draft-ietf-bess-evpn-unequal-lb-26

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IETF 123, July 2025

Madrid

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Recap

- Defines procedures for **unequal load-balancing of unicast flows** to and **unequal load-sharing of DF role** for multi-homed ethernet segments in an EVPN network.
- Defines **EVPN link bandwidth extended community** carried with EVPN RT-1, RT-4 and RT-5 to accomplish the above.

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Current Status

- WGLC Completed.
- Multiple Vendor Implementations.
- Multiple Reviews completed – Rtgdir early review, Genart early review, IDR, Multiple WG reviews.

Comments received post-WGLC to clarify scope of EVPN LBW extended community and its co-existence behavior with BGP LBW extended community defined in draft-ietf-idr-link-bandwidth.

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Rev 26

Updates to define scope of EVPN LBW extended community and its co-existence behavior with BGP LBW extended community (draft-ietf-idr-link-bandwidth):

- **Preference Order – section 7.6**
  - Prefer EVPN LBW over BGP LBW in EVPN Networks.

- **Applicability to Non-EVPN networks – Section 7.5**
  - Usage of EVPN LBW in non-EVPN networks is out of scope but not precluded.

- **Interworking with non-EVPN networks – Section 7.7**
  - No benefit in preserving EVPN LBW from RT-5 to non-EVPN routes (IP or IPVPN) as next-hop is rewritten.
  - Interworking behavior including preservation, cumulation, or translation is however considered out of scope – refer to draft-ietf-bess-evpn-ipvpn-interworking for future interworking use cases.

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Next Steps

- Repeat a short WGLC and progress.

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Weighted Multi-Path Procedures for EVPN All-Active Multi-Homing
(draft-ietf-bess-evpn-unequal-lb-26)

Thank You

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BACKUP

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Solution Summary

Unicast Traffic Load-Balancing

- Local PE
  - Advertises per-ESI link-band-width attribute as part of per-ESI EAD RT-1
- Remote PE
  - ESI Path-list is computed in proportion to received link-band-width attribute from each PE

DF Election

- New “BW” capability bit (28) in DF Election Extended-Community indicates desire to augment specified DF election algorithm to be “BW aware” as specified in section 4 of this draft
- Local PE
  - Advertises additional per-ES link-band-width attribute with per-ES RT-4
- Remote PE
  - Type 0 (service carving): Candidate PE list computed in proportion to bandwidth share
  - Type 1 and 4 (HRW): Candidate hash computations for each PE in proportion to it’s bandwidth share
  - Weighted HRW (Type TBD): BW weighted score computation for each PE
  - Type 2 (Preference): additional link-band-width tie-breaker based on PE’s bandwidth share

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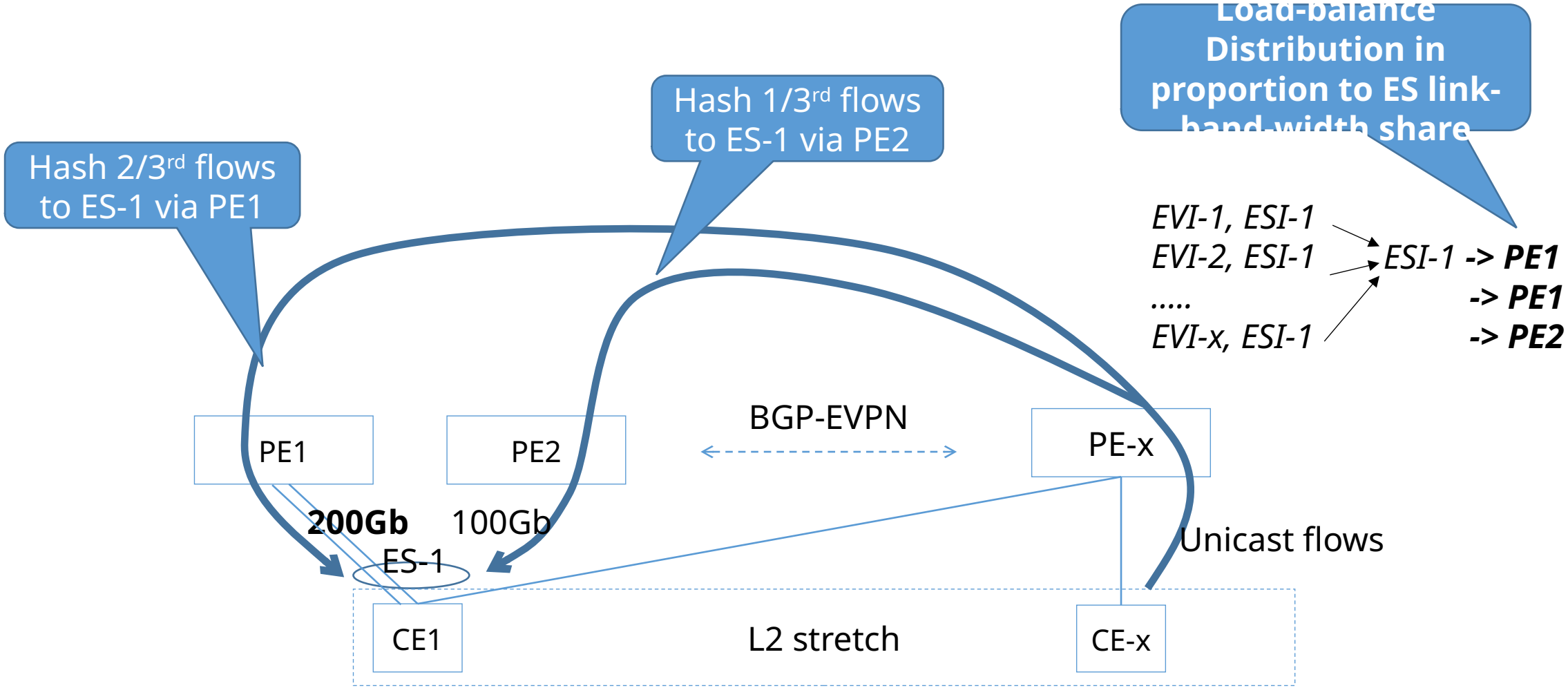
Overlay Load Balancing in proportion to PE-CE link bandwidth share in a LAG



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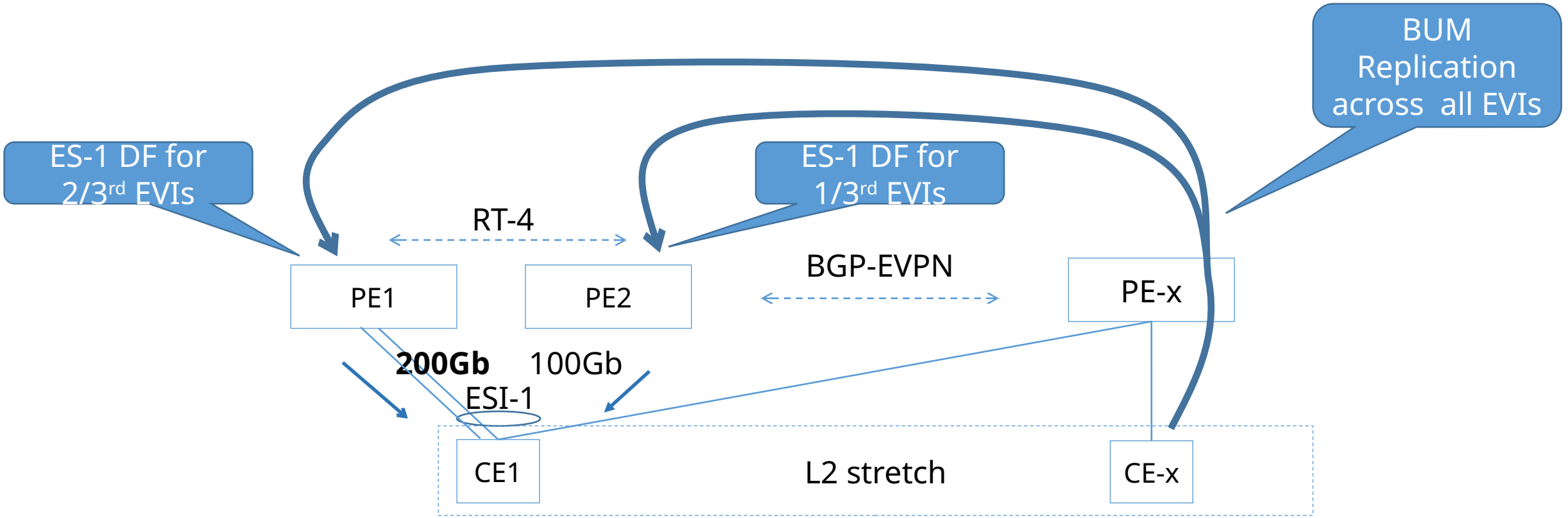
DF Role Load Sharing in proportion to PE-CE link bandwidth share in a LAG



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