Web Dispatcher TCP Load Balancing

Purpose

While Web Dispatcher has been designed for load balancing HTTP and HTTPS, it is possible to load balance TCP connections. It will be enhanced to provide support for TCP load balancing.

Overview

For load balancing TCP connections, the incoming port of the Web Dispatcher can be configured using protocol ROUTER (PROT=ROUTER), while the backend TCP ports can be configured using `wdisp/system_0 = ... EXTSRV=https://<host>:<port>`

Configuration

The configuration uses the ROUTER protocol which has been implemented for tunnelling HTTPS connections. However, protocol ROUTER can be used to forward any protocol, because with this configuration Web Dispatcher simply forwards the data back and forth between the client and the backend ports. For load balancing a round robin mechanism is used, balancing the incoming connections evenly between the different backends.

A restriction of the ROUTER protocol is that it is not enabled for multiple backend systems: The incoming connections always use the first wdisp/system entry as a backend system, i.e. wdisp/system_0.

Example configuration of the relevant parameters icm/server_port_0 and wdisp/system_0:

```
icm/server_port_0 = PORT=20000,PROT=ROUTER,PROCTIMEOUT=3600
icm/server_port_1 = PORT=0,PROT=HTTPS
wdisp/system_0 = SID=T01, EXTSRV=https://mytcpserv1:30000;https://mytcpserv2:30000, SRCSRV=*:20000
```

"PORT=20000" specifies the port where Web Dispatcher accepts incoming TCP connections.

"PROCTIMEOUT=3600" specifies that Web Dispatcher closes the connection after an idle time of 1 hour (3600 seconds). PROCTIMEOUT=-1 specifies that Web Dispatcher does not check for an idle timeout, leaving the connection open until it is closed by the client or the server.

Two backend servers accepting TCP connections are configured using port 30000.

The attribute SID must be specified, but the value is arbitrary. It will be displayed in monitoring and tracing, for example in the Web Dispatcher Admin UI.

SRCSRV="*:20000 ("source service" 20000) specifies that incoming connections on port 20000 are dispatched to the configured TCP backend servers. The lack of support for multiple backend systems for ROUTER protocol means that wdisp/system_0 is selected regardless of the SRCSRV specification, but it should be specified nevertheless for future compatibility.
The specified parameter icm/server_port_1 should be set for a technical reason only: Omitting the parameter is possible, but will cause ERROR traces in the Web Dispatcher trace file.

Do not specify parameter wdisp/HTTPS/dest_logon_group. The logon group information is retrieved by Web Dispatcher from AS ABAP or AS Java. It must not be used for a backend system of type "EXTSRV".

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