IS-IS Extensions for BIER-TE

draft-ietf-bier-te-isis-04

H. Chen, M. McBride, A. Wang, G. Mishra, Y. Fan, L. Liu, X. Liu

IETF 116

Overview

Thanks people below for their comments and suggestions

- Les Ginsberg
- Tony Przygienda
- Acee Lindem
- Toerless Eckert

Updates to previous versions (to address comments)

- Removed paddings and extra text, added references
- Some Editorial Changes

OSPF Extensions for BIER-TE

draft-ietf-bier-te-ospf-04

OSPFv3 Extensions for BIER-TE

draft-ietf-bier-te-ospfv3-04

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Overview

Thanks people below for their comments and suggestions

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- Tony Przygienda
- Toerless Eckert

Updates to previous versions (to address comments)

- Changed sub-sub-TLV, removed extra text, added references
- Some Editorial Changes

Next Steps

- Comments

BIER-TE for Broadcast Link

draft-chen-bier-te-lan-06

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Overview

Issue: Duplicated Packets in Existing BIER-TE with Broadcast Links in Details

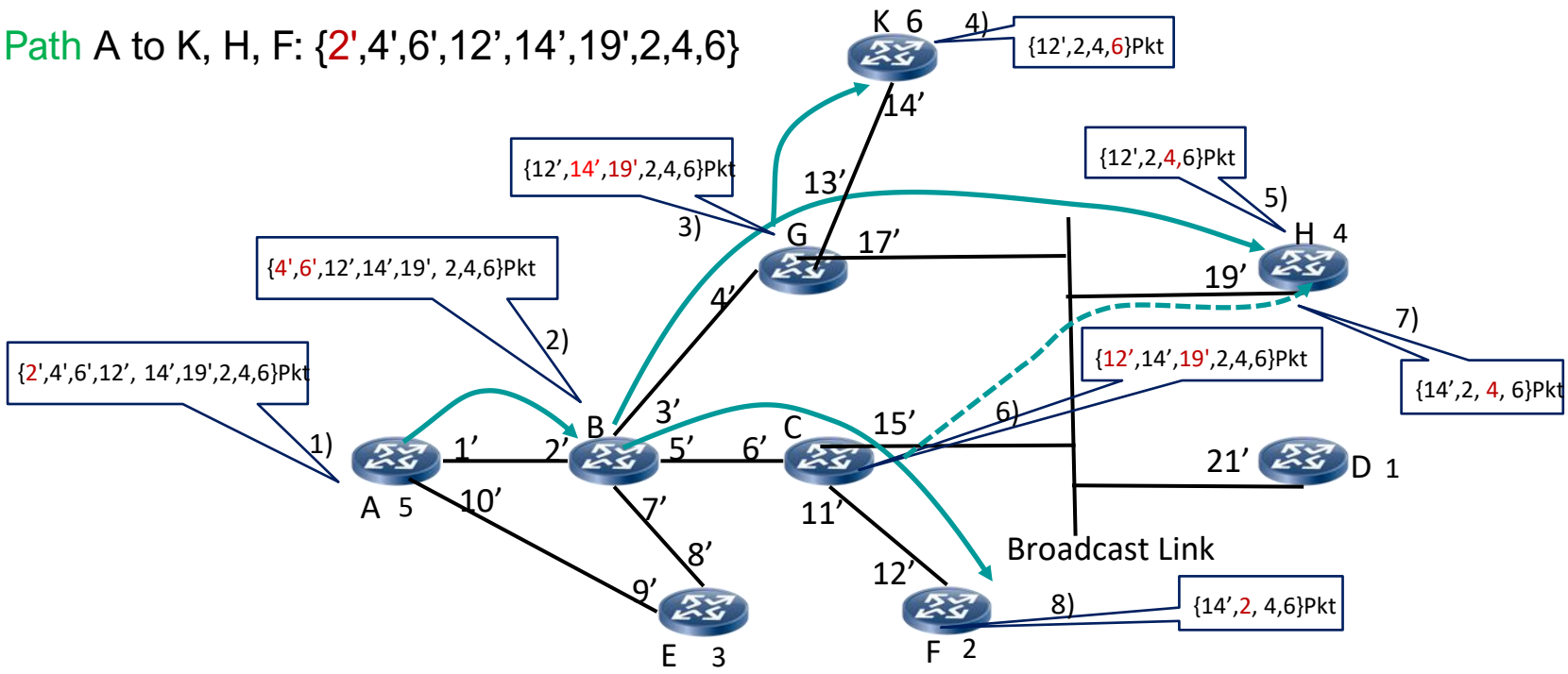


Figure 1. BIER-TE Topology with BPs on Broadcast Link

Issue in Details

Duplicated Packets in Existing BIER-TE with Broadcast Links

Path A to K, H, F: {2',4',6',12',14',19',2,4,6}

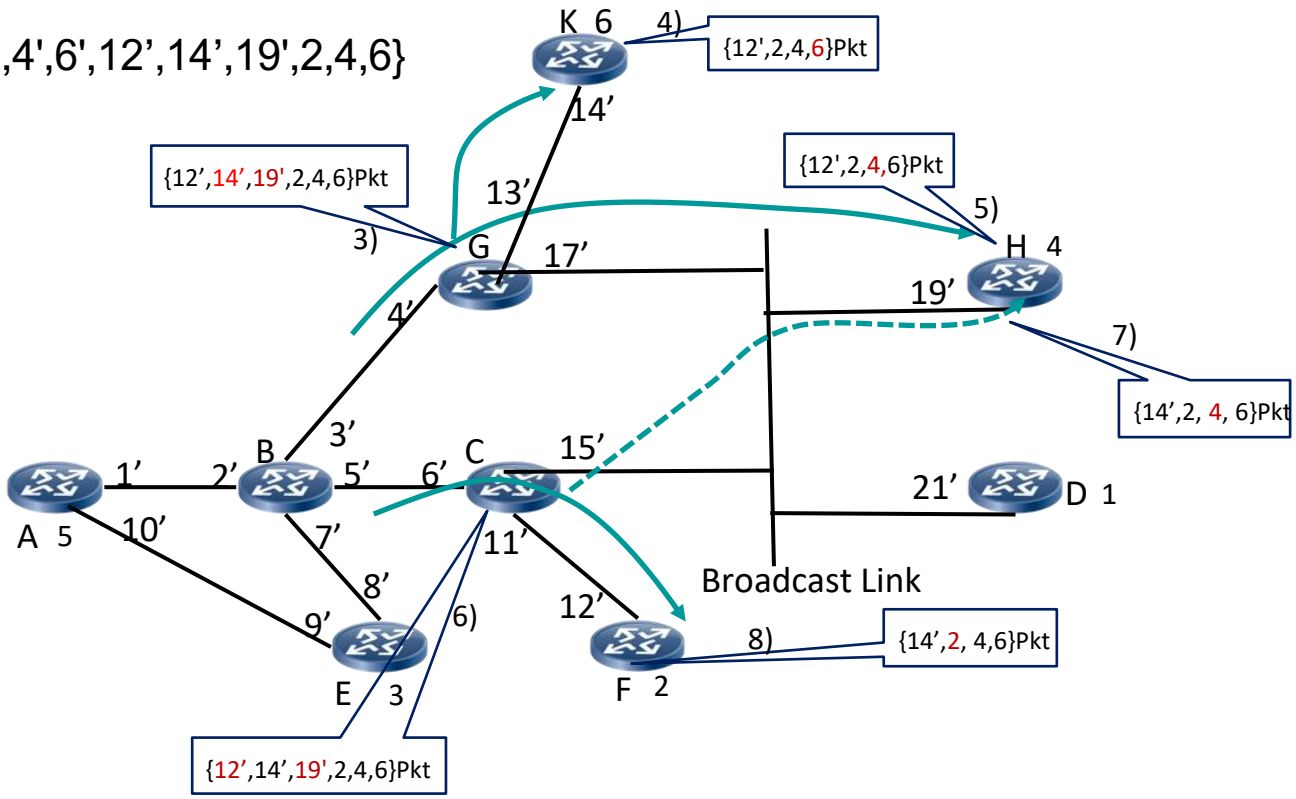


Figure 1. BIER-TE Topology with BPs on Broadcast Link

New BP Assignments for Broadcast Link

- For a broadcast link connecting X1, X2, ..., Xm, assuming they are connected a pseudo node Px (e.g., DR in OSPF or DIS in IS-IS).
- For connection between Px and X1, X2, ..., Xm, two BPs are assigned.
  - One is for lan-connected adjacency from Xi (i=1, 2, …, m) to Px,
  - the other is for forward connected adjacency from Px to Xi.

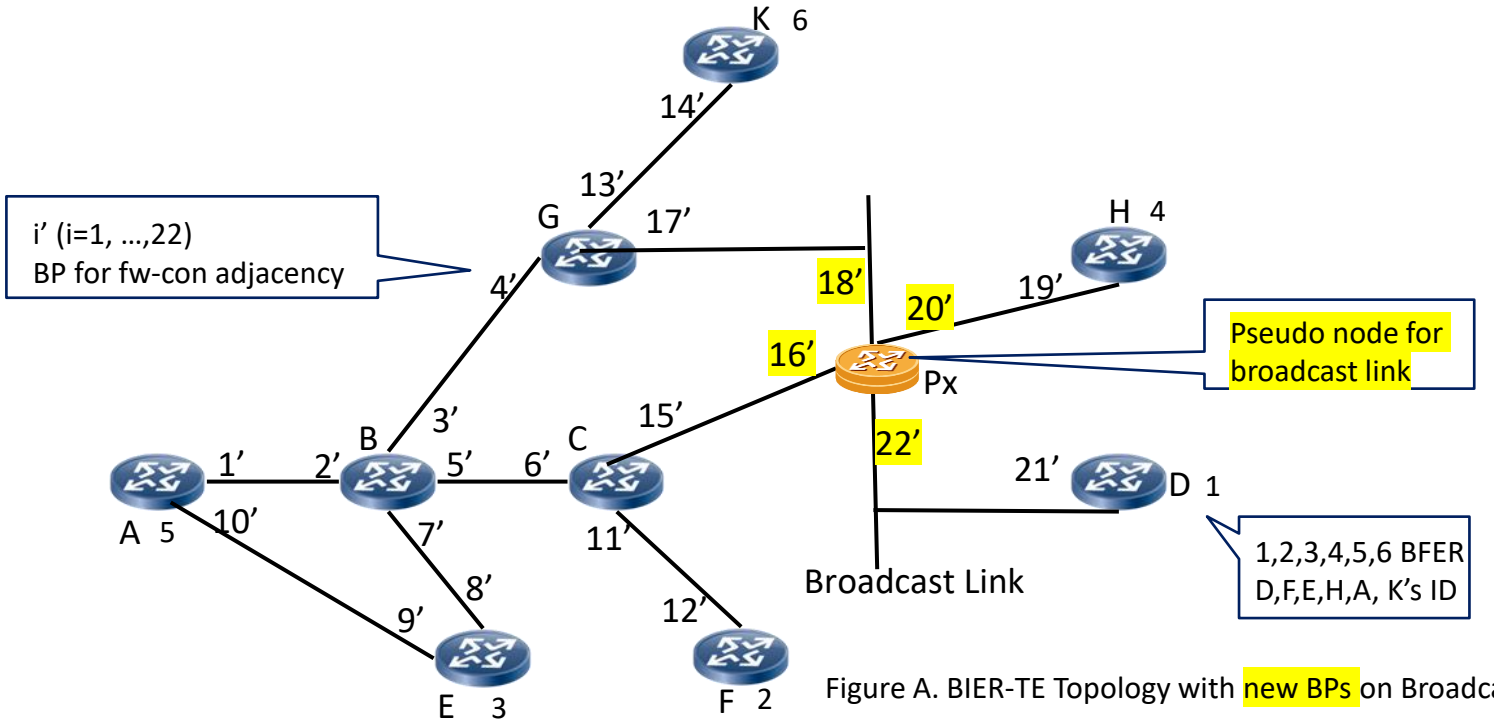


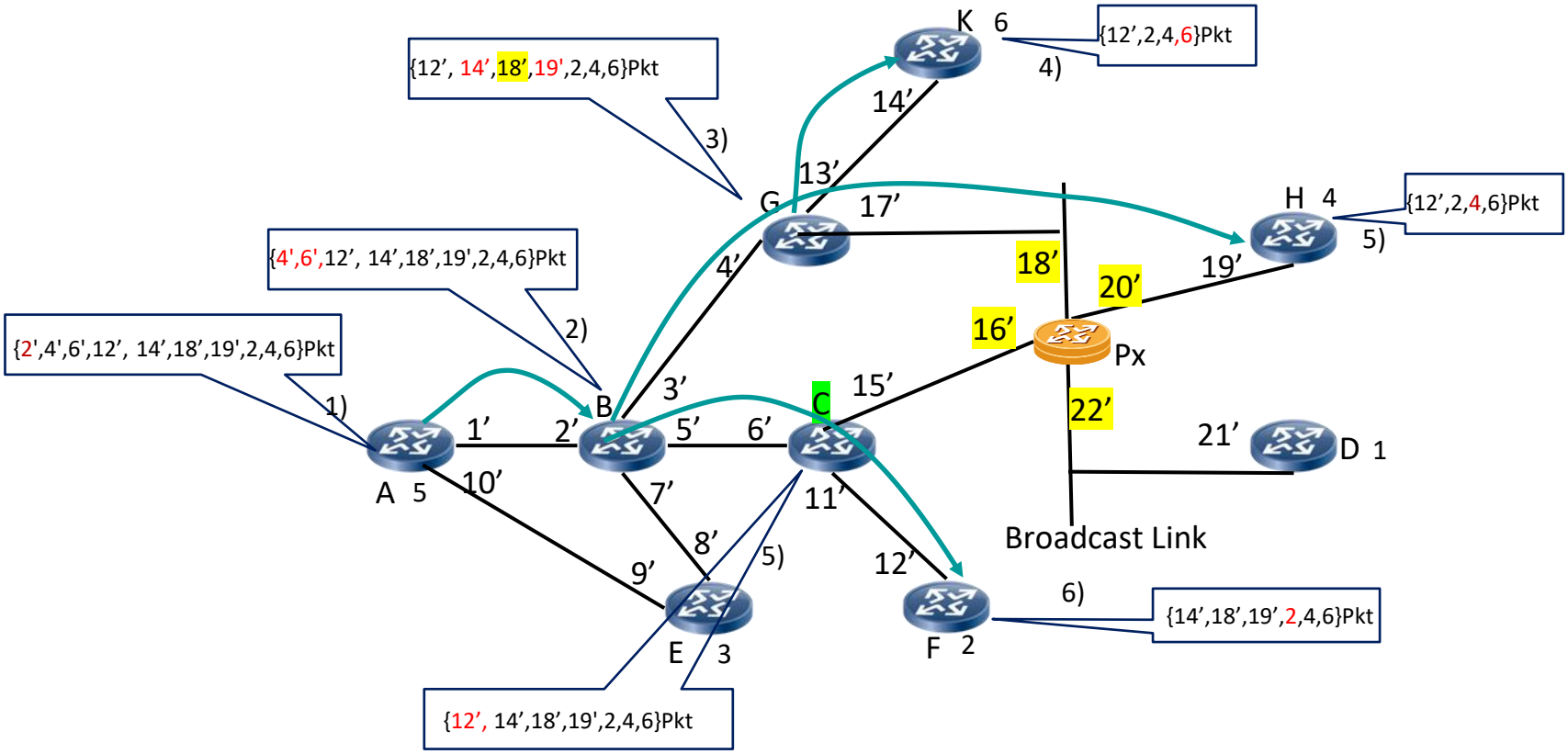
Figure A. BIER-TE Topology with new BPs on Broadcast Link

- For lan-connected adjacency from Xi to Px, Xi acts as Px (i.e., after Xi “sends” packet to Px using main BIFT, Xi “sends” the packet to Px’s BFR-NBRs using secondary BIFT for Px)

Example Application of Improved BIER-TE

- No Duplicated Packets in Improved BIER-TE with Broadcast Links

Path A to K, H, F: {2',4',6',12', 14',18',19',2,4,6}



Next Steps

- Comments

Improved BIER-TE BIFT on BFR

For a BFR on broadcast link, its improved BIER-TE BIFT comprises:

- main BIFT containing a forwarding entry for lan-connected adjacency to Px.
- secondary BIFT for Px on BFR containing a forwarding entry for each of forward connected adjacencies from Px to BFRs attached to broadcast link except for the adjacency from Px to the BFR.

Adjacency BP (SI:Bitstring)	Action	BFR-NBR (Next Hop)
5'(6:00010000)	fw-connected	B
12'(7:00001000)	fw-connected	F
16'(7:10000000)	lan-connected	Px

Main BIFT on BFR C

Adjacency BP (SI:Bitstring)	Action	BFR-NBR (Next Hop)
17'(8:00000001)	fw-connected	G
19'(8:00000100)	fw-connected	H
21'(8:00010000)	fw-connected	D

Secondary BIFT for Px on BFR C

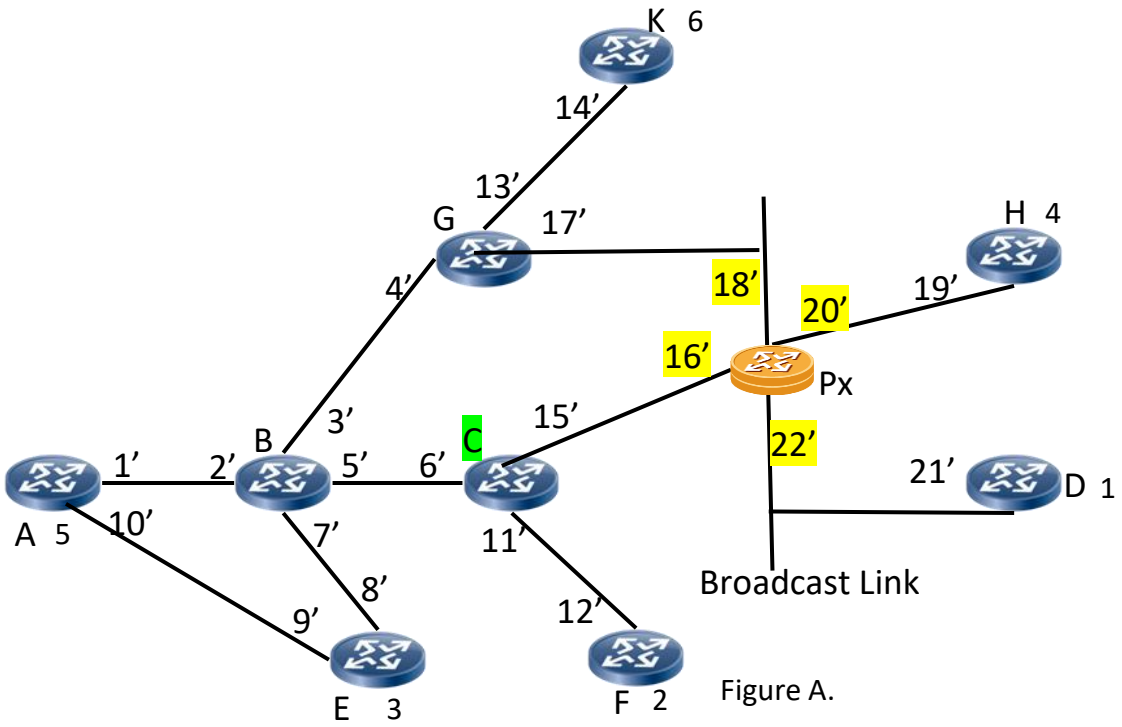


Figure A.

Figure B. Improved BIER-TE BIFT on BFR C