Advanced Multipath

(formerly Composite Link)

Requirements for Advanced Multipath in MPLS Networks
Advanced Multipath Use Cases and Design Considerations
Advanced Multipath Framework in MPLS

Ning So (Tata Communications)
Andrew Malis (Verizon)
Dave McDysan (Verizon)
Lucy Yong (Huawei USA)
Curtis Villamizar (OCCNC)
Eric Osborne (Cisco)

Status of Advanced Multipath WG Documents

- Requirements for Advanced Multipath in MPLS Networks
  draft-ietf-rtgwg-cl-requirement-16
  - RFC Editor's queue - no missing normative refs
- Advanced Multipath Use Cases and Design Considerations
  draft-ietf-rtgwg-cl-use-cases-05
  - in WGLC- comments from WG would be nice
- Advanced Multipath Framework in MPLS
  draft-ietf-rtgwg-cl-framework-04
  - expired but major update in progress
  - can be significantly simplified (and made shorter)

Work Cited by Advanced Multipath Framework

- TE metric extensions (delay, jitter, loss) and te-express-path are all WG docs
- Routing and multipath stability document to be submitted shortly - can remove text from framework and cite this
- No draft for heterogeneous component link groups - New draft to be roughly based on draft-ospf-cc-stlv-00
- No candidates for some of other topics discussed in CL Framework - but the list is getting shorter

Resolved Document Issues

1. Feasibility of symmetric paths - requirements wording changed to eliminate feasibility issue
2. Stability discussions in framework - cite "stability" draft
3. Routing based on jitter requirements - cite "stability" draft
4. Replacement for [ospf-cc-stlv] planned
5. MPLS multipath use document in RFC Editor's queue

Unresolved Document Issues

1. Multi-domain work is likely to get deferred (insufficient evidence of interest)
2. Incremental deployment still not adequately covered
3. Performance of extensions to IGP not adequately covered - replacement for [ospf-cc-stlv] may address this
4. How far to go with extensions to account for traffic to support IP and LDP is unresolved

Other Simplifications

1. Flow Identification - cite MPLS forwarding and MPLS Multipath Use (both in RFC Editor's queue)
2. Classic multipath is now well described in MPLS forwarding as well as Use Cases
3. It might help to separate last part of framework:
   (a) Requirements for which documents exist and are completed or advancing at time of writing
   (b) Requirements for which documents are planned
   (c) Requirements with no documents planned

Summary of Framework Status

- Progress has been made in other documents
- Planned new documents will clear up some issues
- Some discussion of open issues can be removed
- Next iteration should look more like a framework and less like an open ended discussion of the requirements
- Convergence on the framework may occur with some requirements deferred due to limited interest