ISIS Metric Extensions

draft-previdi-isis-te-metric-extensions-01

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- This draft proposes the same extensions proposed in
  draft-ietf-ospf-te-metric-extensions-00

- ISIS to carry topology performance information
  - Currently, the only "cost" is the one statically assigned to a link

- Difficult to capture latency, loss and bandwidth in single static metric

- I need to know the *current* values at path/topology compute time

Overview

- ISIS TE Metric Extensions automatically distributes performance data
  - Allows control plane manipulation
  - E.g.: To permit MPLS tunnel setup failover, fallback based on network performance
  - E.g.: Compute ALTO topologies based on current network resources
  - Intentionally independent from measurement protocols
  - Also, intentionally independent from applications
    - MPLS-TE
    - Routing
    - ALTO-Like ranking services
    - Multi-Layer topology advertisement
    - Weighted ECMP
    - …
  - Modular and extensible

New SubTLVs

- Two Main Types of information
  - Nominal (Routine)
  - Anomalous (Significant) information
- Nominal TLVs used to calculate steady state
- Upon SLA violation, Anomalous ("A") bit raised

New SubTLVs

- Five New Sub-TLVs (Currently):
    - Unidirectional Link Delay
    - Unidirectional Delay Variation
    - Unidirectional Packet Loss
    - Unidirectional Residual Bandwidth
    - Unidirectional Available Bandwidth
- The "A" bit defines:
    - Nominal vs. Anomalous

draft-previdi-cdni-footprint-advertisement-00

Thank You