

orhanergun.net	IP FRR	MPLS TE FRR
Scalability	More Scalable	Less Scalable, Uses RSVP for label distribution and tunnel creation, RSVP is soft state and refreshing the tunnel state is resource intensive
Working on Full Mesh	Works very well since IP FRR mechanisms need topology to be highly meshed to find an alternate path	Works very well because if the constraints are met TE FRR can find an alternate path in any topology
Working on a Ring Topology	Works very bad, it requires tunnelign mechanisms such as GRE or MPLS to find a node which will not send the traffic back	It already uses tunnel so can protect link, node or entire path in ring topology as well
Working on a Square Topology	Worst topology for IP FRR mechanisms since to find a node which won't send the traffic back requires extra processing	Finding an alternate tunnel is same as the other topologies
Suitable on Wide Area Networks	Yes	Yes
Standard Protocol	LFA,Rifa,TI-LFA Cisco Proprietary	Yes IETF Standard
Stuff Experince	Not well known	It has been out there quite some time and deployed on many network, it is known
Link Protection	Yes	Yes
Node Protection	Yes	Yes
Path Protection	No	Yes
Complexity	Easy	Complex
SRLG Protection	No	Yes
Maturity	Very new technology, not commonly used by the industry	Very old technology, used in many ISP, VPN-SP, Mobile SP and some large Enterprise networks for years
Control Plane Protocols	IP, It uses IPv4 or IPv6 routing control plane only for it's operation	IPv4 routing control plane and RSVP-TE is used as a control plane
Resource Requirement	Minimum	Too much
IPv6 Support	Yes	No
Coverage	Generally bad. If the topology highly meshed it is good, otherwise finding a repair/alternate path is very hard, link metrics should be arranged very carefully	It can cover every topology, ring,square,partial-mesh, full-mesh can be covered %100
Load Balancing over the backup path	If there are multiple repair/backup node, traffic can be shared between them	If there are multiple repair/backup node, multiple tunnels need to be created for load sharing
Training Cost	Cheap	Moderate
Troubleshooting	Easy	Hard
Routing Loop	Finds a node which won't send the traffic back via Reverse SPF. Reverse SPF allows the node to calculate the SPF for its neighbor point of view, same concept is used in BGP Optimal Route Reflector placement as well	It uses MPLS in the dataplane, receives a label over the protection tunnel. Creating a loop in MPLS is almost impossible