

Segment Routing IGP Flexible Algorithms

Interoperability Results



MPLS World Congress
April 2019



Why are we here?

- Provide an overview of SR IGP Flexible Algorithm (FA) interop testing conducted at EANTC 2019
- Network operators shared their use cases @ MPLS WC 2018 ... a year later vendors get together - **FIRST public interop in the industry !!!**
- But what is Flex Algo?



SR Flex Algo – What is it?

IGP Prefix SID

- Follows shortest-path to IGP prefix (min IGP metric)
 - SR ALGO 0

IGP “Flex Algo” Prefix SID

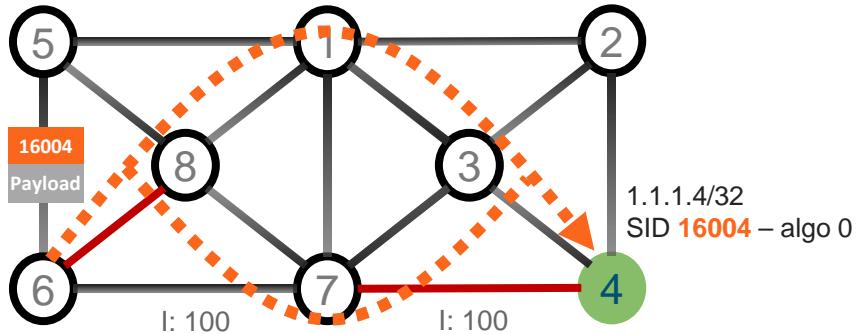
- Allows IGP to compute constraint based paths
- A custom IGP Prefix-SID
- Follows shortest-path to IGP prefix based on operator-defined algorithm
 - SR FLEX ALGO K



SR Flex Algo – What is it?

IGP Prefix SID

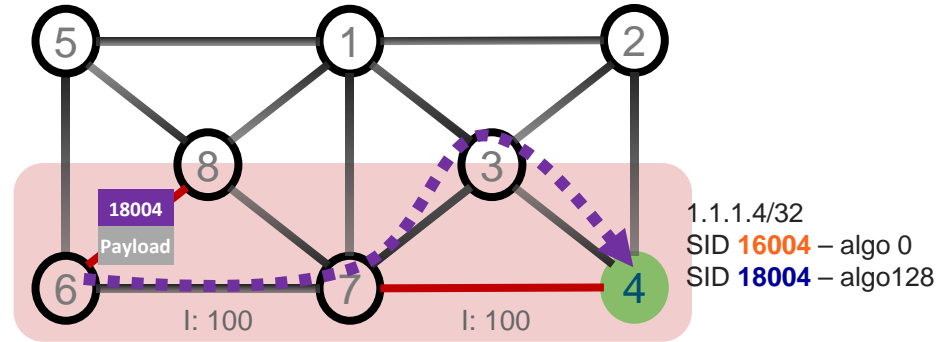
- Algo 0
- Entire topology



Default IGP
link metric: l:10

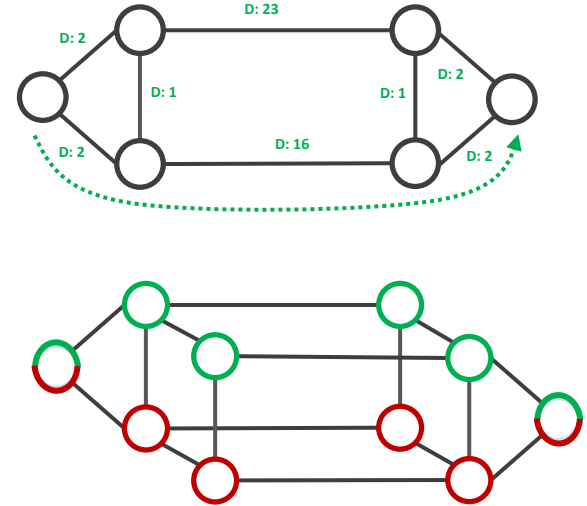
IGP Flex Algo Prefix SID

- Example: Algo 128 → min-IGP / exclude RED links
- Defined in a subset of routers



SR Flex Algo – Use Cases




- Network Slicing
 - High Bandwidth
 - Low Latency
 - Secured (encrypted)
- Multi-Plane networks





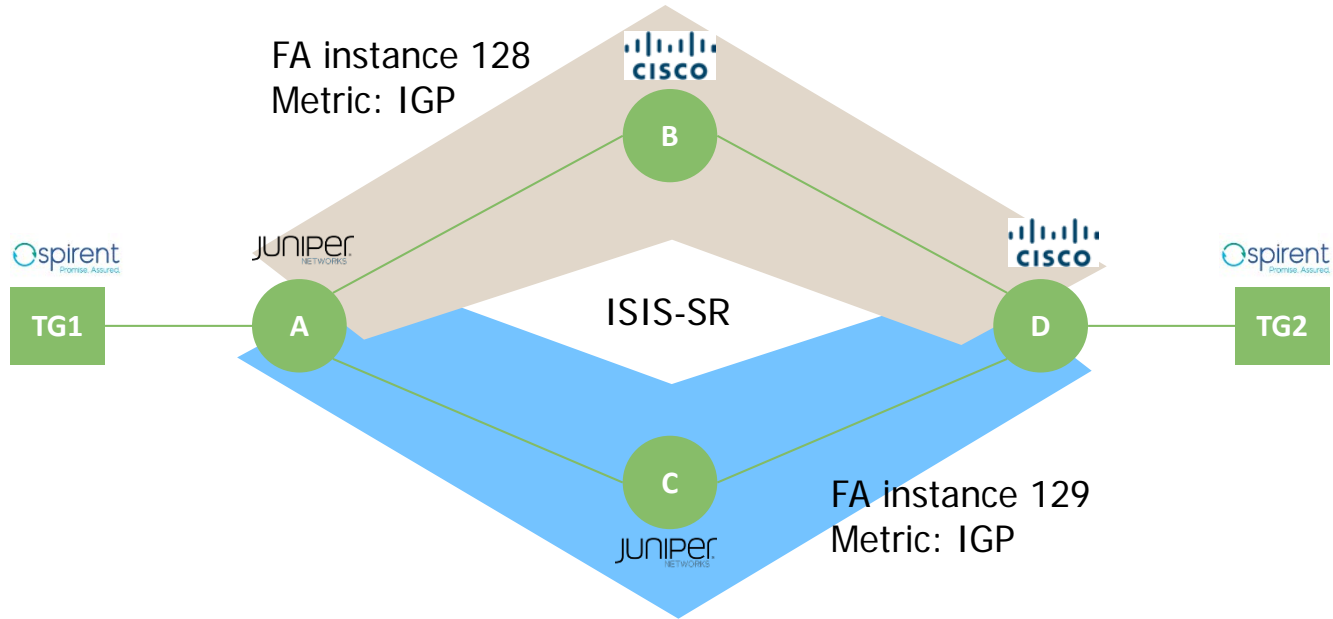
- What was successfully tested?
 - Flex Algo definition (FAD) advertisement via ISIS
 - [draft-ietf-lsr-flex-algo](#)
 - Segment Routing MPLS Forwarding for FA paths

Participants

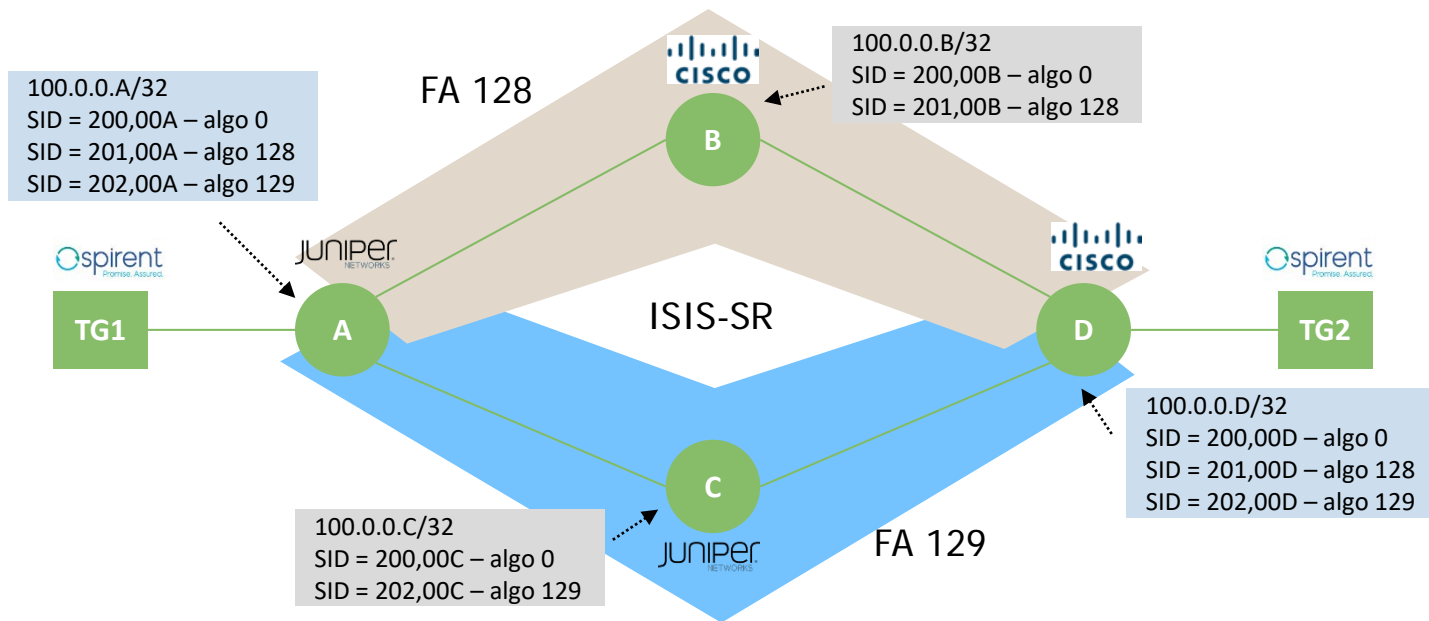
Vendor	Model	Role
	NCS 5500, ASR 9901	PE, P
	MX-204, MX-480	PE, P
	TestCenter	CE



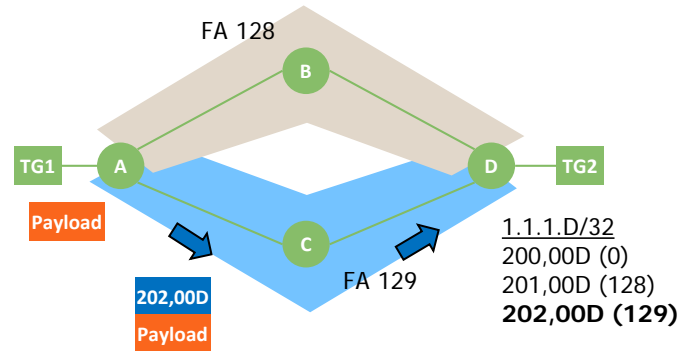
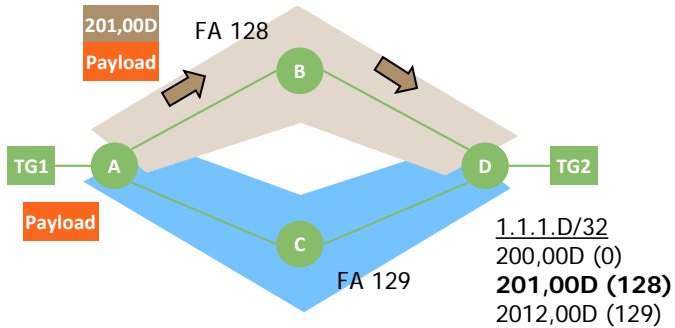
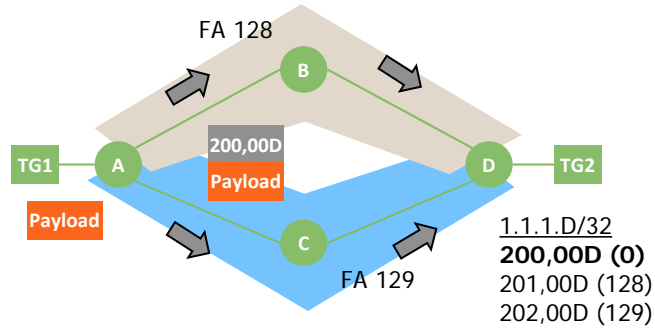
Topology Setup



Topology Setup



Topology Setup



Let's watch the demo !!!



THANK YOU

