BGP Link-State Information Distribution Implementation Report
draft-gredler-idr-ls-distribution-impl-00

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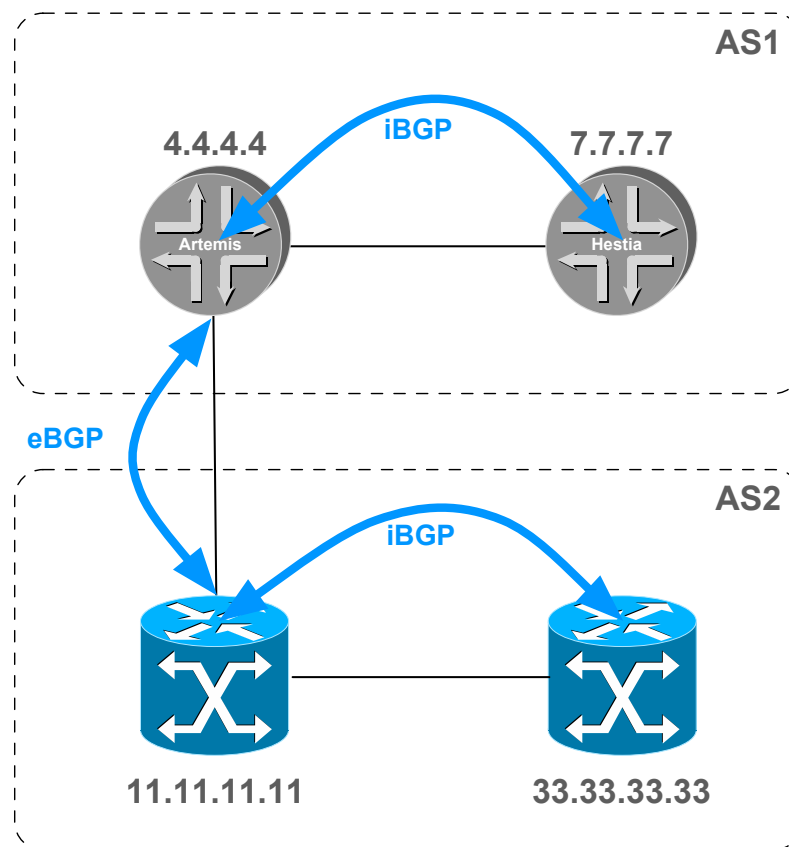Saikat Ray sairay@cisco.com
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Rationale

- Interop testing of BGP-LS
    - Based on draft-ietf-idr-ls-distribution-04
- Software
    - Cisco IOS-XR (Engineering internal Build)
    - Juniper JUNOS (Engineering private build, 14.2 Base)
- Dec 2-5th, Sunnyvale, Juniper premises

- Verify all the BGP {Update, Withdraw, Refresh, Notification} machinery for the new NLRIs
- Verify correct/consistent generation of LS NLRIs
- Verify all 20+ on-the-wire LS Attributes (encoding, endianness)
- Verify handling of *unknown* TLVs (Store and forward)
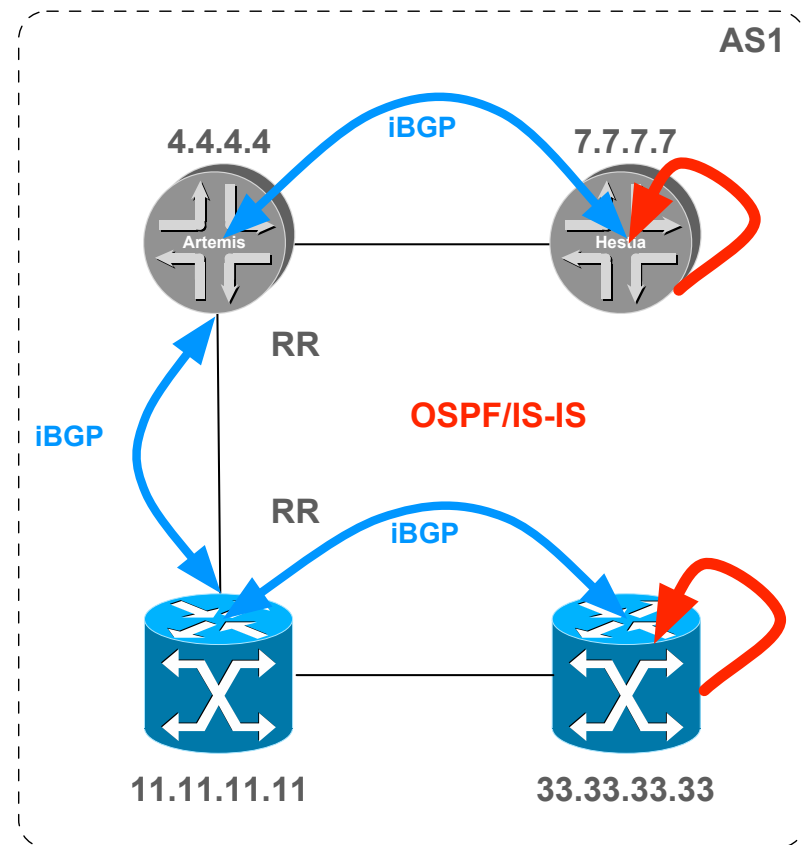
Testsetup #1

- Purpose
  - Check Propagation of <link-state> through a {iBGP, eBGP, iBGP} path
  - Verify proper encoding of BGP-LS attributes
  - Verify update/withdraw logic (key change)

Testsetup #2

- ## Purpose
  - Check Propagation of <link-state> through a iBGP path
- Check **consistent** export of TE/IGP into BGP LS NLRIs

Issues found

- ## Protocol issues
  - ### Unnumbered/Numbered Link generation
    - Need Clarification when IDX is key or attribute

- ## Implementation issues
  - ### AFI encoded internally as uint8
    - BGP-LS AFI/SAFI is 16388/71 (!)
    - Route refresh broken
  - ### Endianness for Bandwidth related data
  - ### Inconsistent Keys for OSPF "Pseudonodes"

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- Document contains list of all tested
  - NLRIs
  - Send/Receive/Originate TLVs

- Plan to include other Implementations (RR, FLOSS implementation)

Impressions

Next Steps

- Release draft-ietf-idr-ls-distribution-05
  - https://github.com/hannesgredler/draft-ietf-idr-ls-distribution

- Questions ?

- Adoption as a WG item ?