IRS Use Case & Requirements

Shane Amante

Level 3 Communications, Inc.

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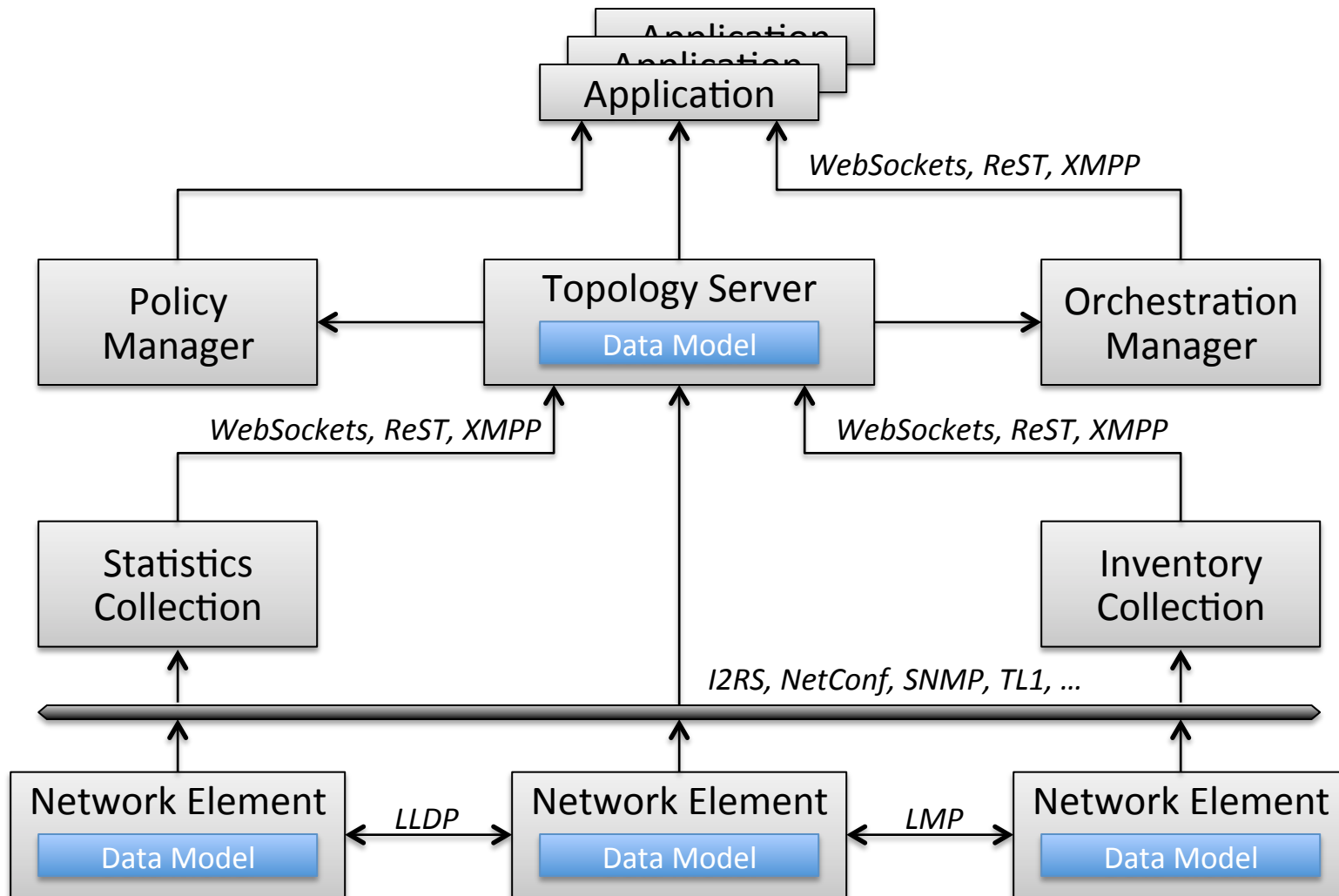
IRS Use Case & Reqmt's Drafts

- ## 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)

draft-amante-i2rs-topology-use-cases-00

- 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

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