

SIP Functionality: What's the difference between a stateless and a stateful proxy server?

Stateless proxies forget about the SIP request once it has been forwarded. Stateful proxies remember the request after it has been forwarded, so they can associate the response with some internal state. In other words, stateful proxies maintain transaction state. Stateful implies transaction state, not call state.

Stateless proxies scale very well, and can be very fast. They are good for network cores. Stateful proxies can do more (they can fork, for example, see the next question) and can provide services stateless ones can't (call forward busy, for example). They don't scale as much as stateless ones. An administrator gets to decide which to use. These are also logical entities; a physical proxy is likely to act as a stateless proxy for some calls, stateful for others, and as a redirect server for even others.

Neither stateful nor stateless proxies need to maintain call state, although they can, but will need to make sure that they are part of subsequent transactions via the Record-Route header.

A proxy must be stateful if one of the following conditions hold:

1. It uses TCP,
2. It uses multicast,
3. It forks.