Update
Draft-ietf-lsr-distoptflood-09
IETF 123

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What’s going on

- Lots of implementation/test/measurement data
- Discussions in context of **draft-ietf-lsr-isis-flood-reduction-arch-00**
- Treatment of broadcast and other minor clarifications
- Hash function improvements

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Technical Changes

- Broadcast medium computation has to “jump” over pseudonodes
  - Metric from each “real” node to another is 1 hop
  - No DIS behavior change, i.e. in case of reduction “misses” DIS still generates CSNPs and it responds to PSNPs on the ether
- Answering “misses” MUST NOT use reduction
  - CSNP and PSNP processing MUST NOT try to optimize the resulting flooding, otherwise bugs in reduction could permanently partition
  - This means normal CSNP may “interfere” with flood reduction but none of that affects correctness, at most has some small price in terms of efficiency

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Hash Changes

- Old hashing did not distribute particularly well and was buggy ;-) since
  - Fragment ID was shifted far to the left in the result
  - Last byte of system ID basically determined what the lowest bits of the hash were exclusively determined by this byte
  - And worst of all he hash “forgot” to shift after last rotation back and 7 * 4 = 28 < u64 size so last 4 bits were always 0
- Hence mod on even numbers did not balance at all for practical purposes
- New hash
  - Adds byte position to its value to help with very regular numberings
  - Last system ID byte is not rotated left anymore
  - Upper part of hash is folded onto lower part at the end to make sure all bytes contribute entropy for power of two balancing cases

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Minor

- Pseudo node ID is not taken into hash value
- Whoever read -09 realizes that the text mismatches the reference implementation appendix right now (oversight)

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Signaling

- Draft presents now an algorithm only
  - Allocation of value requested in existing “IGP Algorithm Type for Computing Flooding Topology”
- Deployable with **draft-ietf-lsr-isis-flood-reduction-arch-00** allowing for migration and mixing of distributed algorithms

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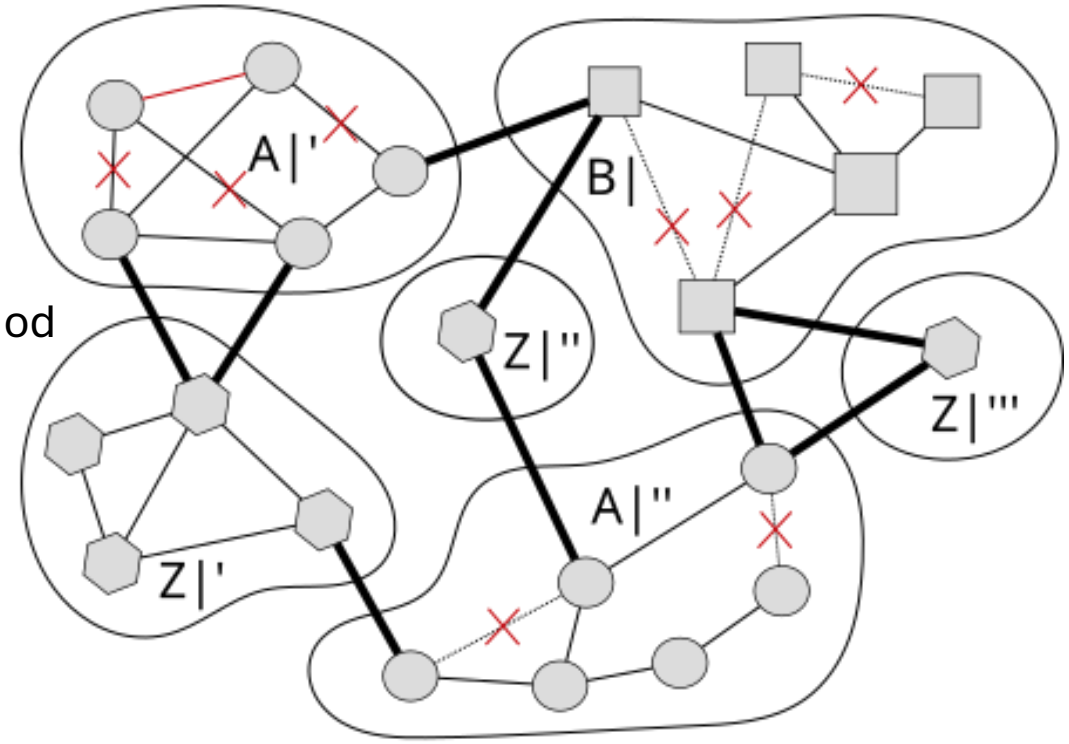
Signaling in draft-lsr-interop-flood-reduction-architecture-00

- Each node must signal via router capability TLV (or anything else that is understood) **at most one** running flood reduction algorithm
  - No signaling of running algorithm signifies no reduction (an algo can play tricks with that)
- Set of connected nodes running same algorithm can optimize flooding (removed red crossed links) but **only within their component**
- Links connecting components **MUST** be flooded, i.e. interfaces with 2 different algos on both sides **MUST** flood
  - Will lead de facto to e'one flooding on broadcast interfaces unless e'one agrees on algo



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