ISIS TE Metric Extensions

draft-previdi-isis-te-metric-extensions-02

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

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 distribute 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

- Five New Sub-TLVs (Currently):
  - Unidirectional Link Delay
  - Unidirectional Delay Variation
  - Unidirectional Packet Loss
  - Unidirectional Residual Bandwidth
  - Unidirectional Available Bandwidth

- Upon SLA violation, Anomalous ("A") bit raised.
New SubTLVs

• Changes in -02
  – “A” bit defined for all SubTLVs
  – Mandate use of Interface and Neighbor Addresses SubTLVs for both IPv4 and/or IPv6
Thank You