SPRING (Source Packet Routing in Networking) WG

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Chairs: Bruno Decraene, John Scudder

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Charter Progress

"The SPRING working group is chartered for the following list of items:

- Identification and evaluation of use cases for SPRING. These use cases must include a definition of the data plane for the environment in which they are to be deployed.
- Definition of requirements for any new data plane encodings and procedures, required to implement the use cases. Such procedures must include the necessary security considerations.
- Definition of requirements and if necessary any new control plane mechanism needed to enable the use cases.
- Definition of requirements and if necessary management plane mechanisms needed to manage and operate a SPRING enabled network."

Milestones, Drafts

- Attempted to categorize drafts that are candidates to complete a milestone
- Best-effort, drafts may be missing or mis-categorized!
- No judgment implied about WG acceptance!

Use Cases

"Identification and evaluation of use cases for SPRING. These use cases must include a definition of the data plane for the environment in which they are to be deployed."

- "Jul 2014 - One or more documents describing SPRING use cases."
  - draft-ietf-spring-ipv6-use-cases, draft-ietf-spring-problem-statement, draft-ietf-spring-resiliency-use-cases, draft-filsfils-spring-segment-routing-msdc, draft-geib-spring-oam-usecase, draft-filsfils-spring-segment-routing-central-epe

draft-ietf-spring-problem-statement

- WGLC completed some time ago
- Awaiting document update for shepherd comments

Data Plane Encodings [1]

"Definition of requirements for any new data plane encodings and procedures, required to implement the use cases. Such procedures must include the necessary security considerations."

- Nov 2014 - Specification of a high-level abstract architecture for SPRING.
  - draft-ietf-spring-segment-routing
- Dec 2014 - Requirements for modifications if any to MPLS architecture to support SPRING use cases.
  - N/A
- Jan 2015 - Requirements for modifications if any to IPv6 architecture to support SPRING use cases.
  - N/A

Data Plane Encodings [2]

- Mar 2015 - Specification of any required new procedures to support SPRING use cases.
- Jul 2015 - One or more data plane extension requirements documents, including documenting the impact on existing deployments of the existing data planes.
  - Requirements – implicit in architecture + data plane extension documents?
  - draft-ietf-spring-segment-routing-mpls, draft-ietf-mpls-spring-entropy-label
  - draft-previdi-6man-segment-routing-header

Control Plane

"Definition of requirements and if necessary any new control plane mechanism needed to enable the use cases."

- Jul 2015 - One or more control protocol extensions requirements documents.
- Requirements – implicit in architecture + control plane extensions?
  - draft-ietf-isis-segment-routing-extensions, draft-ietf-ospf-segment-routing-extensions, draft-ietf-ospf-ospfv3-segment-routing-extensions, draft-keyupate-idr-bgp-prefix-sid, draft-previdi-idr-bgpls-segment-routing-epe, draft-ietf-pce-segment-routing, draft-sivabalan-pce-lsp-setup-type, draft-francois-spring-segment-routing-ti-lfa

Management Plane

"Definition of requirements and if necessary management plane mechanisms needed to manage and operate a SPRING enabled network."

- Jul 2015 - Management requirements document.
  - draft-litkowski-spring-sr-yang, draft-hu-spring-yang
- Nov 2015 - Specify the OAM mechanisms needed to support SPRING.
  - draft-kumar-spring-sr-oam-requirement, draft-kumarkini-mpls-spring-lsp-ping, draft-mirsky-mpls-bfd-directed, draft-akiya-bfd-seamless-sr
  - IPv6 ?

Interworking

- Nov 2015 - Document inter-working and co-existence between the new procedures and the existing signalling and routing protocols.
  - draft-filsfils-spring-segment-routing-ldp-interop
  - draft-bowers-spring-advertising-lsps-with-sr ?
  - draft-gredler-idr-bgp-ls-segment-routing-extension

Coordination with 6man and MPLS

"The initial data planes that will be considered are MPLS and IPv6."

- draft-previdi-6man-segment-routing-header and draft-vyncke-6man-segment-routing-security presented at 6man on Monday
  - 6man WG adoption requested
  - Please consider contributing on 6man mailing list

WG Plan

- Update milestones (dates, draft names, etc)
- Work to move use cases documents forward
- … then architecture documents
- Coordinate with other WGs as needed (notably MPLS, 6man)
- Not seeking additional use cases unless they impact requirements/architecture

Agenda

- Update on WG drafts — 10 minutes
  Stefano Previdi
- Bidirectional Forwarding Detection (BFD) Directed Return Path
  draft-mirsky-mpls-bfd-directed-03
  Greg Mirsky — 5 minutes
- YANG Data Model for Segment Routing (I) — 10 minutes
  draft-litkowski-spring-sr-yang-00
  Stéphane Litkowski
- YANG Data model for Segment Routing (II) — 10 minutes
  draft-hu-spring-yang-00
  Fangwei Hu
- Entropy Label for SR-MPLS — 5 minutes
  draft-ietf-mpls-spring-entropy-label-00
  Sriganesh Kini
- Multi-Topology (MT) Segment in Segment Routing — 5 minutes
  draft-li-spring-multi-topology-segment-00
  Eric Wu