IETF 110
SPRINGSR Compression
Design Team Report

draft-srcompdt-spring-compression-requirement
draft-srcompdt-spring-compression-analysis

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The design team is to produce (rough) consensus (of the DT) outputs to the WG on two related topics:

1) What are the requirements for solutions to compressing segment routing information for use over IPv6;

On-Going -05 version

2) An analysis of proposed approaches to compressing segment routing information for use over IPv6.

On-Going -00 version

Status of Requirements draft

- The latest revision is -05, which included all the requirements we've received, only three of which with rough but not unanimous consensus in design team was put in the appendix
- Compared to revision -02, the blue highlighted items were moved to main text from appendix due to consensus in DT; the red highlighted items were new added.

3. SRv6 SID List Compression Requirements
3.1. Dataplane Efficiency and Performance Requirements
3.1.1. Encapsulation Header Size
3.1.2. Forwarding Efficiency
3.1.3. State Efficiency
4. SRv6 Specific Requirements
4.1. SRv6 Based
4.2. Functional Requirements
4.2.1. SRv6 Functionality
4.2.2. Heterogeneous SID lists
4.2.3. SID list length
4.2.4. SID summarization
4.3. Operational Requirements
4.3.1. Lossless Compression
4.3.2. Preservation of non-routing information
4.3.3. Address Planning
4.4. Scalability Requirements
4.4.1. Adjacency segment scale
4.4.2. Prefix segment scale
4.4.3. Service Scale
4.4.4. Compression Levels
5. Protocol Design Requirements
5.1. SRv6 Base Coexistence
5.2. PS or BCP Compliance
6. Security Requirements
6.1. Security Mechanisms
6.2. SR Domain Protection
Appendix A. Proposed Requirements
A.1. IPv6 Based
A.2. Point to Multipoint
A.3. Parsability

Next Steps for Requirements draft

- **SPRING WG Review**
- **SPRING WG adoption?**

Status of analysis draft

Based on the requirements draft, we post an analysis template (introduction, template format).
https://datatracker.ietf.org/doc/draft-srcompdt-spring-compression-analysis/

The following mechanisms are proposed to be analyzed in analysis draft

CSID	*Draft-filsfilscheng-spring-srv6-srh-comp-sl-enc*	Describes two new SRv6 SIDs, a combination of SIDs from [draft-filsfils-spring-net-pgm-extension-srv6-usid] and [draft-cl-spring-generalized-srv6-for-cmpr]
CRH	*Draft-bonica-6man-comp-rtg-hdr*	Requires two new routing header types and a label mapping technique
VSID	*Draft-decraene-spring-srv6-vlsid*	Defines a set of SID behaviors to access smaller SIDs within the SR header
UID	*Draft-mirsky-6man-unified-id-sr*	Extends the SRH to carry MPLS labels or IPv4 addresses

Analysis Completion Plan

What we've done:

Feb 3	Analysis template (introduction, template format) proposed to srcomp@ietf
Feb 11	First analysis text proposed to srcomp@ietf
Feb 12	Decided to analyze 4 proposals (CSID,CRH,VSID,UID)
Feb 17	Team reviewed draft text, decided to complete requirements firstly
March 6	Requirements completed, revision 05 submitted, the key input for analysis

Rough plan:

Mid April	**Complete remaining analysis text proposal for DT review**
Late May	**Review and submit a new revision for IETF SPRING WG & 6 MAN WG review**

Comments & Questions?