Network Notifications:

Concept and BoF Motivation

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The Concept of Network Notification

- **Network Notification** refers to the mechanisms to send specific network information from the originating node to one or a group nodes in the network

- **Fast Notification** reflects the further requirement that the notification should be delivered as fast as possible, so that the corresponding reaction can be made in a timely manner
  - “Fast” may be important for some use cases, while,
  - It may be something nice to have for other use cases

Summary of Network Notification Use Cases

- AI/ML traffic within DC
  - High throughput & low entropy traffic
  - Require low latency & lossless network connection
- AI workloads spanning multiple DCs
  - Latency & jitter sensitive, uncertain available bandwidth
  - Require real-time awareness of network conditions
- General interconnection scenarios
  - e.g. CDN interconnection, DC interconnection, cloud-edge continuum
  - Sensitive to sudden change in traffic volume reception
  - Require coordination to guarantee SLA during an uncontrolled massive injection of traffic

The notification of failure, congestion, link utilization and other network condition changes is needed

Applicability of Network Notification

- Load Balancing
- Failure Protection
- Congestion Control
- …

Motivation of the BoF

- Discuss the use cases of (fast) network notifications
- Identify the requirements and gaps
- Gauge interests in this topic

Thanks