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IBM WebSphere Edge components Load Balancer for IPV6 V8

New features

This presentation covers new features and changes in WebSphere® Edge Components Load Balancer V8.

New features

- High availability record replication
- Server quiesce – Quiesce server on a particular port
- TCP resets
- Installation path has changed

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These are the features that were implemented in "Load balancer for ipv4 and ipv6" for V8.

These features were previously available in 'Load balancer for IPV4'.

High availability record replication

- Allows high availability partners to share the state of connections and affinity
  - This allows existing connections and affinity to continue even after high availability partner has taken over.
- This enhances availability of the application and there is no interruption of service even when there is a takeover
- This feature existed in 'Load Balancer for IPV4' and is now available in 'Load Balancer for IPV4 and IPV6'
- This feature is valuable for long lived connections and is not of much value for short lived connections (like HTTP) as the overhead of constant replication is high

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In V7, the high availability partners shared only heartbeats. They did not share connection or affinity information.

This feature allows the HA partners to share connection and affinity information so that existing affinity and connections can continue when a takeover happens.

Configuration (command line)

Set replication strategy on the port object

    dscontrol port set <cluster@port> repstrategy <strategy> -Set HA replication strategy
                                       none   -Do not replicate
                                       connection -Replicate connections
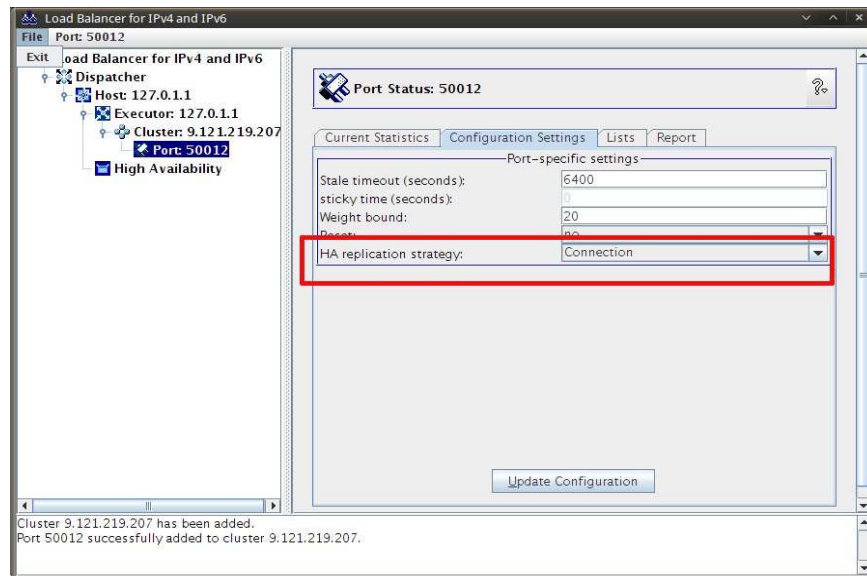   affinity   -Replicate affinity
                                       both   -Replicate connections and affinity

Example:

 dscontrol port set 9.121.219.207@50021 repstrategy connection

This feature has to be enabled on the port object.

To enable logging related to this feature, run the command "lbcommand.sh 0 set logmask +HA"

Configuration (GUI)

This feature has to be enabled on the port object, as shown on this slide.

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Quiesce server on a particular port

- The server quiesce command quiesces a server under all ports.
  - For example '*dscontrol manager quiesce 10.1.1.3*', will stop forwarding traffic to server 10.1.1.3 for all ports.

- This functionality has been extended to quiesce a server on a particular port
  - For example '*dscontrol manager quiesce 10.1.1.5@80@10.1.1.3* will stop forwarding traffic to server 10.1.1.3 just for port 80. This is equivalent to server up/down feature in Legacy

The "server up" and "server down" commands are not available in 'load balancer for ipv4 and ipv6'. Instead, the "server quiesce" command has been extended to quiesce a server under a given port.

This allows you to quiesce just the HTTP server but continue forwarding other traffic (for example DB2® traffic)

TCP resets

- This feature allows existing connections to backend servers be terminated when the server weight becomes zero.
- Normally, packets are forwarded to server even if its weight becomes zero (if there is an existing connection). If the server is down, client sees that server is not responding.
- When TCP reset is enabled, The connection is terminated when the server weight becomes zero. The client can take the next action instead of waiting for connection to time out
- The feature is set on the port object

"*dscontrol port add/set <cluster>@<port> reset [yes|no]*"

The "TCP reset" feature was previously available in 'Load Balancer for ipv4'.

Whenever load balancer detects that the server is down, a reset is sent to an existing connection. This will ensure that the connection is terminated early instead of waiting for timeout. The client establishes another connection instead of waiting for timeout.

To log messages related to the reset command, run "lbcommand.sh 0 set logmask +select"

Default installation path change

- On UNIX® and Linux® platforms
  - /opt/IBM/WebSphere/Edge/ULB/

- On Windows®
  - C:\program Files (x86)\IBM\WebSphere\Edge\ULB

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The default installation paths have changed in this release.

Summary

- Features added from "Load Balancer for IPv4"
  - High availability record replication
  - Server quiesce – quiesce server on a particular port
  - TCP resets
- The default installation path has been changed

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To summarize, Three features that existed in 'Load balancer for IPV4' have been implemented in 'Load balancer for IPV4 and IPV6.'

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