draft-ietf-mpls-sfc
Discussion of Open Issues
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(for the authors)
Several Points were Raised On List

• Purpose today is to:
  – Show changes made to address these points
  – Allow discussion (if you want)
  – Change resolutions (if necessary)

• The points were (see next slides):
  – Why have this technology?
    • Is a brown-field MPLS/SFC deployment realistic?
  – What are the use cases?
  – Resolve the conflict/overlap with SR-MPLS/SFC
Brownfield MPLS/SFC

- Get SFC function deployed in today’s MPLS networks
  - NSH-unaware SFFs
  - Not an end goal: just a migration strategy
    - Not competing with NSH

- Added clarifications in Abstract and Introduction
- Added Section 14 to describe a way this could be achieved
  - This is not normative and not recommended
  - Just a proof of concept
Explain the Use Cases

• How do you use the technology?
• New Section 4 identifies 5 cases
  – Label swapping to model the NHS in MPLS labels
  – Fine control of choice of SFI by stacking labels
  – Hierarchical SFC by modelling nested NSHs with a label stack
    • Allows the concatenation of chains
  – Concatenation of “Micro-Chains”
    • Reductio ad absurdum of the previous
  – SR-MPLS
    • Specifically out of scope for this document
    • Reader is directed to draft-xuclad-spring-sr-service-chaining

• This leads to the question about the fourth case
  – (next slide)
Are Micro-Chains Actually SR-MPLS?

• The MPLS WG had never discussed “Label Stacking” in a draft (never mind an RFC) prior to the introduction of Segment Routing
  – Using the label stack as a method to do source routing via only popping labels, with no label swapping along the path
  • Let’s not have this debate?
  • I’m not an archivist, but hierarchical LSPs, PW labels, VPN labels, PHP, pop-and-go ...

• AFAICS micro-chains are a consequence of supporting hierarchical SFC

• Possible ways around this
  – Remove micro-chain discussion (delete section 4.4)
    • The function is still logically available, but just not explicitly highlighted
  – Explicitly forbid micro-chains
    • Where do you draw the line? Allow two-hop chains but not one-hop chains?
    • How would you police it?
    • Does it mean you have to forbid hierarchical SFC?
  – Add text to point single-hop micro-chains to SR-MPLS
  – Accept that SR-MPLS is not only a data plane but requires a control plane, and leave the text as is
What now?

• Discuss and close off these issues
  – Preferably in a way that means we don’t keep reopening the discussions
• Raise new issues and editorials
  – Business as usual
• Move on to completion
  – Business as usual
Backup slides : Use cases
Swapping Use Case

Tunnel Labels
- SFC Context Label = SPI
- Service Function Label = SI
- Payload
Concatenated SFCs

- Top labels for first SFC
- When the SFC ends, the labels for the next SFC are uncovered
Fine Control of SFI

• There may be multiple SFIs of the same type at an SFF
  – Choice may be load balancing

• Use concatenated SFCs to achieve control of choice of SFIs
  – Second stack entry allows Classifier to direct choice