

RIFT Auto-Flood Reflection

draft-head-rift-auto-fr-01

IETF114

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What is Flood Reflection?

- We all know that **flat single area** IGPs can come with some pitfalls.
 - **Flooding** – every node needs to know.
 - **State** – every node needs to remember.
 - **Convergence** – every node needs to compute.
- Major scaling improvements to these with IS-IS Flood Reflection.
 - <https://datatracker.ietf.org/doc/draft-ietf-lsr-isis-flood-reflection/>

What is Flood Reflection

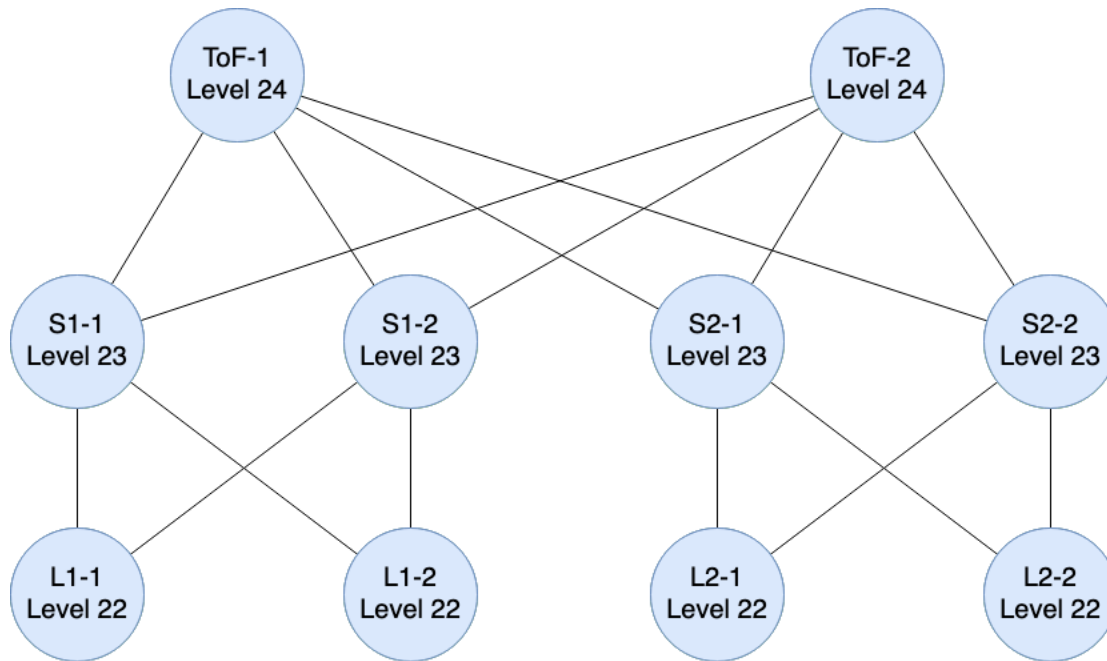
- Flood Reflection, like RIFT is well suited to Clos topologies.
- RIFT builds the “underlay”.
- Auto-Flood Reflection will use RIFT ZTP / LIE FSM to build the Flood Reflection topology.

Where does RIFT come in?

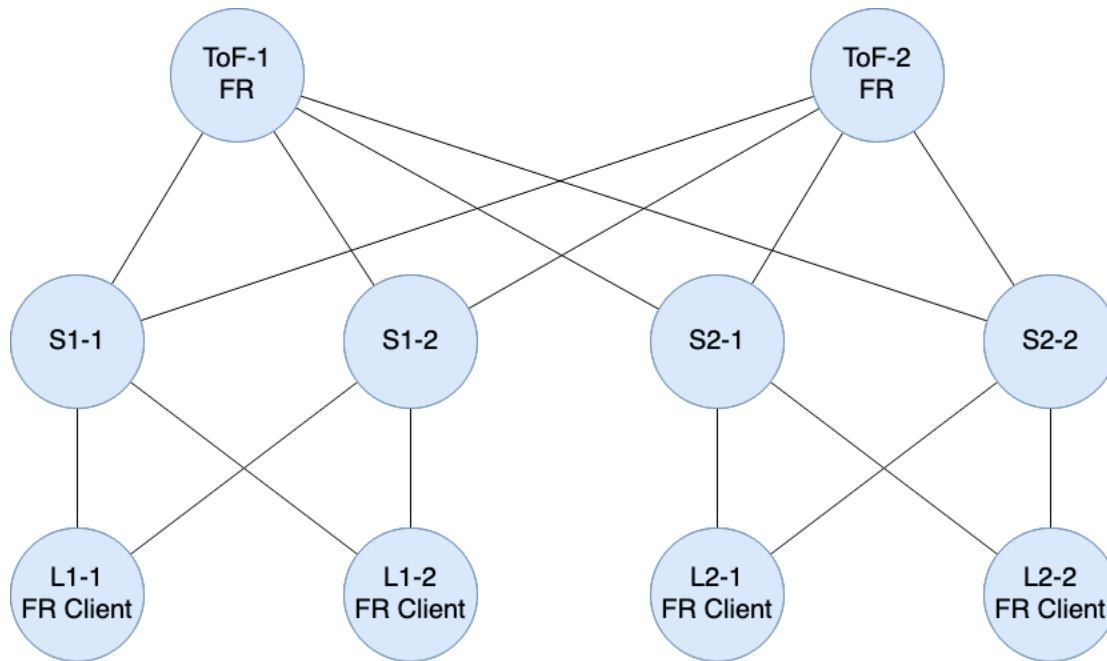
- Loopback Address
- ISO System ID
- Network Entity Title
- Flood Reflector Cluster ID

Let's visualize the whole solution.

1. RIFT's ZTP process derives each node's level.

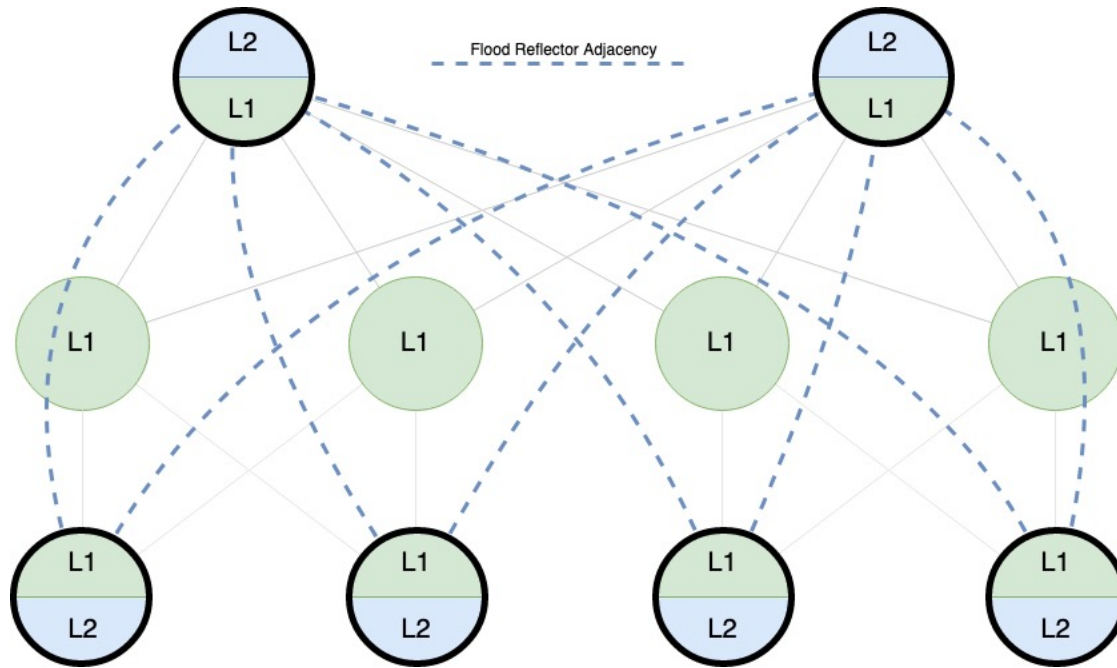


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2. RIFT FSM helps to derive Flood Reflection roles and variables.

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1. RIFT's ZTP process derives each node's level.
2. RIFT FSM helps to derive Flood Reflection roles and variables.
3. IS-IS adjacencies come up and form the final Flood Reflection topology.

What's new in this version?

- **New sections clarifying ISO address derivation:**
 - IS-IS System ID derivation.
 - IS-IS NET derivation.
- **New section describing Auto-Flood Reflection extensions to RIFT:**
 - FSM / LIE validation clause.
 - Node-TIE advertisements.
 - Applicable schema updates.

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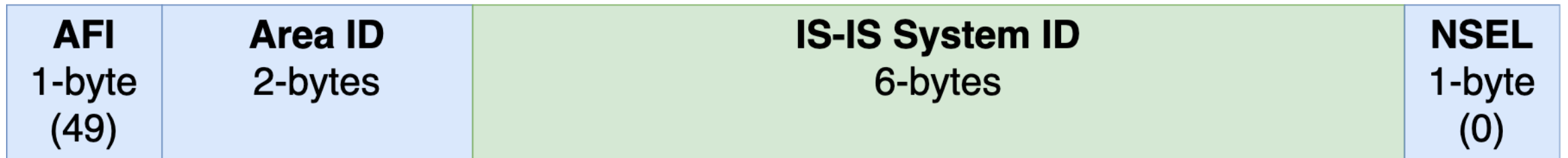
- **New section describing ToF Flood Reflector preference value.**
 - Updated Flood Reflector Election procedures to factor in preference.
- **Auto-Flood Reflection Telemetry / Key-Value TIEs**
 - Clarified normative language.
 - Aligned "IANA Considerations" section to conform to RIFT Key-Value Registry requirements.

ISO Address Derivation

- Flood Reflection Cluster ID
- RIFT System ID

`auto_fr_cidsid2isisnet`

`auto_fr_cidsid2isissid`



RIFT Extensions

- **A new structure that better organizes the required RIFT extensions:**
 - Auto-Flood Reflection Version
 - Auto-Flood Reflection Cluster ID
 - Auto-Flood Reflection Preference Value
- **...and any correlated functional changes:**
 - FSM / LIE validation for interoperability purposes.
 - Flood Reflector election procedures.
 - Node-TIE advertisement requirements.

Single Plane Flood Reflector Election

- **Previous Election Procedures:**

1. Highest SID
2. Lowest SID
3. 2nd highest SID
4. 2nd lowest SID

- **New Election Procedures:**

1. Highest SID w/ highest Preference
2. Lowest SID w/ highest Preference
3. 2nd highest SID w/ highest Preference
4. 2nd lowest SID w/ highest Preference

Key/Value TIEs

- Lots of normative language clarifications. Basically, it says that you don't have to carry everything if you don't want to.
- IANA Considerations section now properly aligns with requirements for Key/Value registry requests.

What's next?

- We're requesting working group adoption.
- Multiplane considerations.

Thanks