BIER Multicast Replication

Multi-Vendor Interoperability Test 2024

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BIER Working Group

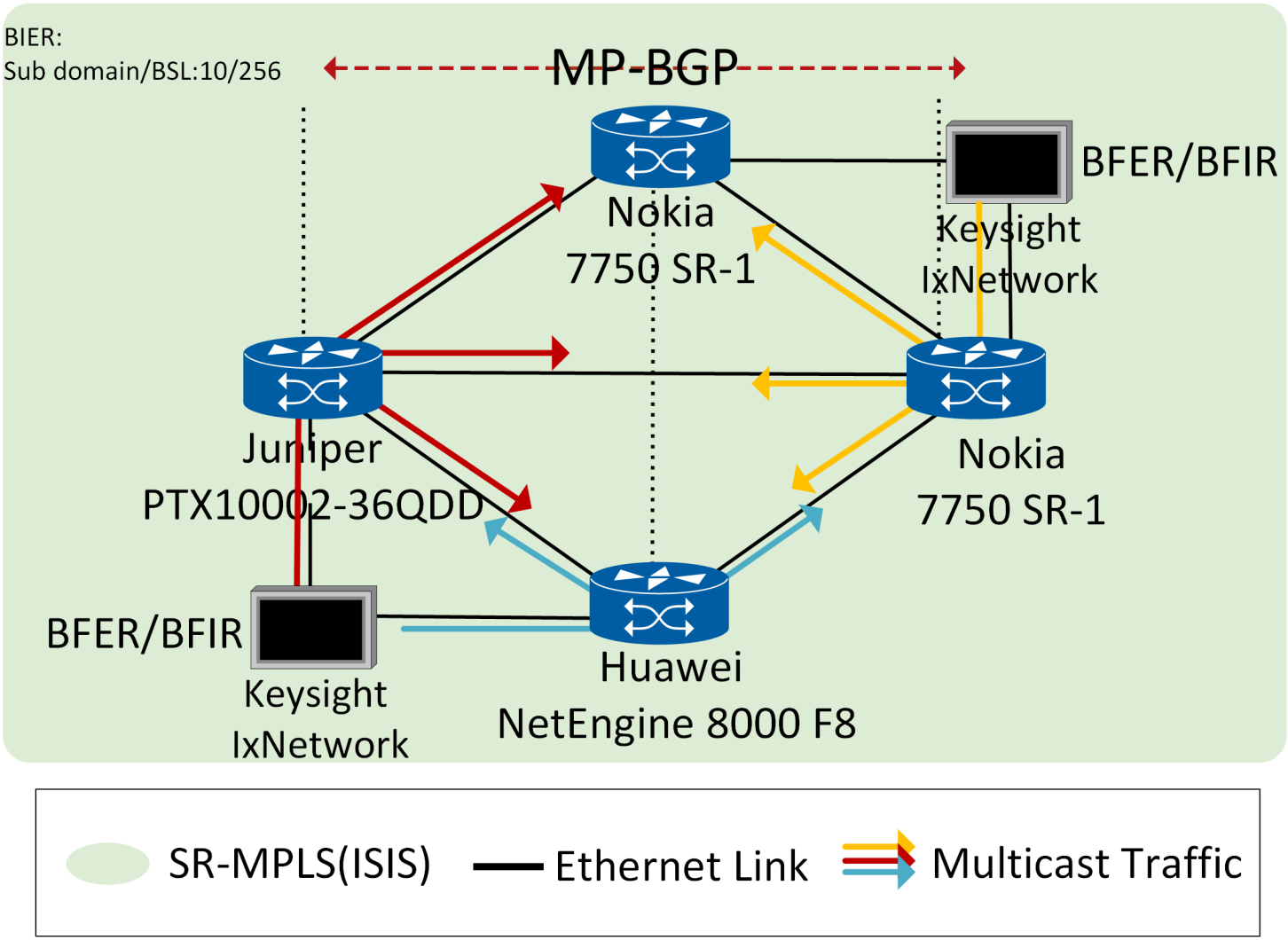
Agenda

- Test purpose
- Topology for live demo
- Description
- Test procedure
- What is next

Test Purpose

- To demonstrate BIER signaling and Forwarding table creation using IGP (ISIS IPv4).
- To demonstrate the multicast replication capability of the nodes with respect to the multicast data received with BIER header.
- To demonstrate BIER ECMP forwarding. Time didn’t permit
- Overlay NG-MVPN. Time didn’t permit

Topology


BIER:
Sub domain/BSL:10/256
MP-BGP
Nokia
7750 SR-1
BFER/BFIR
Keysight
IxNetwork
Juniper
PTX10002-36QDD
Nokia
7750 SR-1
BFER/BFIR
Keysight
IxNetwork
Huawei
NetEngine 8000 F8
SR-MPLS(ISIS)
Ethernet Link
Multicast Traffic

Description

- Nodes from Huawei, Juniper & Nokia act as BFR routers replicating the traffic
- IxNetwork Keysight as BFIR and BFER sends multicast data with BIER header and MPLS encap.
- The Routers and IxNetwork build their BIER forwarding Table via ISIS IPv4

Test Procedure

- Bring up the Topology and verify the interface connectivity
- Bring up the BIER Underlay with ISIS IPv4 as IGP by configuring all BIER parameters and verify the BIER adjacency, BIRT and BIFT
- Bring up the Keysight with multicast data with BIER header
- Send Multicast data towards Juniper Node with Receivers connected at Nokia & Huawei and verify the replication at Juniper
- Send Multicast data towards Huawei Node with Receivers connected at Juniper & Nokia and verify the replication at Huawei
- Send Multicast data toward Nokia Node with Receivers connected at Juniper & Huawei and verify the replication at Nokia

What is next

- NG-MVPN Overlay, next year
- Live demo at Paris MPLS Congress 2024