L Commands

load-balance

To configure the buckets, mask position, and/or the load-balancing method of an Intelligent Traffic Director (ITD) service, use the **load-balance** command. To remove the configuration, use the **no** form of this command.

load-balance {**method** {**src** {**ip**| **ip-l4port** [**tcp**| **udp**] **range** *x y*}| **dst** {**ip**| **ip-l4port** [**tcp**| **udp**] **range** *x y*}}| **buckets** *bucket-number*| **mask-position** *position*}

no load-balance {**method** {**src** {**ip**| **ip-l4port** [**tcp**| **udp**] **range** *x y*}| **dst** {**ip**| **ip-l4port** [**tcp**| **udp**] **range** *x y*}}| **buckets** *bucket-number*| **mask-position** *position*}

method	Specifies the method of load/traffic distribution.
src	Specifies the source based load/traffic distribution.
ip	Specifies IP address based load/traffic distribution.
ip-l4port	Specifies IP address and Layer 4 port-based load/traffic distribution.
tcp	Specifies the TCP protocol.
udp	Specifies the UDP protocol.
range *x y*	Specifies the port range. The *x* and *y* values are non-overlapping values in the range 0-65535.
dst	Specifies the destination based load/traffic distribution.
buckets *bucket-number*	Specifies the number of buckets to create. The range is from 2 to 256, in powers of 2.
mask-position *position*	Specifies the mask position number. The range is from 0 to 31.

Command Default

None.

Command Modes

ITD configuration (config-itd)

Command History

Release	Modification
6.2(10)	The following keywords and arguments were added: **ip-l4port**, **tcp**, **udp**, **range** *x y*.

Release	Modification
6.2(8)	This command was introduced.

Usage Guidelines

You must ensure that ITD is enabled before you enter this command. You can enter the **feature itd** global configuration mode command to enable ITD.

The options for the **load-balance** command are as follows:

- **buckets—**Specifies the number of buckets to create. Buckets must be configured in powers of two. One or more buckets are mapped to a node in the cluster.

If you configure more buckets than the number of nodes, the buckets are applied in a round-robin fashion across all the nodes.

- **mask-position—**Specifies the mask position of the load balancing. This command is useful when a packet classification has to be made based on specific octets or bit of an IP addresses. By default, the system uses the last octet/least significant bit (LSB) for bucketing. If you prefer to use nondefault bits/octets, you can use the mask-position keyword to provide the starting point at which the traffic classification is to be made. For example, the starting point is at the 8th bit for the second octet and the 16th bit for the third octet of an IP address.
- **method—Specifies one of the following:**
  - **source IP address.**
  - **destination IP address.**
  - **source IP address and source L4 port.**
  - **destination IP address and destination L4 port.**

Note Before modifying the service parameters or device-group parameters, you must enter the **shutdown** command. Once the required parameters are modified, you should enter the **no shutdown** command on the service.

This command requires the Enhanced Layer 2 Package license.

Examples

This example shows how to configure load balancing for ITD:

```
switch(config)# feature itd
switch(config)# itd device-group dg
switch(config-device-group)# node ip 20.20.20.3
switch(config-device-group)# node ip 20.20.20.4
switch(config-device-group)# node ip 20.20.20.5
switch(config-device-group)# probe icmp
switch(config-device-group)# exit
switch(config)# itd test
switch(config-itd)# device-group dg
switch(config-itd)# ingress interface Ethernet 4/1-10
switch(config-itd)# load-balance method dst ip-l4port range 10 20
```

Related Commands

Command	Description
feature itd	Enables the ITD service on the switch.
ingress-interface	Adds an ingress interface or multiple interfaces to an ITD service.
itd	Configures an ITD service.
itd device-group	Creates an ITD device group.
node ip	Creates an IPv4 cluster node for ITD.
node ipv6	Creates an IPv6 cluster node for ITD.
probe	Configures the cluster group service probe for ITD.