IS-IS Geo Location

draft-shen-isis-geo-coordinates-01
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Geo Location in Routing

- P2P, P2MP, and Hybrid automatic link cost
- Find-My-Router Apps
- Proximity services in content sharing and SFC
- Network topology maps
- Dynamic DNS loadsharing
- Traffic matrix of location pairs
- Same ‘subnet’ over WAN and ECMP
- Future routing/service/mgmt apps
- Static provisioning, utilize additional information or GPS capable device
Geo Location TLV

- Flag: U, N, E, A, M
- Location Uncertainty in centimeter
- Latitude and Longitude in milliseconds
- Altitude is a signed integer, in centimeter or meter
In IS-IS LSP & IIH

• In LSP PDU
  – Optionally in IS-IS LSP for router location
  – Withdrawal is done by simply re-flooding the LSP without Geo Location TLV.

• In IIH PDU
  – Notify the neighbor of our location
  – Can be used to calculate P2P, P2MP, and hybrid (RFC 6845, I-D.lamparter-isis-p2mp) cost.
  – Implementation and operation specific
Security

• May Increase of attack vector
• Geo location information can be sensitive, proprietary or physical security/safety related
• Implementation MUST make advertisement optional
• Protocol level or link level encryption may be needed