

State-updating mechanism in RSVP-TE for MPLS network

draft-gao-mpls-teas-rsvp-te-state-update-05

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Problem statement:

Scaling problem and resource requirements

The scaling problems are linked to the resource requirements (in terms of processing and memory) of running RSVP. The resource requirements increase proportionally with the number of sessions. Each session requires the generation, transmission, reception and processing of RSVP Path and Resv messages per refresh period. Supporting a large number of sessions, and the corresponding volume of refresh messages, presents a scaling problem.

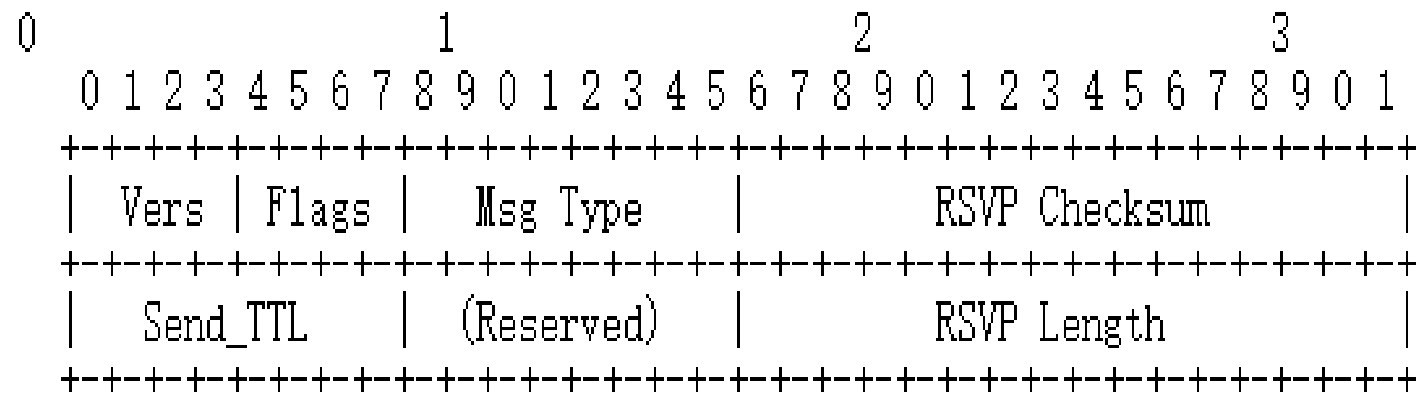


Figure 1 RSVP header

Flags: 4 bits

0x02: Refresh message disable

When set, indicates that this node is willing and capable of supporting the refresh message disable extensions described. This bit is meaningful only between RSVP neighbors.

Reliable RSVP message delivery

Refresh messages are used to both synchronize state between RSVP neighbors and to recover from lost RSVP messages. The reliability and latency problem occurs when a non-refresh RSVP message is lost in transmission.

An implementation that supports the techniques must support the functionality described in [RFC2961] as follows:

- o It MUST support reliable delivery of Path/Resv and the corresponding Tear/Err messages (as specified in Section 4 of [RFC2961]).
- o It MUST support retransmission of all unacknowledged RSVP-TE messages using exponential backoff (as specified in Section 6 of [RFC2961]).

Next steps

- **At present, the function has been realized in some prototype system, however, more evaluation is needed.**
- **Large-scale application scenario is going to be simulated based on NFV context.**
- **Large-scale deployment is going to be built in concrete application context.**

Thank you!