Scenarios and Gaps towards a Generalized IPv6 Tunnel

draft-li-rtgwg-gip6-protocol-ext-requirements-03

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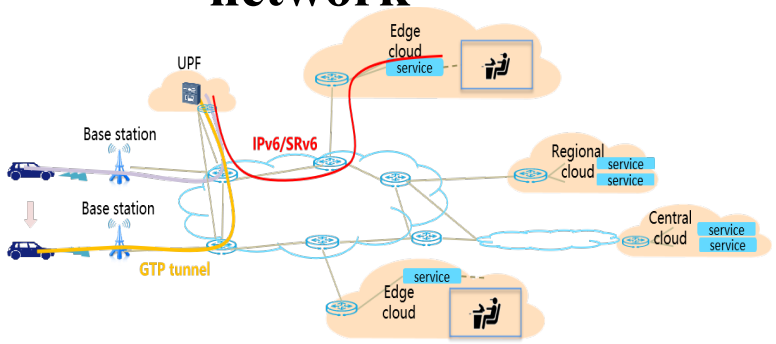
Brief Recap of this work

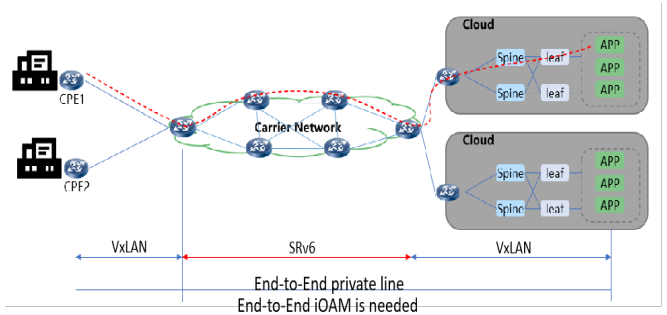
- 2023/3 GIP6 side meeting
- 2024/10 Updated to v02, supplementing requirement analysis
- 2024/11 Clarified GIP6 motivation (to-do & not-to-do) @121
- 2025/3 Updated to v03, revised the draft scope to focus on scenarios and operational requirements of legacy tunnel technologies (GRE/GTP/VxLAN etc.)

Typical Scenarios and Practical Deployment

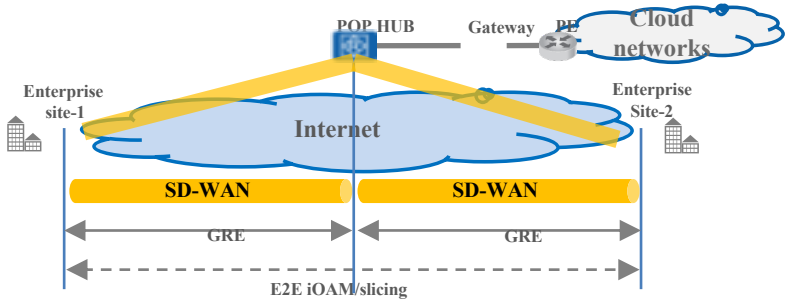
V2X network



Private line Service



SD-WAN



- **Operational Requirements:**
  - End-to-end differentiated service assurance
    - e.g. media streaming flow vs. remote driving signaling flow
    - e.g.government clients vs. catering businesses
  - End-to-End iOAM across the whole connection
    - which combines RAN and WAN
    - which combines WAN and the DCN)

- **Challenges During Deployment**
  - Service disruption occurs, but root cause cannot be identified
  - Critical Limitation: RAN segment lacks IFIT support for troubleshooting
  - Observed increased latency in user experience
  - Customer Accountability Barrier: Inability to prove bearer network involvement due to missing IFIT traceability in cloud environment

***Common Issue**: the tunnel technologies in these scenarios are relatively old, and DO NOT support modern features such as slicing/iOAM etc.*

Next Step

- Adoption call for the scenarios/requirement document
  - Based on *draft-li-rtgwg-gip6-protocol-ext-requirements-03*

Thank you!