

Ingress Protection

What Problem Are We Trying to Solve?

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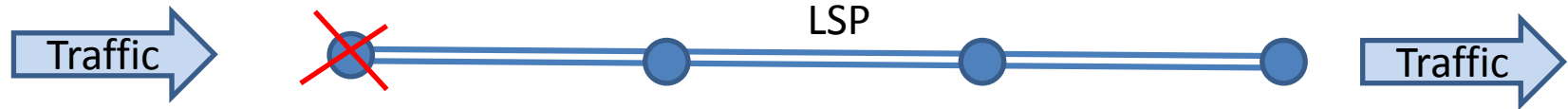
History

- Ingress protection has been discussed since at least 2010
 - draft-chen-mpls-p2mp-ingress-protection
 - draft-torvi-mpls-rsvp-ingress-protection
 - draft-ietf-mpls-rsvp-ingress-protection
 - draft-ietf-teas-rsvp-ingress-protection
- We still have very inconclusive debate about the solutions
 - 90 minute interim meeting Jan 28th, 2016
 - <https://www.ietf.org/proceedings/interim/2016/01/28/teas/minutes/minutes-interim-2016-teas-1>
- Several different solutions offered
- Lack of clarity in objectives leads to inability to select one solution

Objectives Today

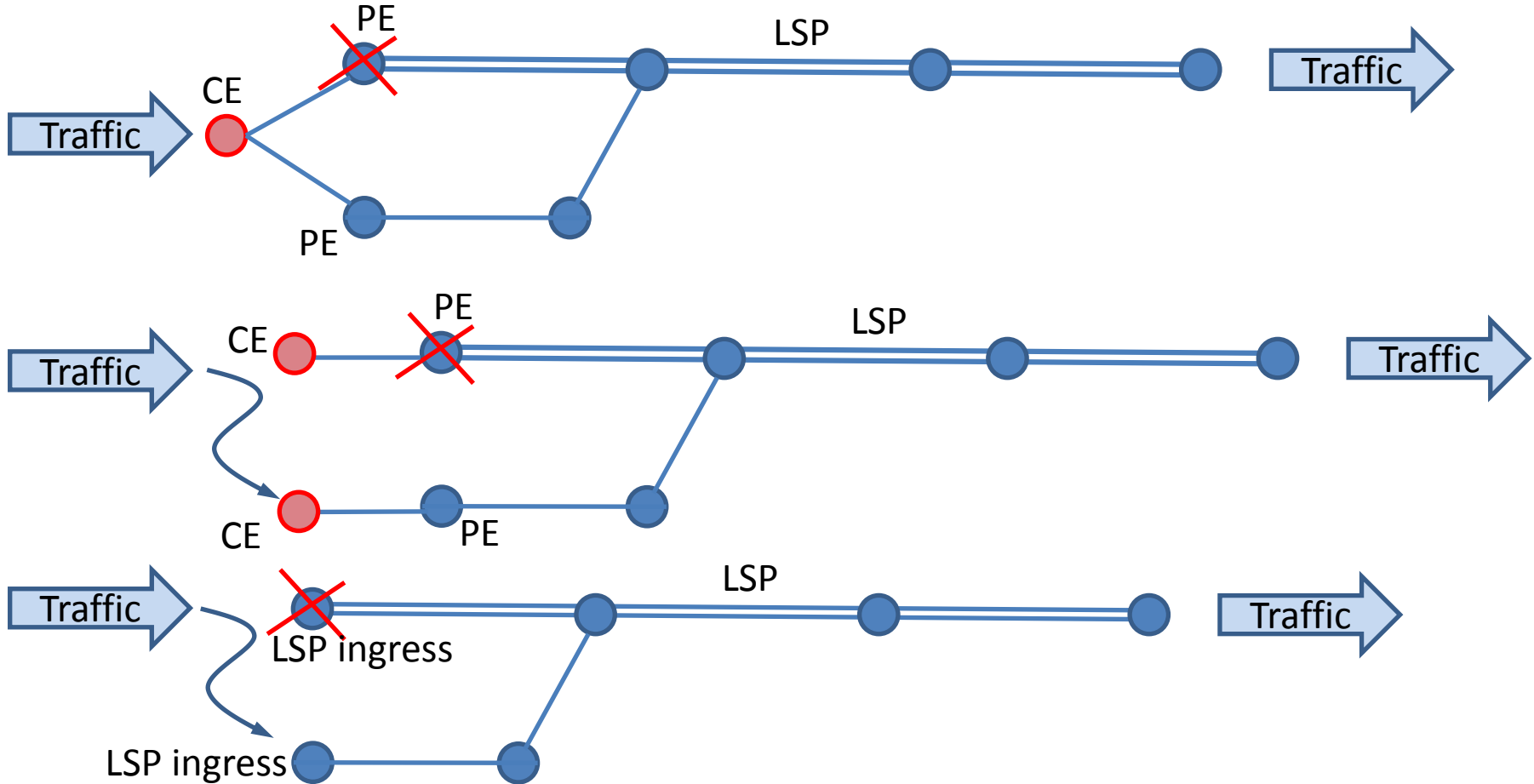
- Highlight the scope of the problem to be solved
- Reach some agreement about what is in scope and what is out of scope
- Non-objectives
 - Make progress discussing solutions
(That is for the proponents of solutions to do)
- Beware!
 - Some solutions may be better or worse in some scenarios
 - Do not pick the problem scope to suit the solution!

High-Level View – Please Discuss!



- A “local” failure
 - LSP ingress fails
 - First hop failure is out of scope
 - Can be handled by existing mechanisms (such as FRR)
- Objectives
 - Continue to deliver traffic
 - Minimise repair time
 - Re-use network resources
 - Minimise steady-state network state

Traffic Diverted to Another Ingress



- Dual-homed CE is definitely in scope
 - Allows CE-PE link failure to be in scope as well
- Are we considering other cases?
- No comment yet on “inside” the network

What Happens Inside the Network?

- This is the debate about solutions
 - Lots of options
 - Bypass tunnel
 - MP2P segment
 - Segment protection
 - End-to-end protection
 - Etc., etc., etc.
 - Not my objective to resolve this discussion
- But...
 - It will be helpful if we clarify the objectives...

Objectives Inside the Network

- Don't contend for resources with the protected LSP
- Rapid repair
- Scale state in the network
- <your requirement here>

Did Anyone Mention Fault Detection?

- Upstream point needs to know how to route traffic
- May need to know when to set up repair path
- Implies some form of fault detection and propagation
 - Considerably dependent on the scenario
 - Might not depend on the solution technology