

# LS Distributed Flooding Reduction

draft-cc-lsr-flooding-reduction-03

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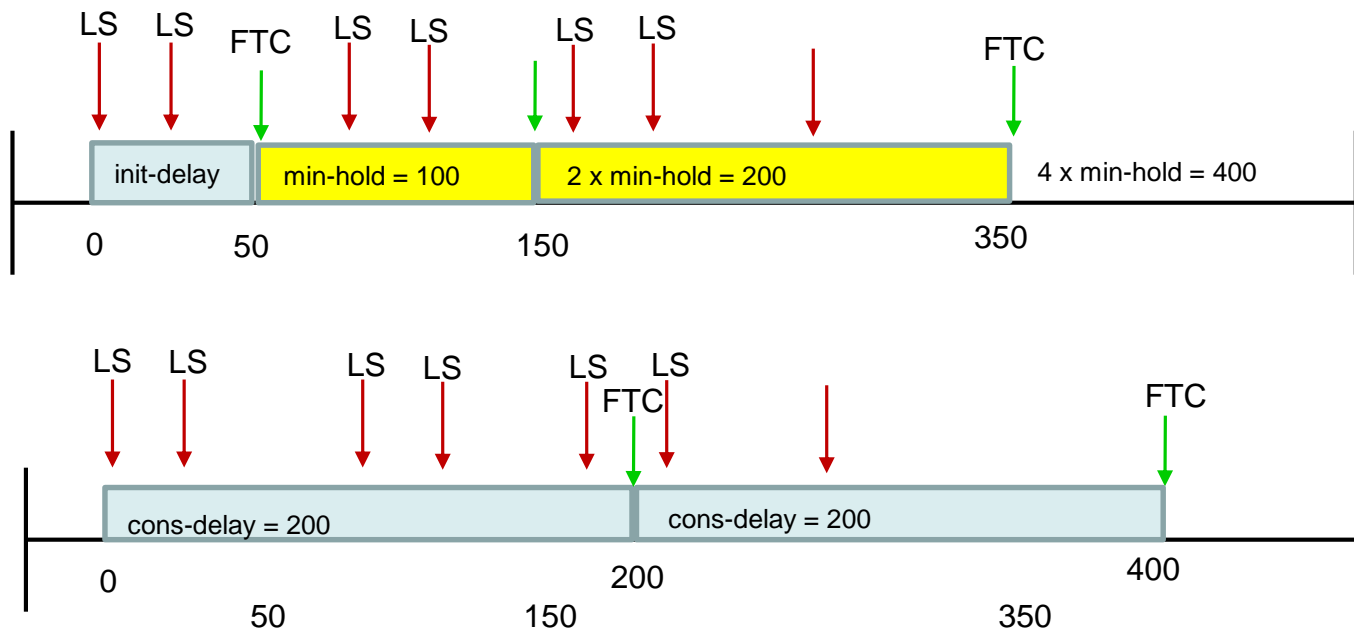
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# Overview

- Removed the centralized flooding reduction, and related
- Updated distributed reduction to interact with leader
- Added scheduler and consistency check

# Scheduling for Flooding Topology Computation (FTC)

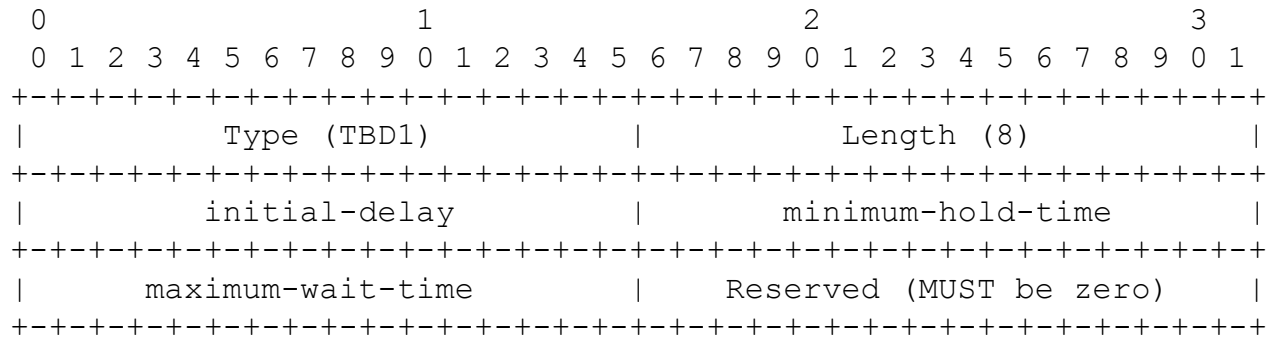
- RFC8541 Impact of SPF Trigger and Delay Strategies on IGP Micro-loops  
Using different schedulers may cause **more micro routing loops** due to discrepancies of timers  
Using similar timers (values and behavior) for all as a best practice, but **sometimes it is not possible**
  - ❖ **Expect a standard/same scheduler for SPF**
- **Need a standard/same scheduler for FTC to let all run FTC same time**
- **Consider 2 schedulers**
  - 1) One with double delay (initial-delay, min-hold, max-wait)
  - 2) Another with constant delay (cons-delay, num-of-runs, max-wait)



# Parameters for Distributed Flooding Reduction

After distributed flooding reduction is selected,

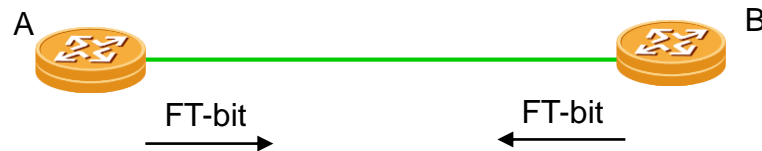
- Every node **MUST** receive leader sub-TLV indicating
  - ✓ Algorithm to be used
  - ✓ Distributed mode
- Every node **SHOULD** receive parameters for scheduler if configured



OSPF Scheduler Parameters sub-TLV

# Flooding Topology (FT) Consistency

- FT computed by one need be same as FT computed by another
- 2 FTs are different, inconsistency occurs, need be detected and handled accordingly



- RFC 5613 defines Extended Options and Flag (EOF) TLV in OSPF Hello
  - A new flag bit (bit 30 suggested), called link on flooding topology (FT-bit for short), is defined in EOF TLV
  - For a link between node A and node B, A (B) sends B (A) Hello with FT-bit set to one when the link is on the FT it computes.
  - If Hellos from the two nodes have the same FT-bit value, then the FT for the link between the two nodes is consistent; otherwise, it is not consistent.
  - When inconsistency detected, a warning is issued/logged, assumes that the link is on the FT temporarily and floods the link states over the link.

# Next Step

Welcome comments

Request for adoption