

| 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 |