IRS Use Case & Requirements

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(Speaking on behalf of several Use Case and Requirement I-D’s co-authors)
IRS Use Case & Reqmt’s Drafts

• Use Cases
  – draft-amante-irs-topology-use-cases-00
    • Shane Amante (Level 3), Jan Medved, Stefano Previdi (Cisco), Tom Nadeau (Juniper)

• Requirements
  – draft-medved-irs-topology-requirements
    • Jan Medved, Stefano Previdi (Cisco), Hannes Gredler (Juniper), Shane Amante (Level 3)
• Framework for a Topology Server function
• Use Cases
  – Capacity Planning Operate at different time scales, but critical requirement to incorporate information from multiple data sources: statistics & inventory data warehouses
  – VPN Path Computation Element (PCE)
  – ALTO Server
Topology and Related APIs

- Policy Manager
- Topology Server
- Inventory Collection
- Network Element
- Application
- WebSockets, ReST, XMPP
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- I2RS, NetConf, SNMP, TL1, ...
- LDP
- LMP
- Data Model
- Data Model
- Data Model
- Statistics Collection
- LMP
**draft-medved-irs-topology-requirements-00**

- Reqmt’s for ‘Topology Manager’ function of draft-amante-irs-topology-use-cases
- Topology Manager (TM) constructs virtualized views of global network topology for consumption by Clients
- **General:**
  - Define standards-based data models with common vocabulary to describe various network components
- **Data Model:**
  - Layer-2 & higher Data Model Reqmt’s
  - MUST capture Visible & ‘Invisible’ Network Components
  - Hierarchical representation, composition and summarization of network components into real or virtual/abstract depictions of network topologies
- **Northbound (Client) API**
  - Efficient, flow-control-capable protocol for large data transfers between TM & Clients
  - MUST support publish/subscribe capability
  - MUST support ‘non-Routers’ as Clients, (up to now Clients needed to run a dynamic Routing Protocol to learn of network topology or events).
- **Southbound (Network & Device) API:**
  - Requirements on Network Elements to enable topology data collection
  - More comprehensive set in draft-rfernando-irs-framework-requirement-00
THANK YOU