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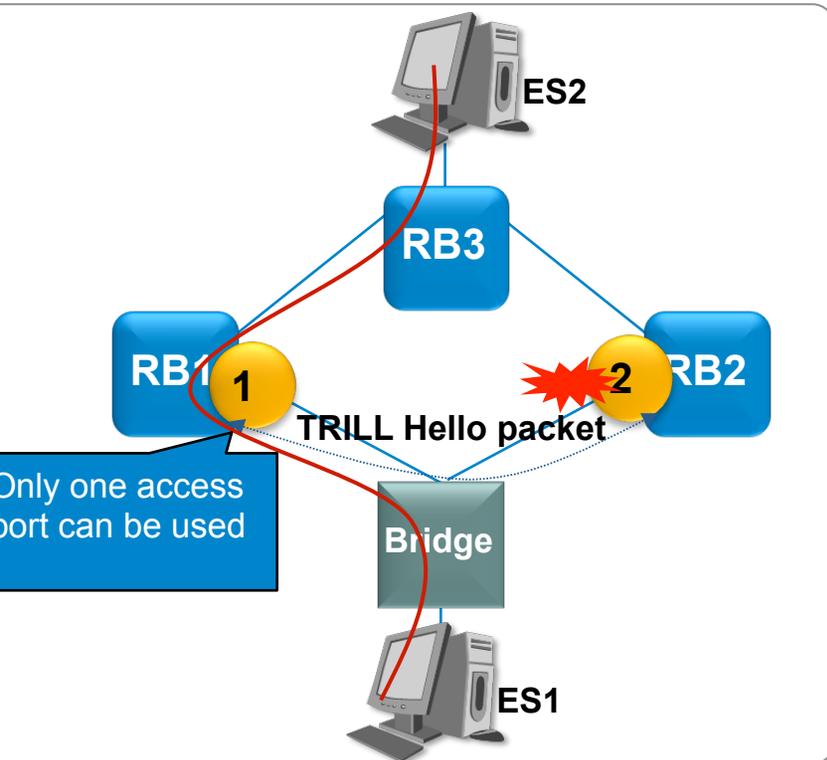
draft-hao-trill-rb-syn-00

Weiguo Hao
Yizhou Li

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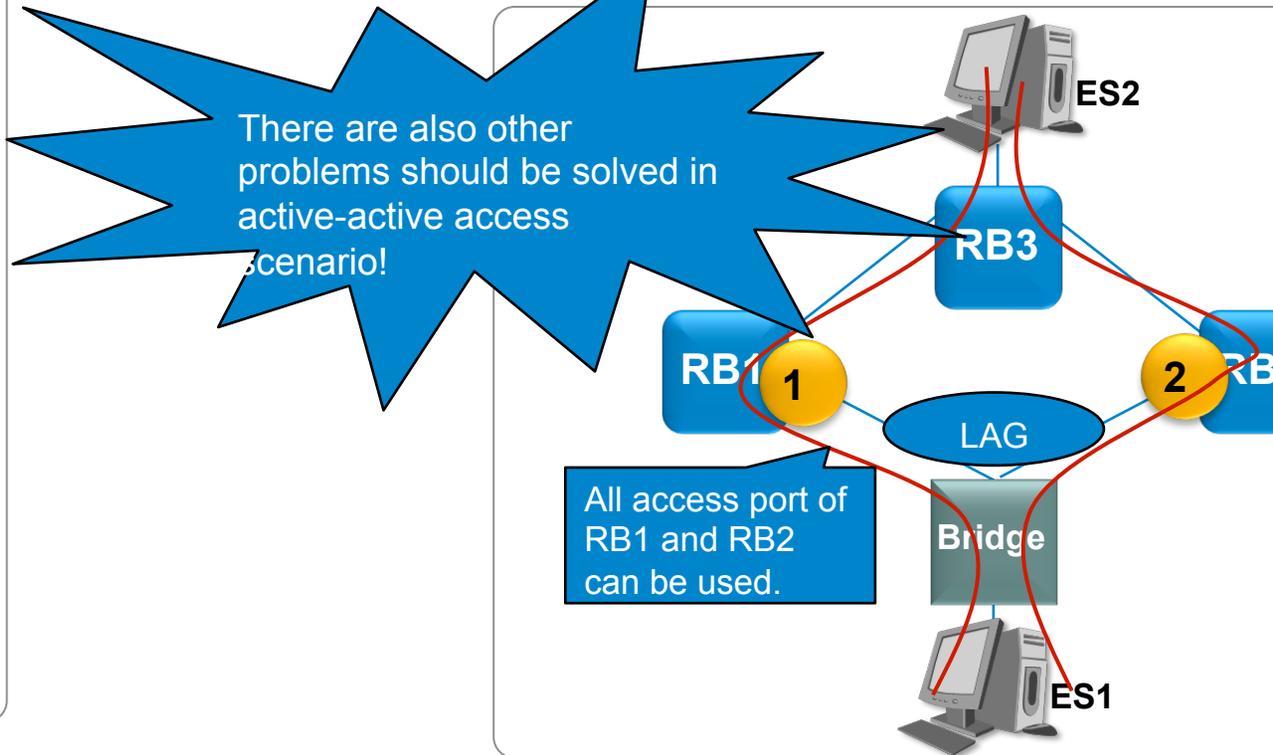
- The TRILL hello protocol is run between access ports
- The DRB specifies an RB (for example, RB1) as the VLAN forwarder for access users
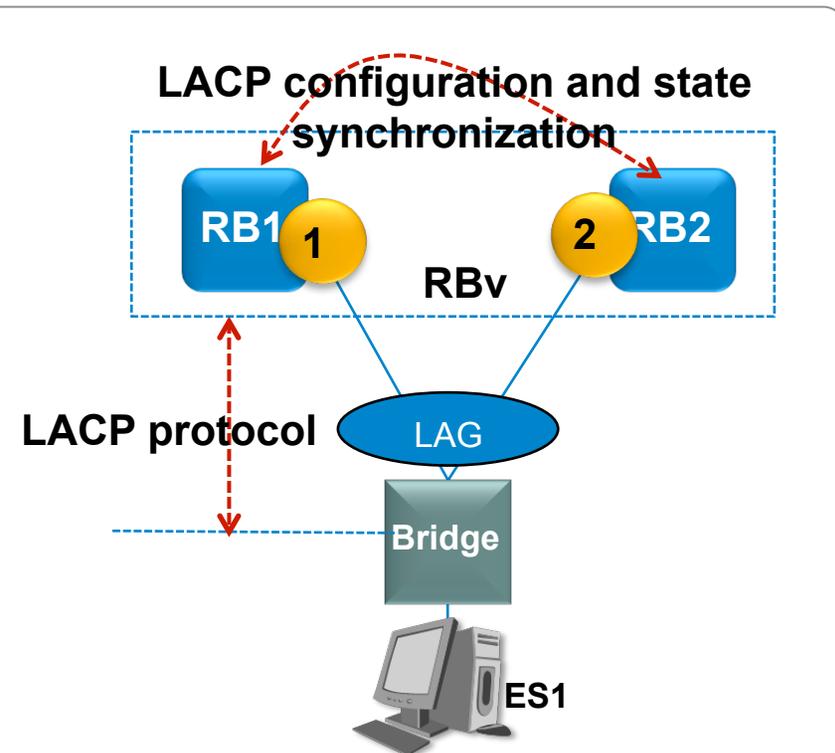- Layer 2 loops are prevented at the access side

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

ES2

RB3

RB1

1

TRILL Hello packet

2

RB2

Only one access port can be used

Bridge

ES1

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

ES2

RB3

RB1

1

LAG

2

RB

All access port of RB1 and RB2 can be used.

Bridge

ES1

2

RBv concept

rtual RBridge (RBv): As described in draft-hu-trill-pseudonode-ckname-04, It represents a group of different end station rvice ports on different edge RBridges. After joining RBv, such an Bridge port is called a member port of RBv, and such an RBridge comes a member RBridge of RBv.

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oblem1:Multi-chassis LACP

LACP configuration and state synchronization

RB1 1   2 RB2

RBv

LACP protocol

LAG

Bridge

ES1

To support multi-chassis LACP, the following LA specific configuration parameters and operatio (run-time) data should be synchronized among 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**

Problem2: RBv membership configuration and state synchronization

RBv membership configuration and state synchronization

RB1 1   2 RB2

RBv

Bridge

ES1
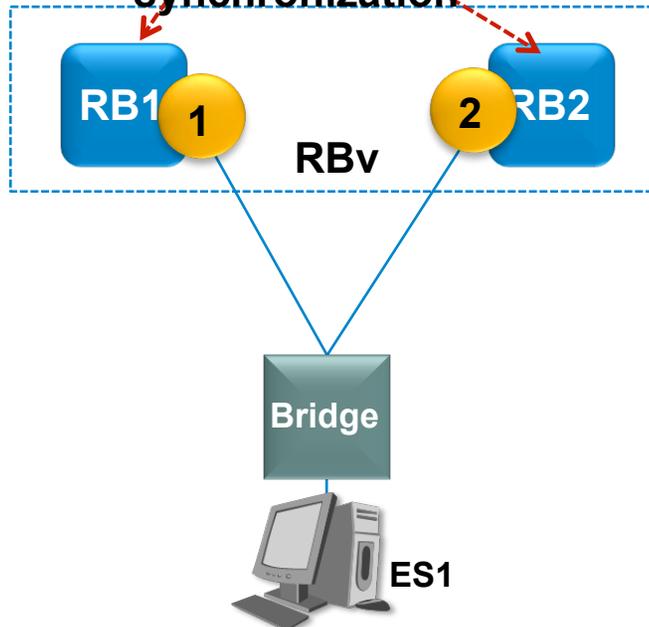
➢ **pseudo-nickname configuration consistency check;**
➢ **dynamic pseudo-nickname allocation;**
➢ **RBv membership auto-discovery through trill campus as no Hello running on LAG member ports;**

oblem3: CMT configuration and state nchronization

CMT configuration and state synchronization

RB1 ① ② RB2
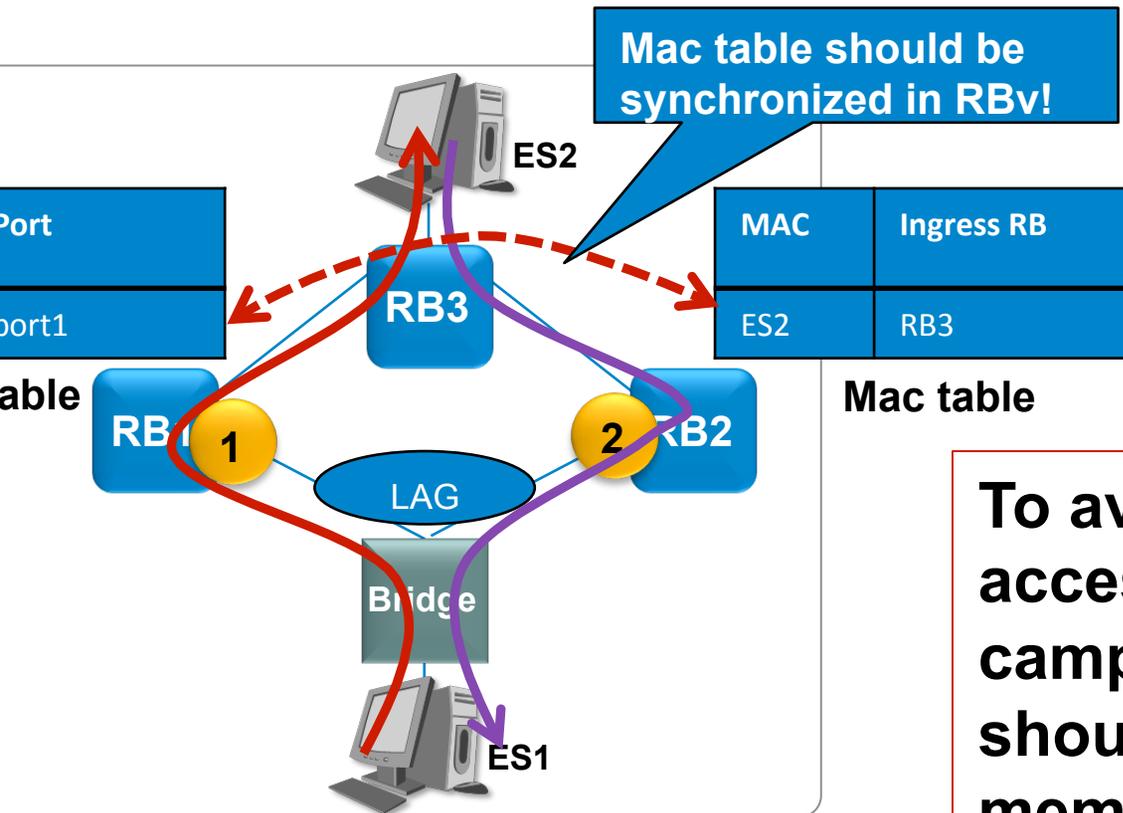
RBv

LAG

Bridge

ES1
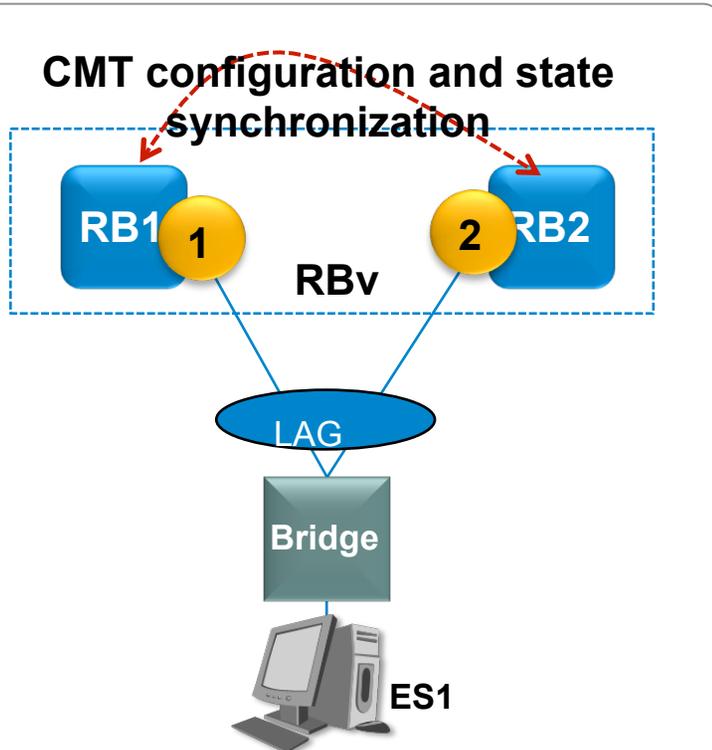
➢**CMT configuration check:**
If different RBridges in one RBv associate the sa virtual RBridge as their child in the same tree or trees, conflict occurs and there should be a mechanism to remove the conflict.

➢**Access link and node failure detection:**
When member RB of edge group fails or membe link of MCLAG fails, other RBridges in RBv shou detect the failure ASAP for fast recovery.

Problem4: Mac table synchronization

Mac table should be synchronized in RBv!

ES2

Port	
port1	

Mac table

MAC	Ingress RB
ES2	RB3

Mac table

RB3

RB1 **1** **2** RB2

LAG

Bridge

ES1

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**

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Requirements in summary

Communication protocol over Rbridge channel

communication protocol should satisfy the
wing requirements:

pport RBv membership static configuration and
-discovery.
pport consistency check for static pseudo-
name configuration consistency.
pport dynamic pseudo-nickname allocation.
pport CMT configuration synchronization and
flict elimination.
pport fast node failure detection.
pport fast link failure detection.
pport LACP configuration and state
chronization.
pport MAC table synchronization.

TRILL Campus
Rbridge Channel

RB1

RB2

RB3

ES
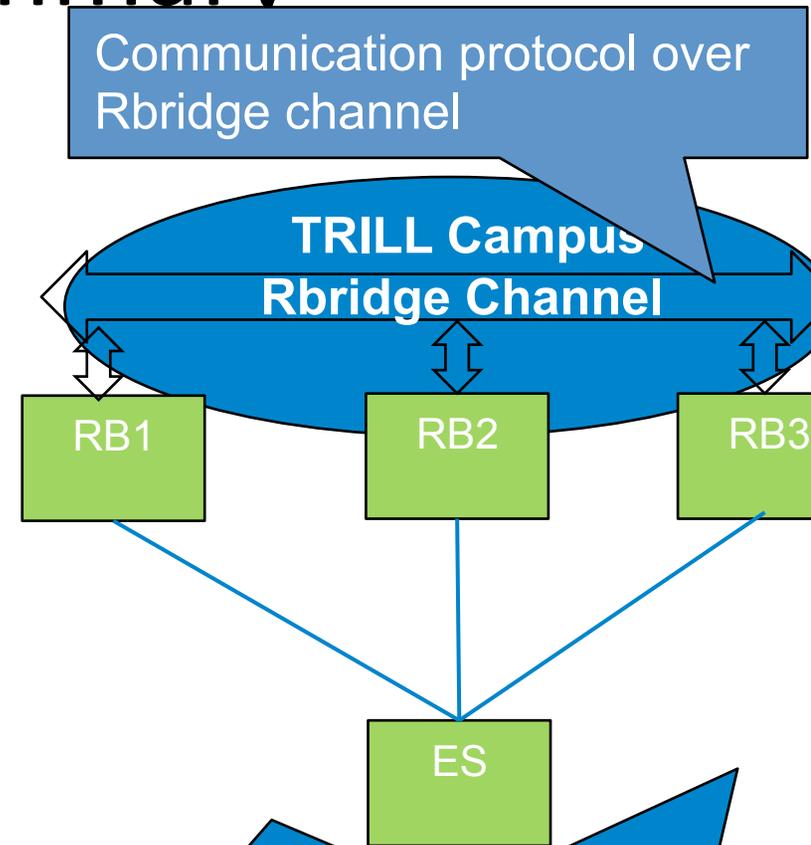
Communication protocol among
Rbridges in RBv should be provide

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Next step

mments and questions?

the WG interested in adopting this work as a WG
m?

cument will be updated based on feedback we
ceive.