Proxy for Congestion Notification

draft-xiao-rtgwg-proxy-congestion-notification-02

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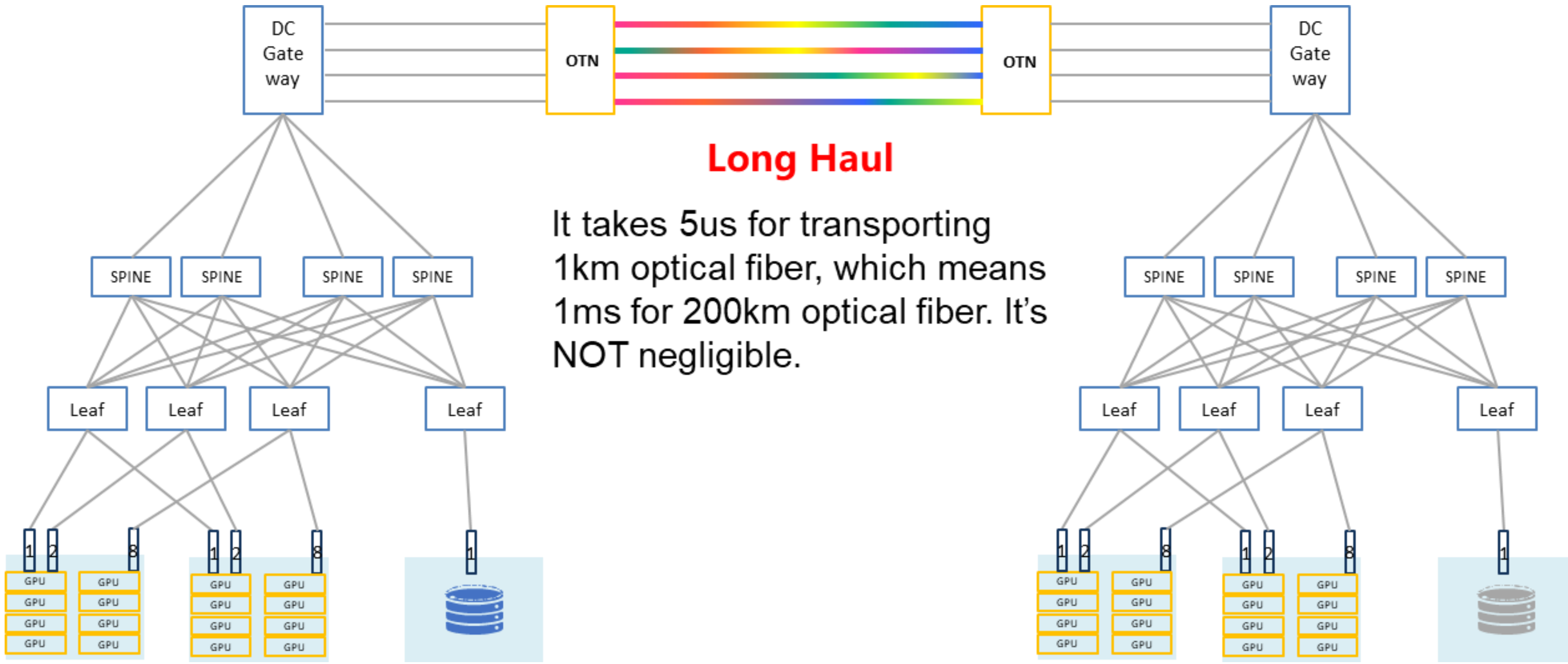
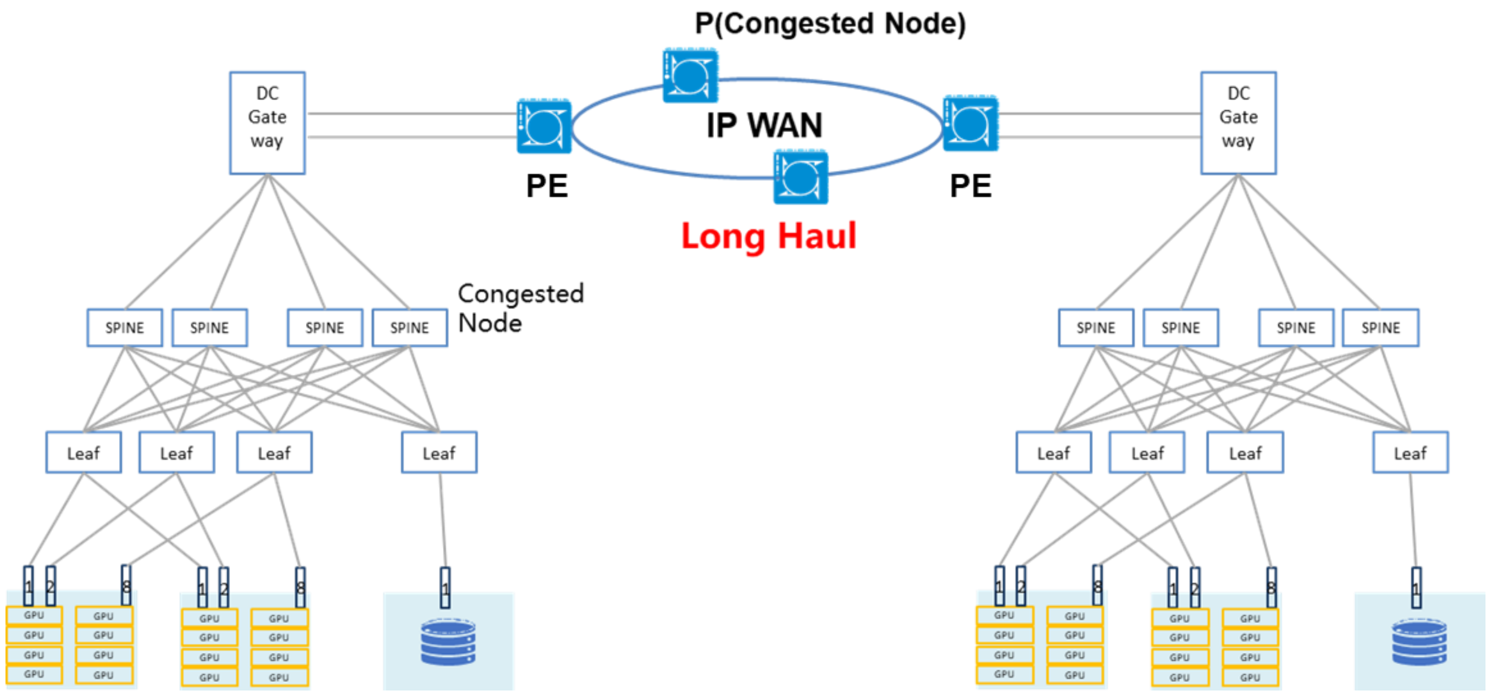
Problem Statement (1) – Why Fast CNP?



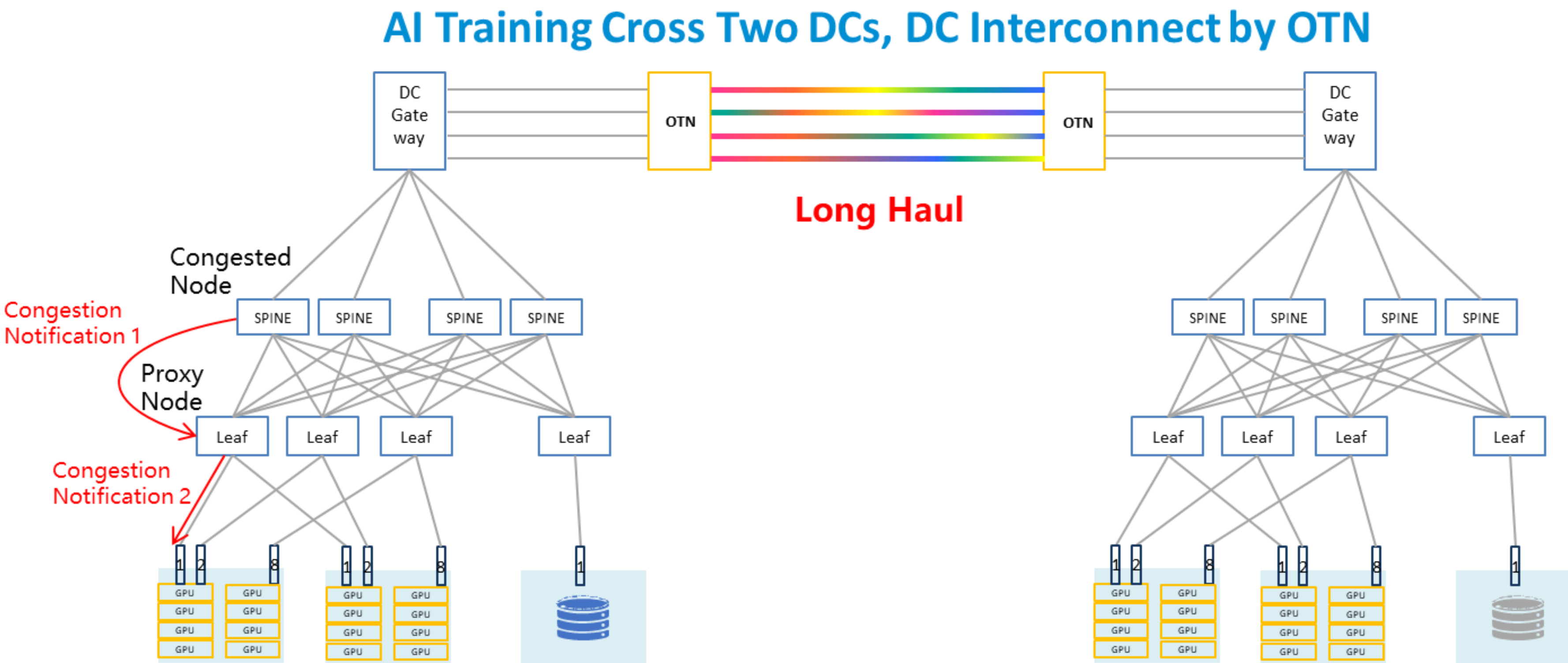
- CNP: Congestion Notification Packet
- Common CNP is sent to the traffic sender by the traffic receiver and triggered by ECN marking at the congested network node
- Fast CNP is sent to the traffic sender by the congested network node while detecting congestion

Problem Statement (2) – Why Fast CNP with Proxy?



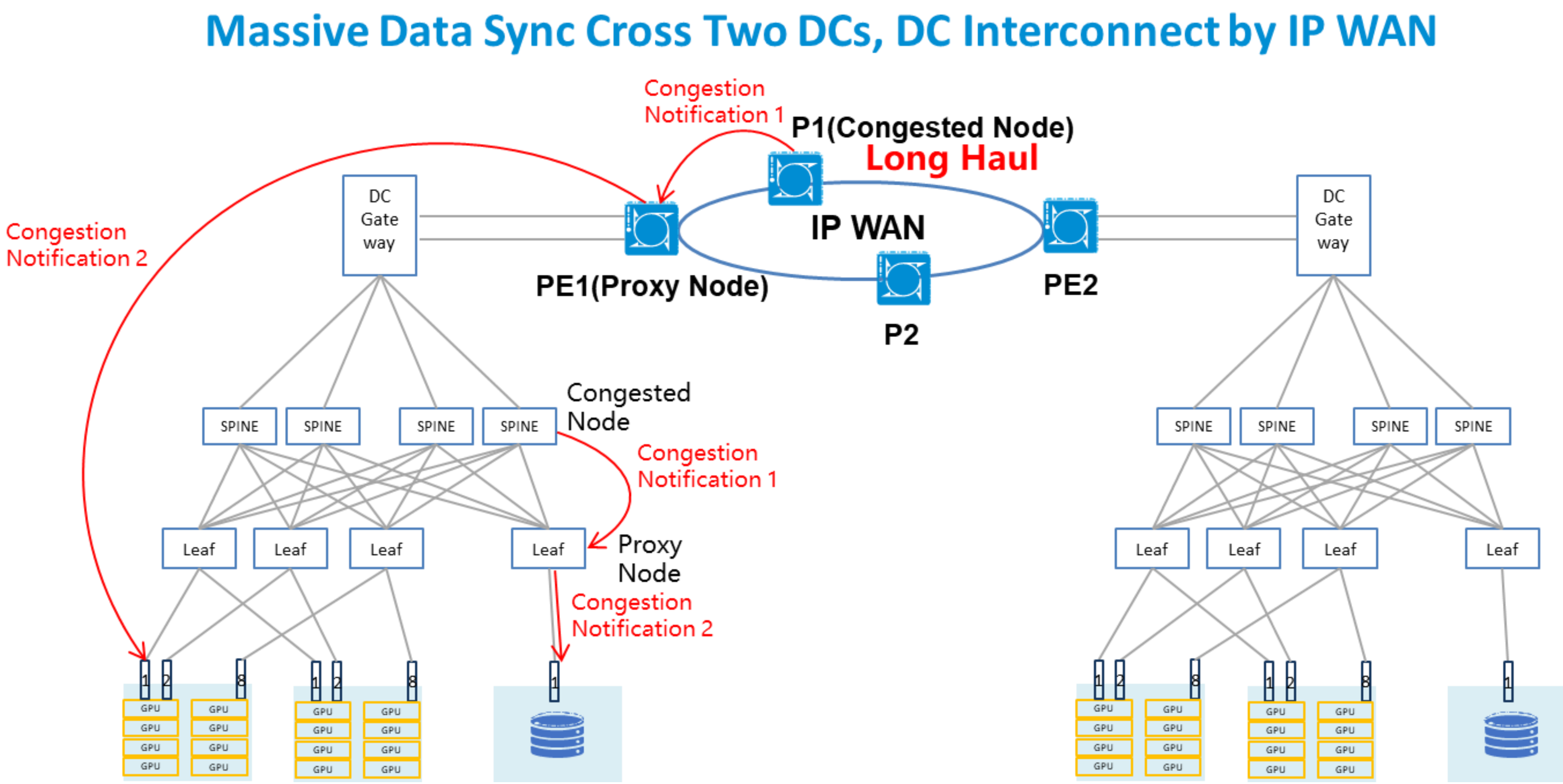
- Without proxy, the congested node needs to know what kind of congestion notification message is supported by each specific traffic sender
- Without proxy, the congested node needs to know the mapping table between Source QP and Destination QP in a RoCEv2 network
- Without proxy, when a WAN P router gets congested, the congested node can't send a congestion notification to the traffic sender

Example (1) – How Fast CNP with Proxy works?



- Proxy node selection: Leaf switch within the data center
- Advertising the mapping table between the proxy node and the traffic sender: IGP or BGP
- Once detecting congestion: Spine switch looks up the mapping table and finds the proxy node, then it sends Congestion Notification 1 to the proxy node
- Once receiving the Congestion Notification 1: Proxy node sends Congestion Notification 2 to the traffic sender
- **IGP/BGP extensions** and **Congestion Notification 1** are standardized in this draft

Example (2) – How Fast CNP with Proxy works?



- Proxy node selection: PE router within the IP WAN and Leaf switch within the data center
- Advertising the mapping table between the proxy node and the traffic sender: IGP or BGP
- Once detecting congestion: P router or Spine switch looks up the mapping table and finds the proxy node, then it sends Congestion Notification 1 to the proxy node
- Once receiving the Congestion Notification 1: Proxy node sends Congestion Notification 2 to the traffic sender

Next steps

- Ask for more reviews and comments
- Revise this draft to resolve comments
- Ask for WG adoption