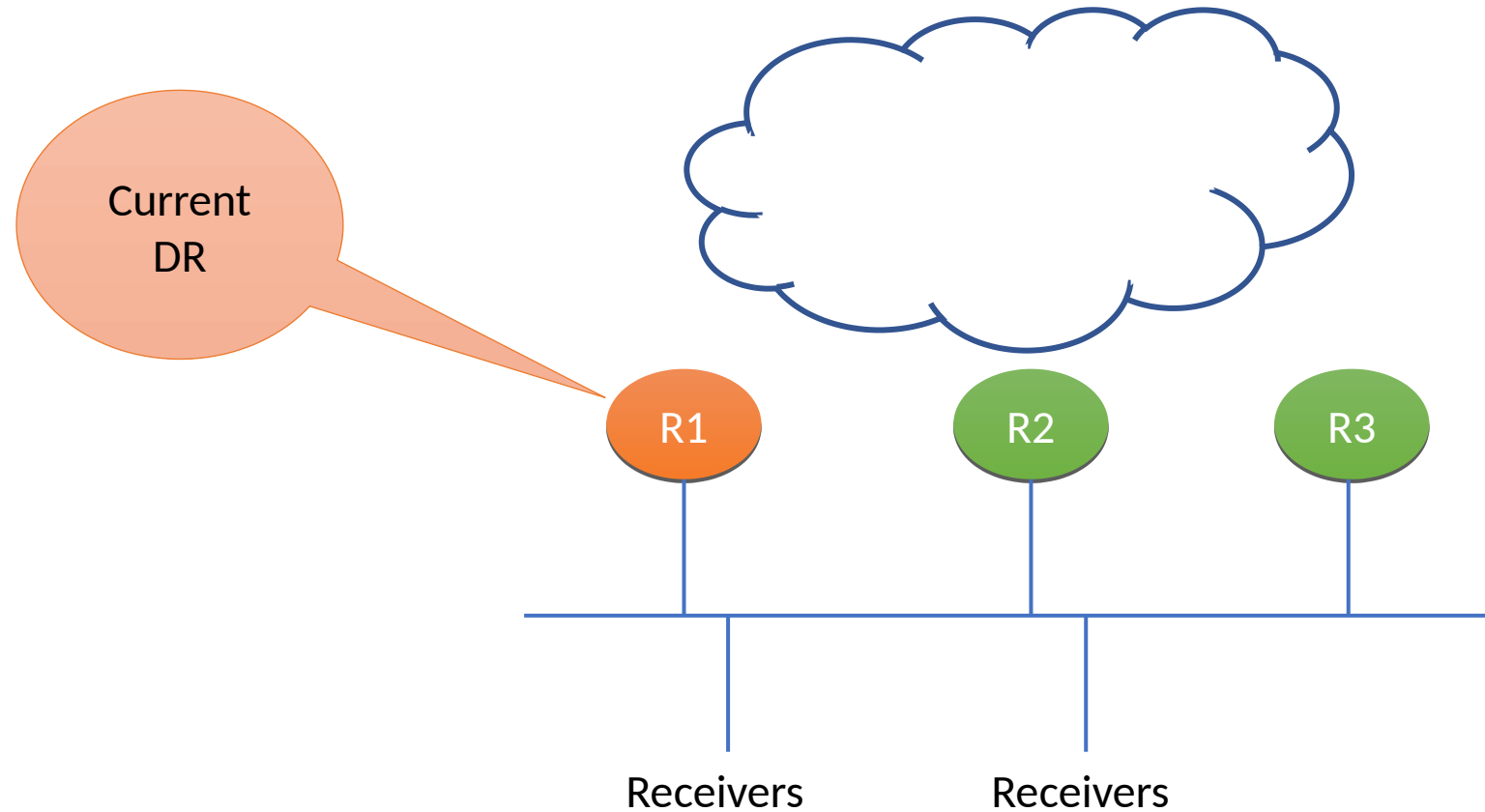


PIM Backup Designated Router Procedure

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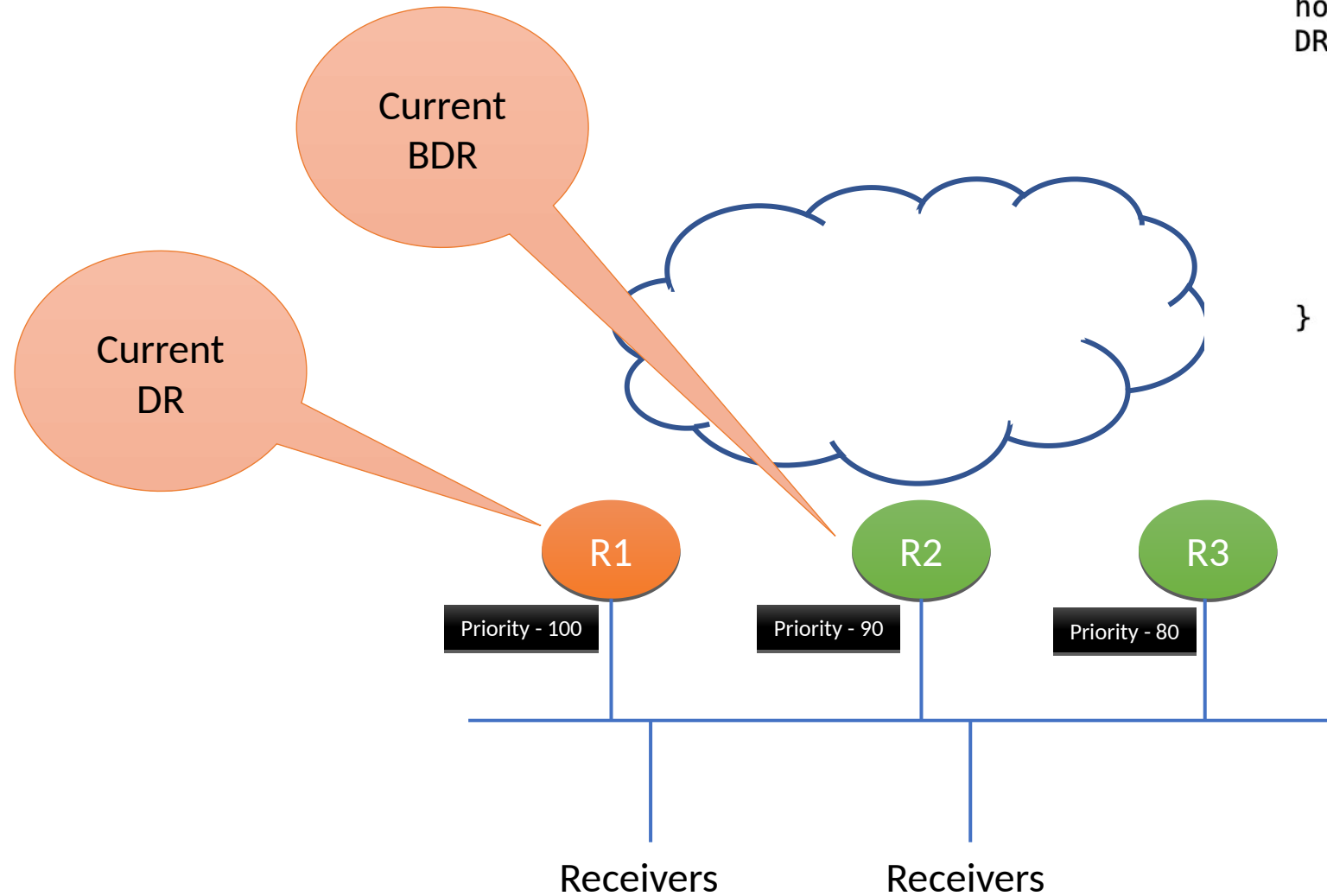
Problem Statement



- When DR fails, new DR gets elected
- New DR starts building tree
- Convergence time would depend on
 - Time taken to detect the failure
 - Time taken to reprogram locally
 - Time taken to build tree

Some deployments are having time sensitive traffic and do not want to depend on new DR election. So there is need to have backup DR , which can build tree and does not forward the traffic to access.

Backup DR election



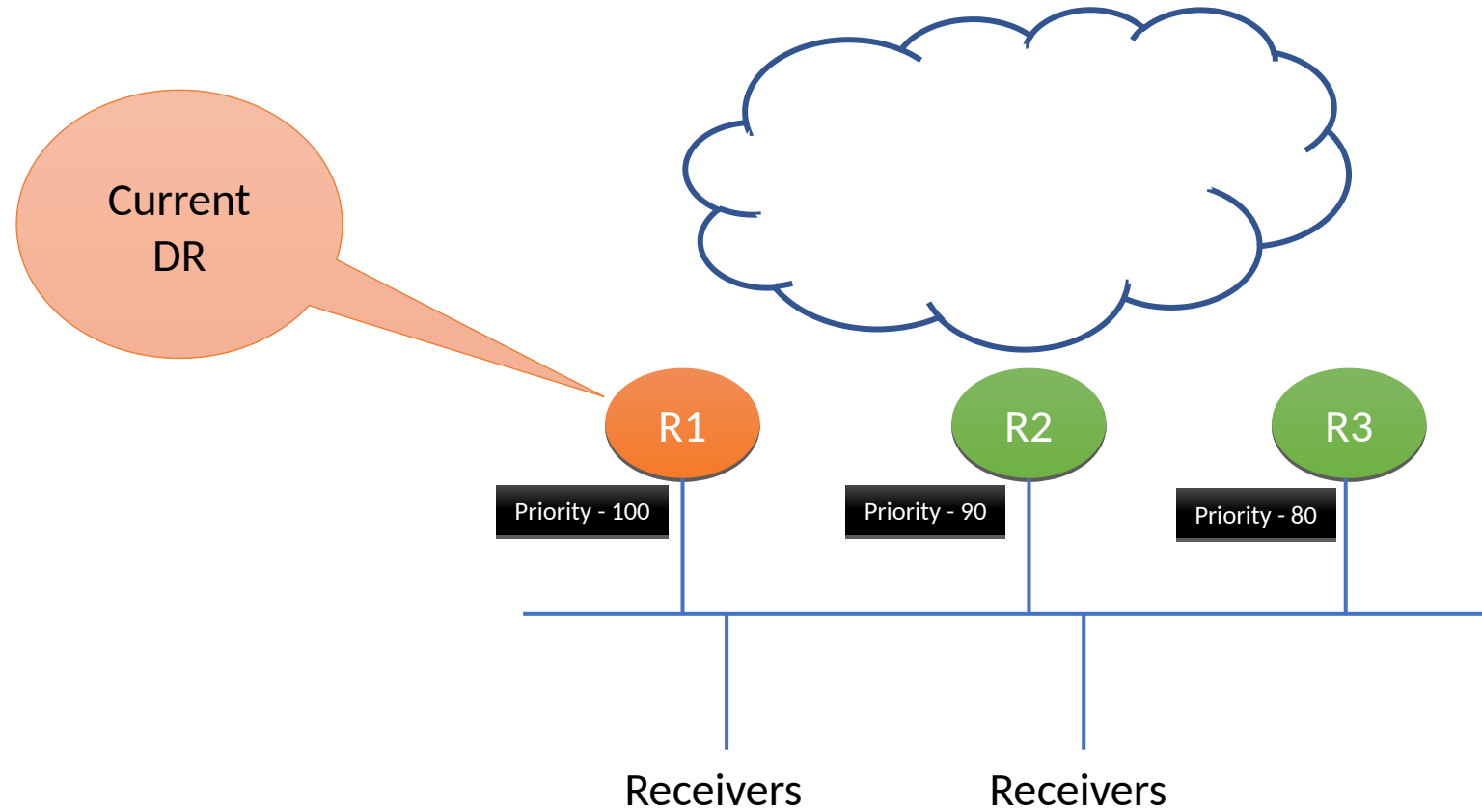
```
host
DR(I) {
  dr = me
  for each neighbor on interface I {
    if ( dr_is_better( neighbor, dr, I ) == TRUE
        dr = neighbor
    }
  }
  return dr
}
```

Use same algorithm which is defined in RFC 7761 to elect PIM DR, and 2nd best node becomes BDR

Sticky DR - Why ?

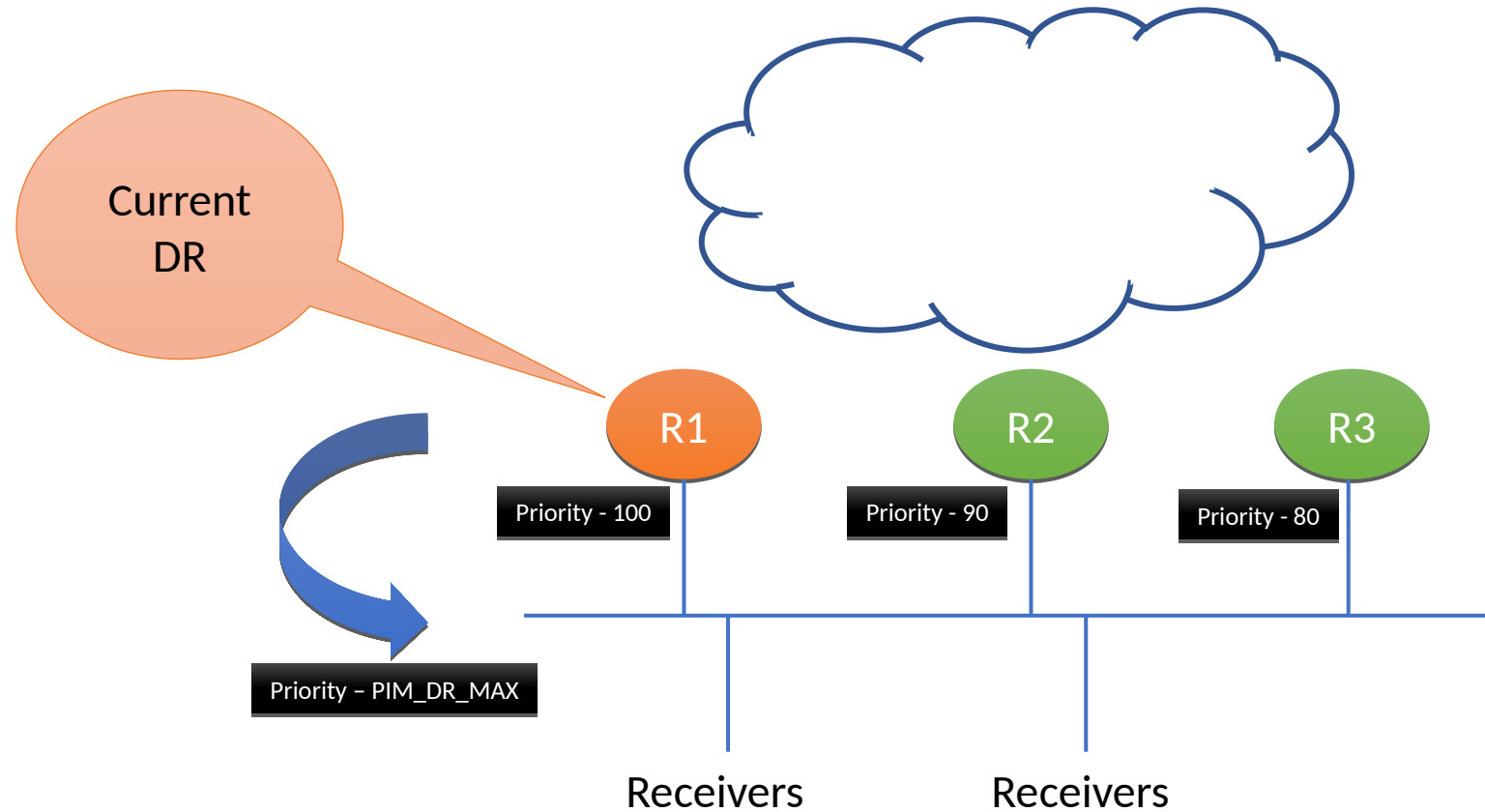
- There are deployments which do not want accidental config to cause DR re-election and churn in network.
- As of now, if new PIM router comes up in network with higher priority, it would cause DR re-election and lead to churn in access network, new tree setup and possibly traffic loss

Sticky DR Procedures – Step1



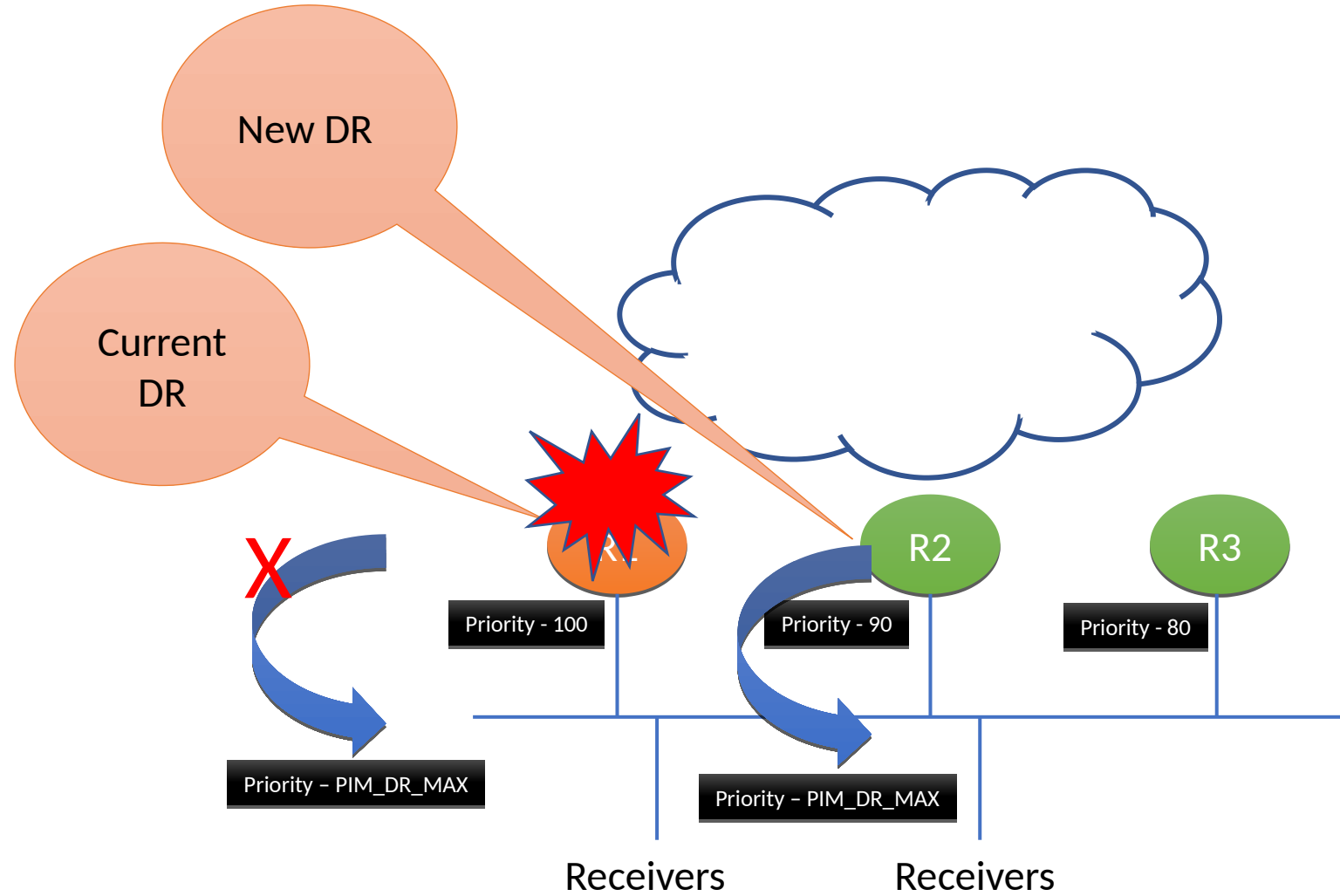
DR election happens as per current standard.

Sticky DR Procedures – Step2



- Once DR is elected, it announce PIM_DR_MAX priority.
- Even if new router comes up with priority more than 100, it does not cause re-election

Sticky DR – DR Fails



- Existing DR fails
- New DR takes over the DR role
- New DR now starts sending priority as PIM_DR_MAX

Implementation

- Cisco has implementation of this procedures

IANA Consideration – Discussion needed with WG

- Reserve PIM_MAX_DR value
- Do we need to send option in Hello for PIM Sticky DR support (we may not this as long as priority is taken care of)

