Can I use a different load balancer instead of SAP Web Dispatcher

Positioning

Web Dispatcher provides an easily consumable Web infrastructure solution for most SAP products based on Web AS ABAP, Web AS Java or HANA XS. It is free of charge, low in TCO yet high in performance and perfectly supports SAP systems and their load balancing and request routing features out of the box.

However, SAP Web Dispatcher is not a mandatory component of SAP systems or solutions – since HTTP is a standardized protocol, other Web infrastructure products can be used as well. Customers are free to use a load balancer or reverse proxy of their choice.

Possible reasons for using a third party load balancer

We cannot speak for individual products here, but rather generally of benefits that some third party components may offer over SAP Web Dispatcher. Specific features have to be clarified for the individual product and concrete usage scenario.

- Investments or strategic decisions in a third party infrastructure have already been made.
- Functionality that SAP Web Dispatcher does not have, for example Web Application Firewall (WAF) or access control.
- Very high scalability or strict availability requirements.

A single SAP Web Dispatcher can handle roughly 10,000 concurrent users, which varies depending on usage characteristics and host operating system. Higher load requires a third party load balancer. It is possible to operate multiple SAP Web Dispatchers behind a (simple) third party load balancer to enhance scalability and availability and still benefit from the special integration features of SAP Web Dispatcher with SAP backend systems. For high availability, SAP Web Dispatcher can also be operated in a failover cluster.

Possible issues when using third party load balancers

HTTP is a standardized protocol, but the interpretation of the standard is subject to many ambiguous decisions. Different design decisions in the applications require appropriate handling of HTTP requests by the load balancer/reverse proxy.

**SAP Web Dispatcher supports the idiosyncrasies of SAP servers and applications** out of the box. For example, SAP servers require that the Host header remains unchanged, while other servers require it to be changed to the server's host name. Third party infrastructures may require explicit configuration to ensure that SAP applications run smoothly.

**Unique features** – Apart from the hard requirements, SAP Web Dispatcher is integrated with SAP backend systems. It offers for example

- Fine-grained control of stickiness in cooperation with applications to distinguish stateful from stateless requests and detect user log-off.
- Availability checks of the application servers.
- Logon groups for application-specific load distribution.
- Automatic configuration retrieval from backend systems (running servers and their capacity, logon groups, configured applications).

None of these are mandatory, therefore customers can chose to build a solutions without them or implement them with third party load balancers themselves.

**Some SAP solutions require quite complex setups**, especially where multiple systems are integrated into a single logical system, like in landscapes with SAP Enterprise Portal and Fiori. SAP usually tests and documents the configuration of such landscapes only with SAP Web Dispatcher.

**Customers are responsible** for the correct setup of SAP scenarios using third party load balancers, including:

- Translate the configuration descriptions of SAP Web Dispatcher into configuration for the used load balancer.
- Implement required features, like stickiness as needed.
- Implement additional features, like availability checks or certificate forwarding.

SAP cannot provide descriptions for such configurations due to the multitude of available products. The customer has the sole responsibility for the setup. In case of issues, troubleshooting may be more difficult if a third party load balancer is used due to lack of specific knowledge by SAP support staff.

**Project complexity** is another aspect worth considering. SAP Web Dispatcher is usually administered by SAP Basis administration, while hardware load balancers usually belong to the network department. This requires a project to span organizational boundaries to allow agile configuration changes and efficient operation.