Network Monitoring of IGP

draft-gu-opsawg-network-monitoring-igp-00

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Previous work

• draft-chen-npm-use-cases-00: Network-wide Protocol Monitoring (NPM): Use Cases
  • Motivations
    • Quick Reporting: Contents of control protocols need to be reported quickly, especially IGP protocols.
    • High Performance: Binary encoding vs XML/JSON encoding.
    • Easy To Standardize: A protocol that is easier to standardize than YANG.
    • Wide Monitoring Scope: Control plane maintenance information includes IGP, LDP, RSVP-TE, RIB.
  • History
    • Presented in IETF 105
Changes from the previous draft

• With input from customer discussion, new standard progress, and the demo verification result
  • IGP use cases identified
  • Performance: Similar between Telemetry-based and BMP-like.
  • Scope changes: Focus on IGP only
    • RIB: YANG model for The Routing Information Base defined in RFC 8431(https://datatracker.ietf.org/doc/rfc8431/)
    • RSVP-TE & LDP: SR develops rapidly and replaces RSVP-TE & LDP
IGP Use Cases

• ISIS Route Flapping
  • The localizing of the flapping source and the identifying of root causes haven't been easy work due to various reasons. The causes maybe system ID conflict, IS-IS neighborship flapping, route source flapping (caused by import route policy misconfiguration) and so on.

• LSDB synchronization failure
  • During the IS-IS flooding, sometimes the LSP synchronization failure happens. The causes maybe “lsp is not correctly advertised” or “LSP transmission error” or “LSP is received but not correctly processed”.
Next Steps

• Solution options
  • Option 1: BMP-like
  • Option 2: Telemetry-based (YANG model to be defined)

• Suggestions are welcome
Thank you!