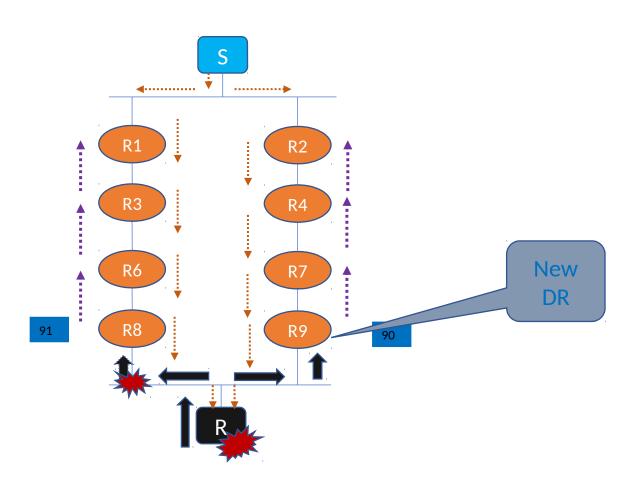# PIM Backup DR

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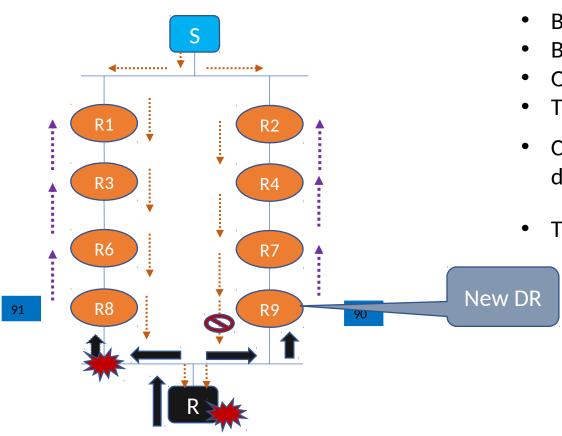
Problem Statement

- Critical multicast service can not accept traffic loss
- Can any thing be done for faster convergence ?

Data Traffic

PIM join

IGMP Join

DR priority

Have backup DR

- Backup DR (BDR) to be elected on shared LAN. It uses same algorithm defined in PIM RFC
- BDR is second best DR on LAN.
- BDR to initiate PIM join upstream.
- Only DR would be forwarding traffic on shared LAN
- Traffic resumes much faster than default one

- Current DR failed, using BFD or any other mechanism BDR detects the failure event.

- Traffic resumes much faster than default one

How it is different than "PIM DR Improvement"

- Does not require any new Hello processing .
- Easy to implement

Expectation form WG

- To look at both of the solution of same problem
- Is it worth having both solution as standard ?
- Discussion to see which could come handy in terms of implementation and deployment.
- Current Version of draft might not be covering all aspect, please bring it up so that we can cover.

If new PIM router comes in up network

- New router MUST send first PIM hello with priority 0
- After "x" (TBD) PIM hello interval, new router have visibility of complete network.
  - If it is not eligible to be DR or BDR , now send hello with configured priority
  - If eligible to be DR, start building the multicast tree. After next query interval send original configured DR. and take over as PIM DR.
  - If eligible to be BDR, start building the multicast tree. After next query interval send original configured DR. and take over as PIM DR
  - For "x" hello interval, we might have 3 copies of traffic coming from core. But in real network, does new PIM router come up so frequently that it requires different handling ?

Initial Startup Case – Multiple PIM router coming in LAN

- As discussed in previous slide, first Hello is sent with priority 0.

- But as soon as router which has originated hello with 0, starts getting other Hello with 0 priority. And there is no PIM hello with non-zero priority , very next interval every one can send its original configured Hello.

- This would have shared LAN without DR for "x"(TBD) PIM hello interval. But does it really matter ? As its time when multiple PIM router coming up first time in network. Can we live with 1 interval traffic loss ?

Question & Feedback