The problem statement of RBridge edge group state synchronization
draft-hao-trill-rb-syn-00

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The TRILL hello protocol is run between access ports.
The DRB specifies an RB (for example, RB1) as the VLAN forwarder for access users.
Layer 2 loops are prevented at the access side.

TRILL Hello packet

Only one access port can be used.

Active-Active access

- The TRILL hello protocol can’t run over MCLAG among edge Rbridges.
- To avoid ES1 MAC flip-flop in RB3, pseudo-nickname concept is introduced.
- Coordinated Multicast Trees (CMT) [CMT] solution is introduced to solve the related RPF issues.

There are also other problems should be solved in active-active access scenario!

All access port of RB1 and RB2 can be used.
**RBv concept**

**Virtual RBridge (RBv):** As described in draft-hu-trill-pseudonodenickname-04, it represents a group of different end station service ports on different edge RBRidges. After joining RBv, such an RBridge port is called a member port of RBv, and such an RBridge becomes a member RBridge of RBv.
To support multi-chassis LACP, the following LACP specific configuration parameters and operational (run-time) data should be synchronized among all RB in an RBv:

- System Identifier (MAC Address
  - System Priority
  - Aggregator Identifier
  - Aggregator MAC Address
  - Aggregator Key
  - Port Number
  - Port Key
  - Port Priority
  - Partner System Identifier
  - Partner System Priority
  - Partner Port Number
  - Partner Port Priority
  - Partner Key
  - Partner State
  - Actor State
  - Port State
Problem 2: RBv membership configuration and state synchronization

- pseudo-nickname configuration consistency check;
- dynamic pseudo-nickname allocation;
- RBv membership auto-discovery through trill campus as no Hello running on LAG member ports;
Problem 3: CMT configuration and state synchronization

- **CMT configuration check:**
  If different RBridges in one RBv associate the same virtual RBridge as their child in the same tree or trees, conflict occurs and there should be a mechanism to remove the conflict.

- **Access link and node failure detection:**
  When member RB of edge group fails or member link of MCLAG fails, other RBridges in RBv should detect the failure ASAP for fast recovery.
Problem 4: Mac table synchronization

To avoid always broadcasting in local access link and multicasting in TRILL campus for unicast frame, MAC table should be synchronized among all member RBRidges in an RBv.

- Local attached MAC synchronization
- Remote learned MAC synchronization
The communication protocol should satisfy the following requirements:

- Support RBv membership static configuration and auto-discovery.
- Support consistency check for static pseudo-nickname configuration consistency.
- Support dynamic pseudo-nickname allocation.
- Support CMT configuration synchronization and conflict elimination.
- Support fast node failure detection.
- Support fast link failure detection.
- Support LACP configuration and state synchronization.
- Support MAC table synchronization.

Communication protocol over Rbridge channel

Communication protocol among Rbridges in RBv should be provided!
Next step

Comments and questions?

Is the WG interested in adopting this work as a WG item?

Document will be updated based on feedback we receive.