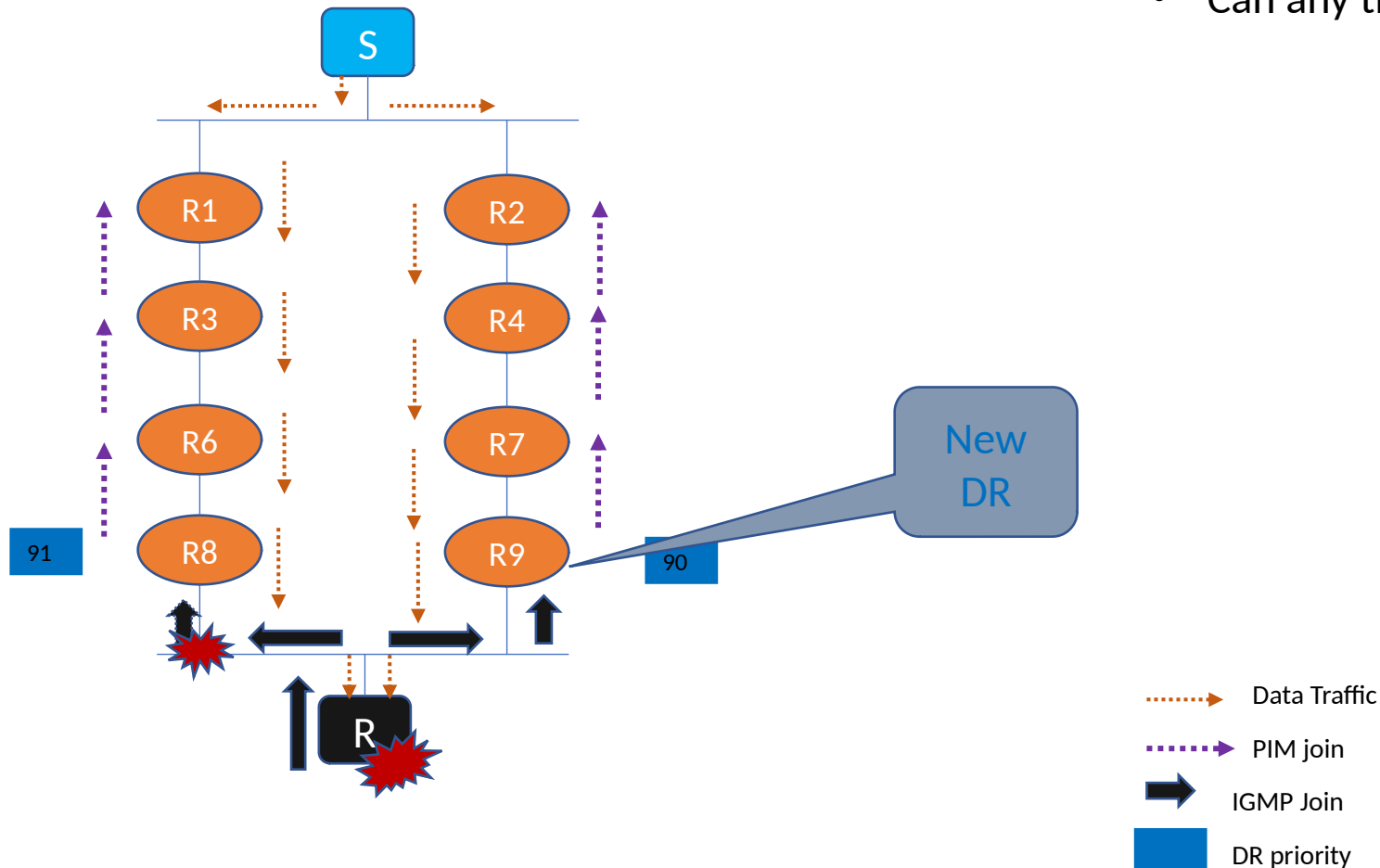


PIM Backup DR

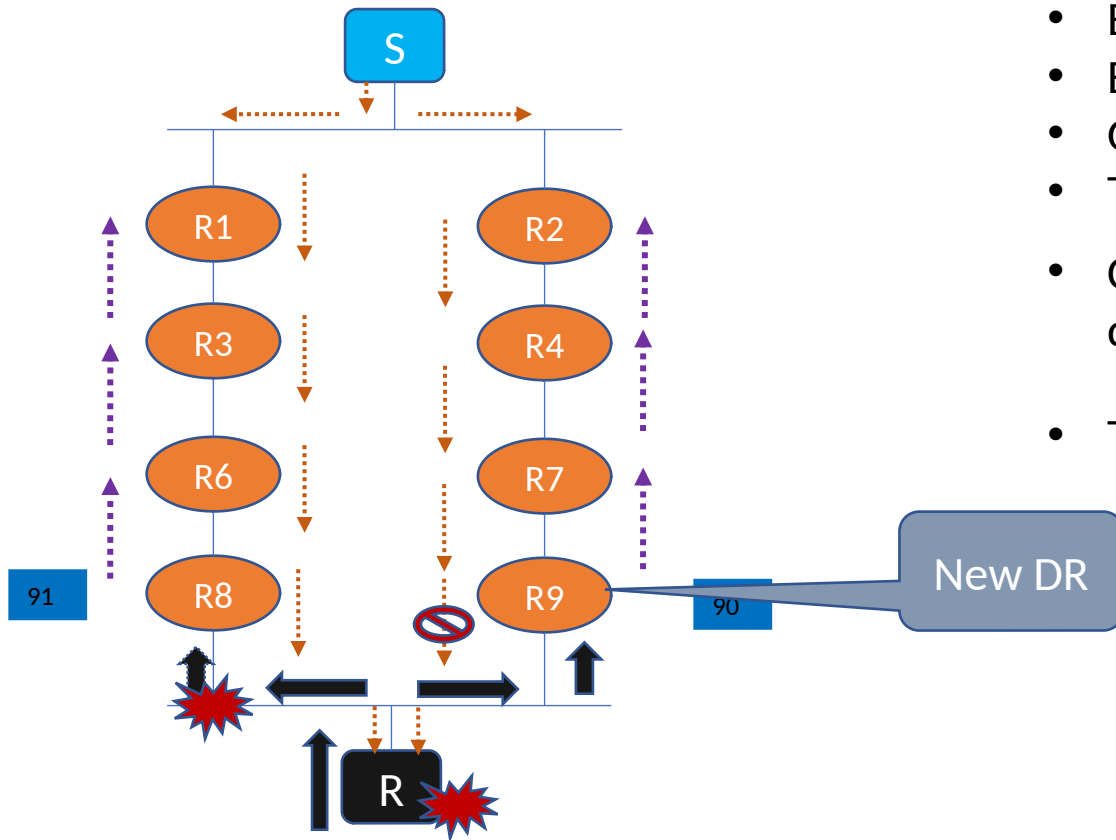
Mankamana Mishra
IETF-110

Problem Statement

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



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

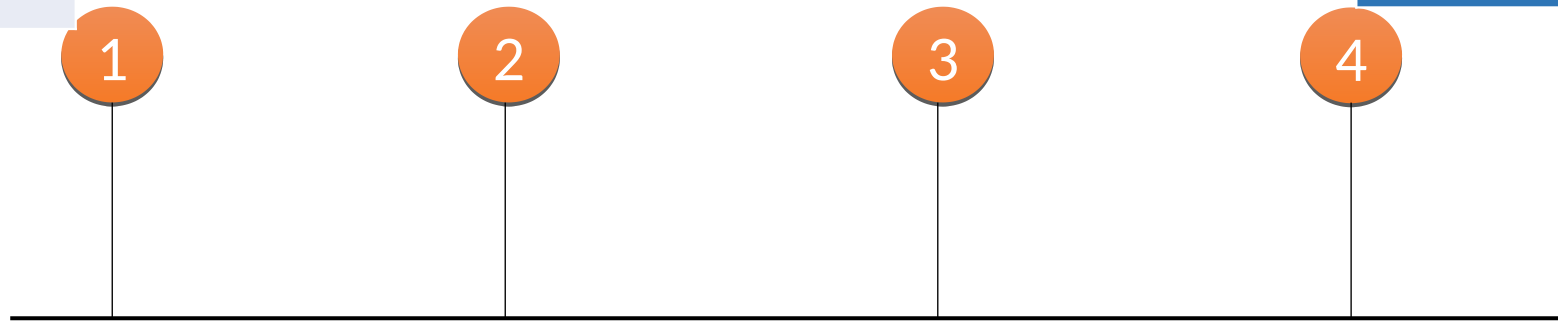
To be discussed

- There was recommendation to make it informational , will it really be case after adding sticky DR functionality.

Initial DR election

PIM NBR	DR Priority
1.1.1.1	100
2.1.1.1	200
3.1.1.1	300
4.1.1.1	400

PIM NBR	DR Priority
1.1.1.1	100
2.1.1.1	200
3.1.1.1	300
4.1.1.1	400



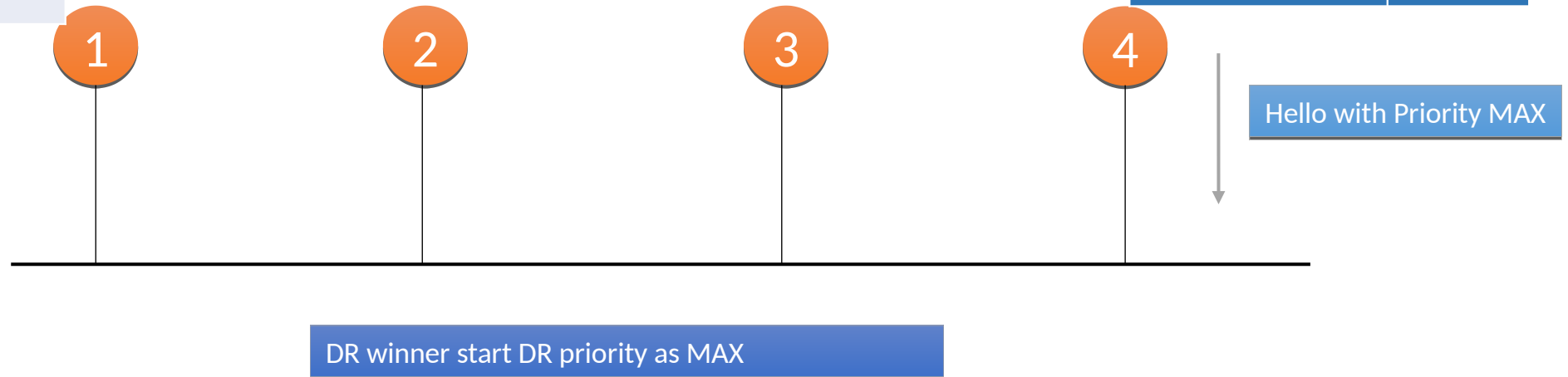
DR election happens as per RFC 7761

DR priority : R X 100. IP address: R.1.1.1

Post DR election – Max DR priority

PIM NBR	DR Priority
1.1.1.1	100
2.1.1.1	200
3.1.1.1	300
4.1.1.1	MAX

PIM NBR	DR Priority
1.1.1.1	100
2.1.1.1	200
3.1.1.1	300
4.1.1.1	400



DR priority : R X 100. IP address: R.1.1.1

Priority MAX – Reserved max possible priority for DR and non configurable

Why reserve MAX DR priority

- It avoids unnecessary churn in case user configures max DR priority accidentally.

Adjust Assert matrix

- Reserve MAX value for assert metric as well , which would make sure any accidental case where two forwarder sending traffic on LAN, only Sticky DR is also Assert winner.

Implementation

- Sticky DR has implementation on cisco routers
- Similar mechanism was seen with some other vendors too

Next step

- Add content covering sticky DR functionality based on discussion in working group.
- Call for adoption

Question & Feedback