

Backward Notification (BN) individual text contribution introduction

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Links

- Individual text contribution:
 - <https://www.ieee802.org/1/files/public/docs2026/ej-chen-individual-text-0826-v00.pdf>
- PAR and CSD
 - <https://www.ieee802.org/1/files/public/docs2026/ej-PAR-0726-v01.pdf>
 - << This link needs to be updated once the PAR is approved by IEEE NesCom. >>
 - <https://www.ieee802.org/1/files/public/docs2026/ej-CSD-0726-v01.pdf>
- Previous presentations (BN characteristics, taxonomy, use cases, and industry practices)
 - <https://www.ieee802.org/1/files/public/docs2026/ej-chen-bn-scope-0426-v01.pdf>
 - <https://www.ieee802.org/1/files/public/docs2026/new-chen-bn-0326-v02.pdf>
 - <https://www.ieee802.org/1/files/public/docs2026/dw-chen-cc-deepdive-sfc-considerations-0126-v02.pdf>

The BN lifecycle

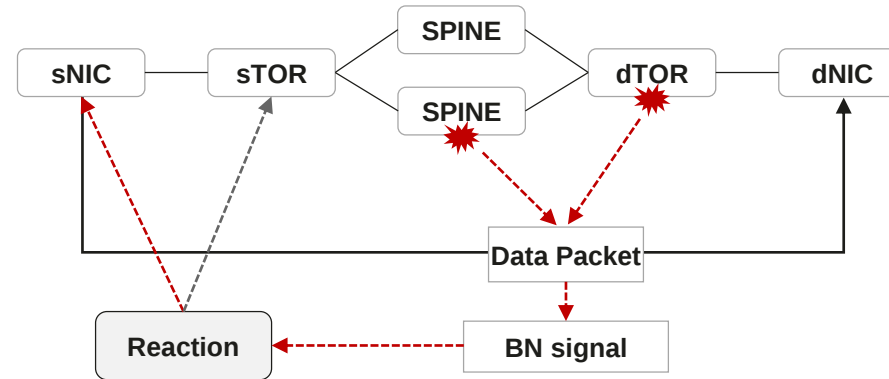
- Scope: ... specifies how BNs are triggered and constructed, and a service interface for exposing the information to entities above the data link layer.

5 Expose

Notifications are exposed to entities above the data link layer (UEC PCM, RoCE CC, load balancing, etc.) through a service interface.

4 Receive

Processing upon receipt of a BNM, including notification information extraction.



1 Trigger

Any bridge configured to detect a qualified condition — queue/buffer threshold, delay, ECN, drop, trim, link failure. Throttling mechanism.

2 Signals

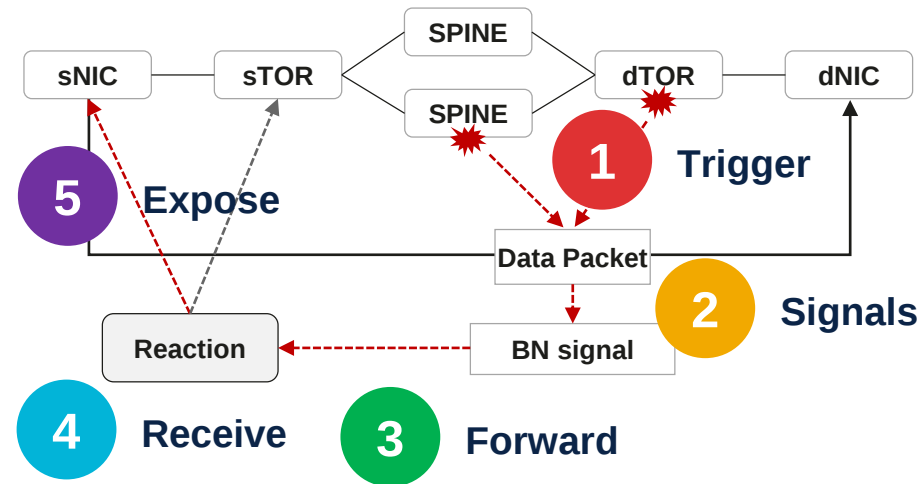
BN message (BNM) itself is derived from the original data packet, carrying signal type and value (network conditions). Additionally, truncated original packet, location, timestamp, etc.

3 Forward

BNM is forwarded backward following normal L2/L3 forwarding rules, as it carries destination address that is derived from the original data packet's source address. No additional path state required.

Contents of the individual text

- Clause 6 is more of an overall introduction.
 - 6.1: introduce existing methods for condition identification.
 - 6.2: determine if the current condition meets the BN triggering requirements.
 - 6.3: principles for constructing BNM.
 - 6.4: end station process upon receipt of a BNM.
 - 6.5: bridge process upon receipt of a BNM.



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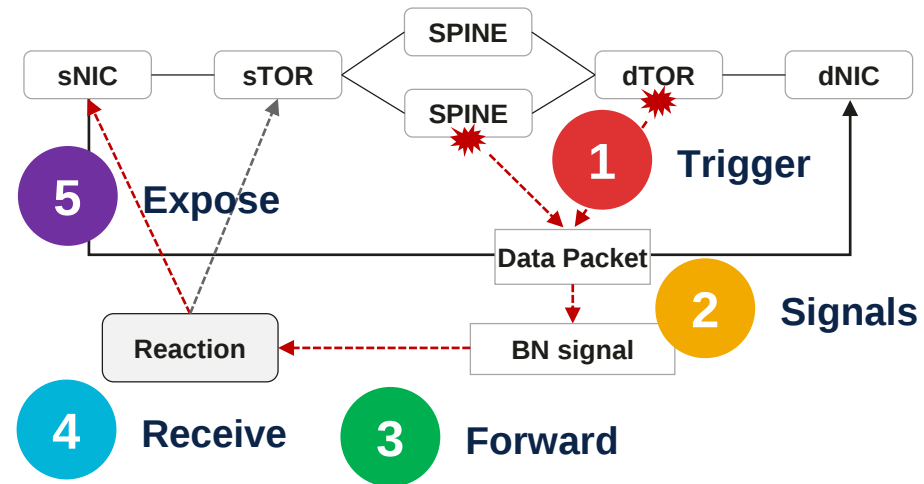
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- Clause 7 & 8 are the meat.
 - 8.1 & 8.2: bridge's and end station's BN functional entities and procedures.
 - 8.3: variables controlling operation.
 - 8.4: BN procedures (including state machines and tables if necessary).
 - 8.5: Encoding (encapsulation and format).
 - 7: Service interface specs for exposing the BN information to higher layer entities.



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- Clause 9 - Management; Clause 10 - YANG
- Question to discuss:
 - The authors would like to ask if we want a dedicated management section.
- The benefit of having a dedicated management section:
 - Be independent of protocol and implementation.
- The benefit of **NOT** having a dedicated management section:
 - Less redundancy and less error-prone.
 - An alternative management implementation can still be standardized when needed.

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Discuss