Cisco Nonstop Forwarding (NSF)

Cisco Nonstop Forwarding (NSF) is a redundancy protocol works with the Stateful Switchover (SSO) feature in Cisco IOS software. NSF works with SSO to minimize the amount of time a network is unavailable to its users following a switchover. The main objective of Cisco NSF is to continue forwarding IP packets following a Route Processor (RP) switchover.

Usually, when a networking device restarts, all routing peers of that device detect that the device went down and then came back up. This transition results in what is called a **routing flap**, which could spread across multiple routing domains. Routing flaps caused by routing restarts create routing instabilities, which are detrimental to the overall network performance. Cisco NSF helps to suppress routing flaps in SSO-enabled devices, thus reducing network instability.

Cisco NSF allows for the forwarding of data packets to continue along known routes while the routing protocol information is being restored following a switchover. With Cisco NSF, peer networking devices do not experience routing flaps. After the routing has reconverged and a new RIB is built, the old CEF entries are removed.

Main Characteristics

- Uses the FIB table
- Maintains L3 continuity
- Prevents route flapping