 mask, specifying [9-11, 9-39, 12-19](#)
 network design guidelines [9-9](#)
 network proximity example [9-7](#)

overview [9-2](#)
 periodic proximity database backup [9-61](#)
 probe management overview [9-3](#)
 probe methods [9-4](#)
 probe statistics, displaying [13-56, 13-57, 13-118](#)
 proximity database overview [9-5](#)
 proximity group, creating [9-51](#)
 proximity group, playing static proximity configurations [9-52](#)
 proximity group deletion [9-53](#)
 proximity group overview [9-49](#)
 quick start [9-9, 9-16](#)
 results of locally disabling on a GSS [9-64](#)
 static database entries, adding [9-54](#)
 statistics, displaying (CLI) [13-50](#)
 statistics, monitoring (GUI) [13-113](#)
 status, displaying (CLI) [13-50](#)
 subsystem statistics, displaying [13-58](#)
 synchronizing GSS system clock with peers [9-33](#)
 XML schema file [B-1](#)
 zone overview [9-2](#)
 zones, associating with a location [9-36](#)
 zones, associating with an answer [9-37](#)
 zones, creating [9-34](#)
 zones, deleting [9-35](#)
 zones, modifying [9-34](#)

proximity database

age-out process [9-6](#)
 automatic backup [9-59](#)
 deleting dynamic entries [9-57](#)
 deleting static entries [9-57](#)
 dumping entries [9-59](#)
 inactivity timeout [9-6](#)
 loading entries [9-61](#)
 maximum number of entries [9-6](#)
 overview [9-5](#)
 periodic backup [9-61](#)
 RTT, assigning to static entries [9-55](#)
 RTT values [9-5](#)

- specifying entry format to dump [9-60, B-1](#)
- static entries, adding [9-54](#)
- proximity group
 - benefits [9-49](#)
 - creating [9-51](#)
 - deleting [9-53](#)
 - entering multiple groups [9-51](#)
 - IP address block, deleting [9-53](#)
 - overview [9-49](#)
 - playing static proximity configurations [9-52](#)
- proximity probing agent
 - assigning to static database entries [9-55](#)
 - initial probe method [9-11, 9-40, 12-19](#)
 - manually initiating probing [9-63](#)
 - probe agent overview [9-3](#)
 - probe methods [9-4](#)
 - probing process [9-4](#)
 - refresh-interval [9-40](#)
 - RTT results [9-5](#)
- proximity properties
 - displaying [12-18](#)
- proximity zone
 - acceptable-zone value [9-42](#)
 - associating with an answer [9-37](#)
 - creating [9-34](#)
 - deleting [9-35](#)
 - determining most proximate answer [9-5](#)
 - equivalence [9-39](#)
 - modifying [9-34](#)
 - network design guidelines [9-9](#)
 - overview [9-2](#)
 - probe methods [9-4](#)
 - RTT [9-2](#)
- proximity
 - wait enable [9-42](#)

Q

- query

- answers [6-2](#)
- balance methods [1-32](#)
- CRA answer [6-15](#)
- DNS request [1-8](#)
- DNS rules [1-16](#)
- KAL-AP [1-27, 6-10](#)
- match DNS query type [7-3](#)
- name server [1-28](#)
- name server answer [6-17](#)
- not matched to D-proxy [1-18](#)
- query domain [5-21](#)
- source addresses [1-18](#)

R

- rate-limit command [13-25](#)
- reactivating
 - all answer groups for an owner [6-37, 7-21](#)
 - all answers in an answer group [6-37](#)
 - all answers in location [6-23](#)
 - answer [6-22](#)
 - clause [7-17](#)
 - DNS rule [7-21](#)
- record request [7-4](#)
- redundancy synchronization [1-45](#)
- refreshing GSS mesh statistics [13-6, 13-16](#)
- refresh-interval [9-40](#)
- region
 - creating [2-3](#)
 - definition [6-7](#)
 - deleting [2-5](#)
 - displaying configured [12-3](#)
 - error messages [A-19](#)
 - organizing resources [2-7](#)
 - overview [1-16, 2-1](#)
- regular expressions [1-18, 4-5](#)
- report
 - answer hit counts [13-97](#)
 - answer status [13-100](#)

- DNS rule hit count [13-103](#)
 - domain hit count [13-104](#)
 - keepalive statistics [13-98](#)
 - source address hit count [13-107](#)
 - requests
 - iterative [1-7](#)
 - resolution [1-7, 1-11](#)
 - resource records [1-4](#)
 - resources
 - configuring [2-1](#)
 - grouping [2-7](#)
 - organizing [2-1](#)
 - round robin
 - balance method [1-33, 7-7, 7-10, 8-23, 9-46](#)
 - overview [1-33](#)
 - round-trip time (RTT)
 - acceptable-rtt value [9-41](#)
 - acceptable-zone value [9-42](#)
 - assigning to static entries [9-55](#)
 - DRP agent [9-3](#)
 - equivalence [9-39](#)
 - overview [9-2](#)
 - probing methods [9-4](#)
 - proximity database entries [9-5](#)
 - RTT
 - See round-trip time (RTT)
 - running-config command [13-31](#)
-
- S**
- sample BIND zone configuration [7-24](#)
 - Scripted keepalive
 - global keepalive configuration [5-18](#)
 - overview [1-27](#)
 - shared keepalive configuration [5-26](#)
 - statistics [13-43](#)
 - VIP answer [6-11](#)
 - scripted-keepalive
 - clear statistics [13-95](#)
 - script play
 - global server load balancing configuration file [11-7](#)
 - overview [11-2](#)
 - server load balancer [1-2, G-8](#)
 - service provider [G-8](#)
 - ses [12-17](#)
 - shared keepalive
 - creating [5-22](#)
 - deleting [5-23, 5-31](#)
 - error messages [A-14](#)
 - HTTP HEAD configuration settings [5-24](#)
 - ICMP configuration settings [5-22](#)
 - KAL-AP configuration settings [5-25](#)
 - modifying [5-22](#)
 - overview [5-22](#)
 - Scripted keepalive configuration settings [5-26](#)
 - TCP configuration settings [5-23](#)
 - show ddos-config command [13-26](#)
 - show statistics command [13-1](#)
 - boomerang [13-2](#)
 - dns [13-3](#)
 - dns answer [13-4](#)
 - dns answer group [13-8](#)
 - dns domain [13-9](#)
 - dns domain-list [13-10](#)
 - dns global [13-11](#)
 - dns proximity rule [13-13, 13-51](#)
 - dns rule [13-14](#)
 - dns sticky rule [13-19, 13-62](#)
 - drpagent [13-20](#)
 - keepalive [13-32](#)
 - keepalive cra [13-32](#)
 - keepalive global [13-34](#)
 - keepalive http-head [13-38](#)
 - keepalive icmp [13-40](#)
 - keepalive kalap [13-41](#)
 - keepalive ns [13-46](#)
 - keepalive tcp [13-47, 13-48](#)
 - proximity database [13-51](#)

- proximity group-name [13-54](#)
- proximity group-summary [13-53](#)
- proximity lookup [13-55](#)
- proximity probe [13-56](#), [13-57](#)
- Scripted keepalive [13-43](#)
- source-address [13-17](#)
- source-address-list [13-18](#)
- sticky [13-62](#)
- sticky global [13-64](#)
- sticky group-name [13-72](#)
- sticky group-summary [13-71](#)
- sticky mesh [13-68](#)
- SOA records [1-4](#), [1-5](#), [1-6](#), [1-9](#)
 - configuring for negative responses [1-6](#)
 - format [1-4](#)
 - TTL fields [1-5](#)
- source address
 - Anywhere [1-18](#), [3-1](#)
 - hit counts [13-106](#)
 - maximum per source address list [3-1](#)
 - overview [1-18](#)
 - statistics, displaying [13-17](#)
- source address and domain hash balance method [1-34](#), [7-8](#), [7-10](#), [8-24](#), [9-47](#)
- source address list
 - adding addresses [3-3](#)
 - anywhere [1-18](#)
 - Anywhere (default) [3-1](#)
 - creating [3-1](#)
 - definition [G-8](#)
 - deleting [3-3](#)
 - deleting addresses [3-4](#)
 - error messages [A-23](#)
 - maximum addresses [3-1](#)
 - modifying [3-3](#)
 - overview [1-18](#)
 - statistics, displaying [13-18](#)
- SSL
 - See Secure Socket Layer
- standby GSSM
 - database, synchronized with primary GSSM [1-45](#)
 - definition [1-44](#)
 - overview [1-14](#)
- statistics
 - answer hit counts [13-97](#)
 - answer keepalive [13-98](#)
 - answer status [13-100](#)
 - clearing [13-94](#)
 - clearing DDoS [13-94](#)
 - DNS rule hit count [13-103](#)
 - global [13-109](#), [13-113](#)
 - hosted domains [13-104](#)
 - proximity database [13-115](#)
 - proximity DNS rule hit count [13-113](#)
 - proximity lookup [13-117](#)
 - proximity probe [13-118](#)
 - source address [13-106](#)
 - sticky database [13-75](#), [13-122](#)
 - sticky DNS rule hit count [13-120](#)
 - sticky global mesh [13-124](#)
 - traffic management, displaying [13-113](#)
- statistics-global command [13-28](#)
- sticky
 - balance clause, enabling for [8-12](#), [8-23](#)
 - by domain, enabling [8-22](#)
 - by domain list, enabling [8-22](#)
 - clearing statistics [13-95](#)
 - configuring [8-16](#)
 - conflict resolution [8-6](#)
 - database entries, deleting [8-28](#)
 - database statistics, displaying [13-62](#), [13-122](#)
 - disabling [8-22](#), [8-33](#)
 - disabling/enabling local sticky on a GSS [8-33](#)
 - displaying configured [12-16](#)
 - DNS rule, adding to [9-46](#)
 - DNS rule hit count statistics, displaying [13-120](#)
 - DNS rule overview [8-21](#)
 - DNS rule statistics, displaying [13-19](#), [13-62](#)

- dumping sticky database entries [8-30, B-1](#)
 - error messages [A-25](#)
 - global sticky mesh statistics, displaying [13-68, 13-84](#)
 - global sticky messaging statistics, displaying [13-64, 13-77, 13-80](#)
 - global sticky overview [8-4](#)
 - global sticky peer mesh [8-5](#)
 - group statistics, displaying [13-71, 13-72, 13-93](#)
 - inactivity timeout [8-4](#)
 - loading sticky database entries [8-32](#)
 - local sticky overview [8-2](#)
 - mask, specifying [8-17, 8-19](#)
 - mesh favored peer [8-8](#)
 - overview [8-1](#)
 - periodic sticky database backup [8-32](#)
 - quick start guide [8-10](#)
 - results of locally disabling on a GSS [8-33](#)
 - statistics, displaying (CLI) [13-61](#)
 - statistics, displaying (GUI) [13-113](#)
 - status, displaying (CLI) [13-61](#)
 - sticky database overview [8-3](#)
 - sticky global mesh statistics, displaying [13-124](#)
 - sticky group, creating [8-26](#)
 - sticky group, deleting [8-27](#)
 - sticky group overview [8-25](#)
 - subsystem statistics, displaying [13-73](#)
 - timeout [8-11, 8-18, 8-19, 8-22, 12-17](#)
 - XML schema file [B-1](#)
- sticky database
- age-out process [8-4](#)
 - automatic backup [8-30](#)
 - dumping entries [8-30](#)
 - loading entries [8-32](#)
 - matched entry [8-4](#)
 - maximum number of entries [8-4](#)
 - overview [8-3](#)
 - periodic backup [8-32](#)
 - specifying entry format to dump [8-31, B-1](#)
 - statistics [13-75](#)
 - sticky entries, deleting [8-28](#)
 - sticky inactivity timeout [8-4](#)
 - sticky timeout [8-11, 8-18, 8-19, 8-22, 12-17](#)
- sticky group
- creating [8-26](#)
 - deleting [8-28](#)
 - displaying information [12-16](#)
 - entering multiple groups [8-27](#)
 - IP address block, deleting [8-27](#)
 - overview [8-25](#)
- sticky properties
- displaying [12-17](#)
- subdomains, delegation [1-43, 7-23](#)
- subscriber [G-9](#)
- suspending
- a DNS rule [7-20](#)
 - all answer groups for an owner [6-37](#)
 - all answers in a location [6-23](#)
 - all answers in an answer group [6-37](#)
 - answer [6-21](#)
 - answer group [6-35, 6-36](#)
 - clause [7-16](#)
- synchronization of primary and standby GSSM [1-45](#)
-
- ## T
- TCP keepalive
- global keepalive configuration [5-8](#)
 - overview [1-26](#)
 - port [5-9](#)
 - shared keepalive configuration [5-23](#)
 - statistics [13-47, 13-48](#)
 - VIP answer [6-7](#)
- timeout, sticky [8-11, 8-18, 8-19, 12-17](#)
- Time To Live [G-9, G-11](#)
- traffic management
- load balancing overview [1-37](#)
 - proximity, configuring [9-38](#)
 - proximity overview [1-38](#)

proximity zone, configuring [9-34](#)

statistics, displaying [13-113](#)

sticky, configuring [8-16](#)

sticky overview [1-37](#)

troubleshooting GUI error messages [A-1](#)

TTL

See Time To Live

U

user view error messages [A-27](#)

V

VIP

answer groups [6-27](#)

answers [6-4](#)

answer types [6-5](#)

balance method options [1-35](#)

balance methods [6-27, 7-7, 7-10, 8-13, 8-23, 9-46, 12-14, 12-15](#)

http-head, clear statistics [13-95](#)

icmp, clear statistics [13-95](#)

kal-ap, clear statistics [13-95](#)

keepalive type [1-26](#)

tcp, clear statistics [13-95](#)

VIP answer overview [1-20](#)

VIP answer

HTTP HEAD keepalive [6-8](#)

ICMP keepalive [6-6](#)

KAL-AP keepalive [6-10](#)

multiple answers and ports, specifying [1-31](#)

multi-port [1-24, 6-12](#)

Scripted keepalive [6-11](#)

TCP keepalive [6-7](#)

VIP answer, creating [6-3](#)

VIP keepalive type

HTTP HEAD [1-26](#)

ICMP [1-26](#)

KAL-AP [1-27](#)

Scripted keepalive [1-27](#)

TCP [1-26](#)

VIP-type answer, multi-port [1-24, 6-12](#)

W

weight

balance method overview [1-36](#)

least loaded [1-36](#)

round-robin [1-36](#)

weighted round robin

balance method [1-33, 7-7, 7-10, 8-24, 9-47](#)

overview [1-33](#)

wildcards

in domains [4-5](#)

maximum length in domain names [4-5](#)

Z

zone

displaying configured [12-3](#)

proximity, creating [9-34](#)

zone configuration file (DNS)

modifying [7-23](#)

sample [7-24](#)

