

# LDP Extensions for MRT-FRR

draft-atlas-mpls-ldp-mrt-00

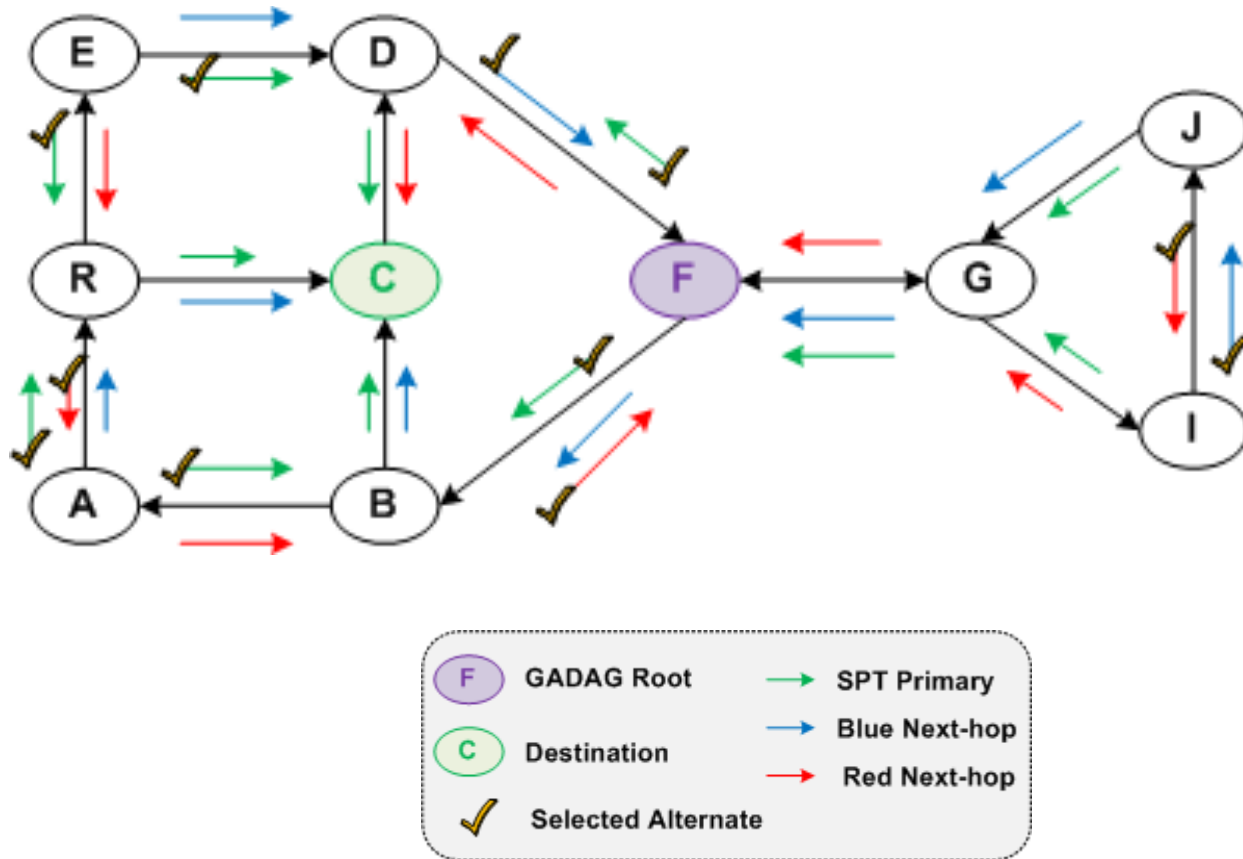
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# What is MRT-FRR?

- A 100% coverage fast-reroute solution for IP/LDP traffic using Maximally Redundant Trees (MRT).
  - Can support unicast and multicast traffic
- Related Drafts:
  - draft-ietf-rtgwg-mrt-frr-architecture-03
  - draft-enyedi-rtgwg-mrt-frr-algorithm-03
  - draft-atlas-ospf-mrt-00
  - draft-atlas-mpls-ldp-mrt-00 (this one)
  - draft-ietf-mpls-mldp-node-protection-00 (aka draft-wijnands-mpls-mldp-node-protection-04)
- Uses multi-topology forwarding – via LDP labels

# Quick MRT Example



Labels to Destination C

LSR	SPT	Blue MRT	Red MRT
A	100	200	300
B	101	201	301
<b>C</b>	<b>102</b>	<b>102</b>	<b>102</b>
D	103	203	303
E	104	204	304
F	105	205	305
G	106	206	306
I	107	207	307
J	108	208	308
R	109	209	309

# What is needed from LDP

- New Capability
  - need to know that peer supports MRT and its use of MT-FECs.
- For inter-area/inter-level case, need to signal different label for same (MT-ID, IP Prefix)
  - Define “Rainbow MT-ID” – indicates supplied label applies to
    - All (Blue MT-ID, IP Prefix),
    - All (Red MT-ID, IP Prefix), and
    - (MT-ID = 0, IP Prefix)
  - Can also use Rainbow MT-ID as egress
  - Means same label always advertised for same MT-FEC, but different MT-FECs may be sent to different neighbors.

# Summary and Next Steps

- Limited modifications to LDP
- MRT-FRR architecture fairly mature, so defining protocol extensions
- Interested in progressing as a WG draft