MEF LSO Network Topology – Contribution API Driven Approach

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Why should you care about Topology ?

"**Network topology** is the arrangement [*connectedness*] of the various elements (links, nodes) of a communication network."*

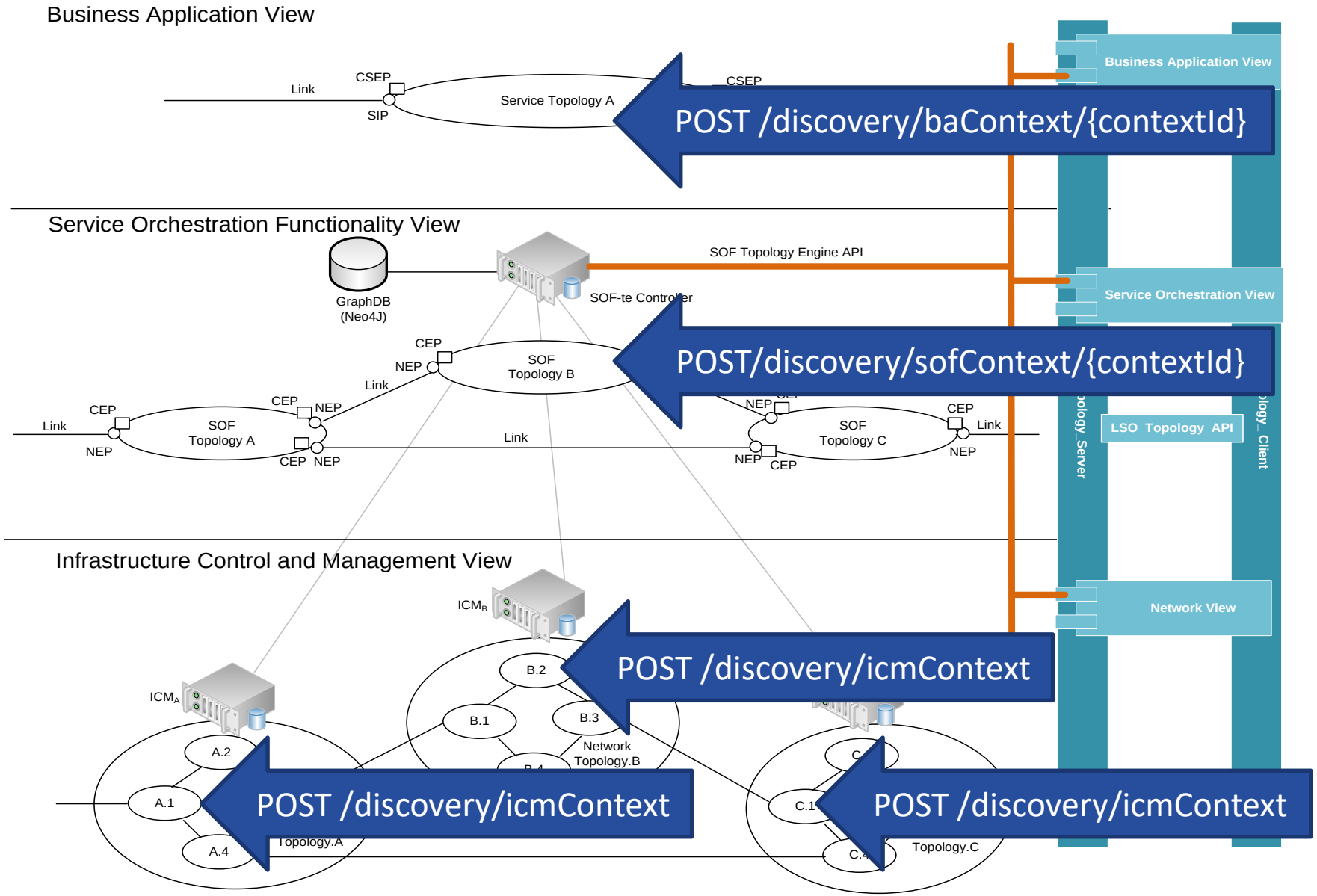
- **Topology** is a key functional component for many support and service aspects in SDN/NFV/legacy networks (hybrids).
- **Topology** enables true root cause analysis and fault isolation.
- **Topology** enables accurate service verification and fulfillment.
- **Topology** enables SLA verification and optimal path computation and selection.
- Differentiation between Inventory and Topology. Inventory are a set of objects. Topology is the association of these object in a meaningful representation – i.e., graph.

** Wikipedia definition.*

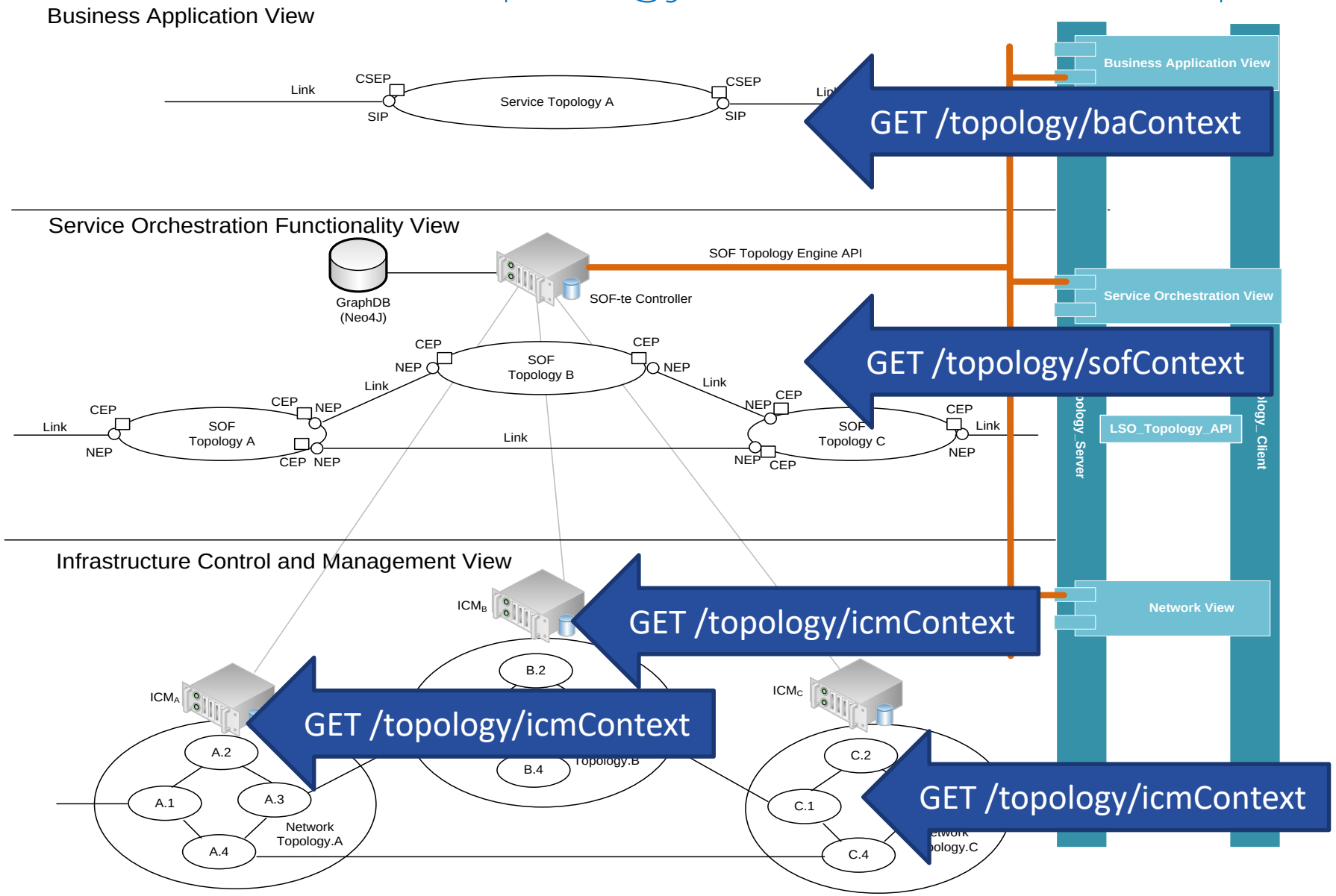
API Driven Approach

- Topology is a common pattern/construct that exists at all LSO layers.
- Graph DB for persistent store of topology elements is key in order to represent communication networks and handling volume of client requests.
- Visualization of topology enhances the users ability to understand and make decisions.
- MEFs agile approach to defining standards with development prototypes is key to validating the implementation of standards.
  - Epics, User Stories, Use Cases have been built.
  - Time to build the model and leverage at any LSO IRP.

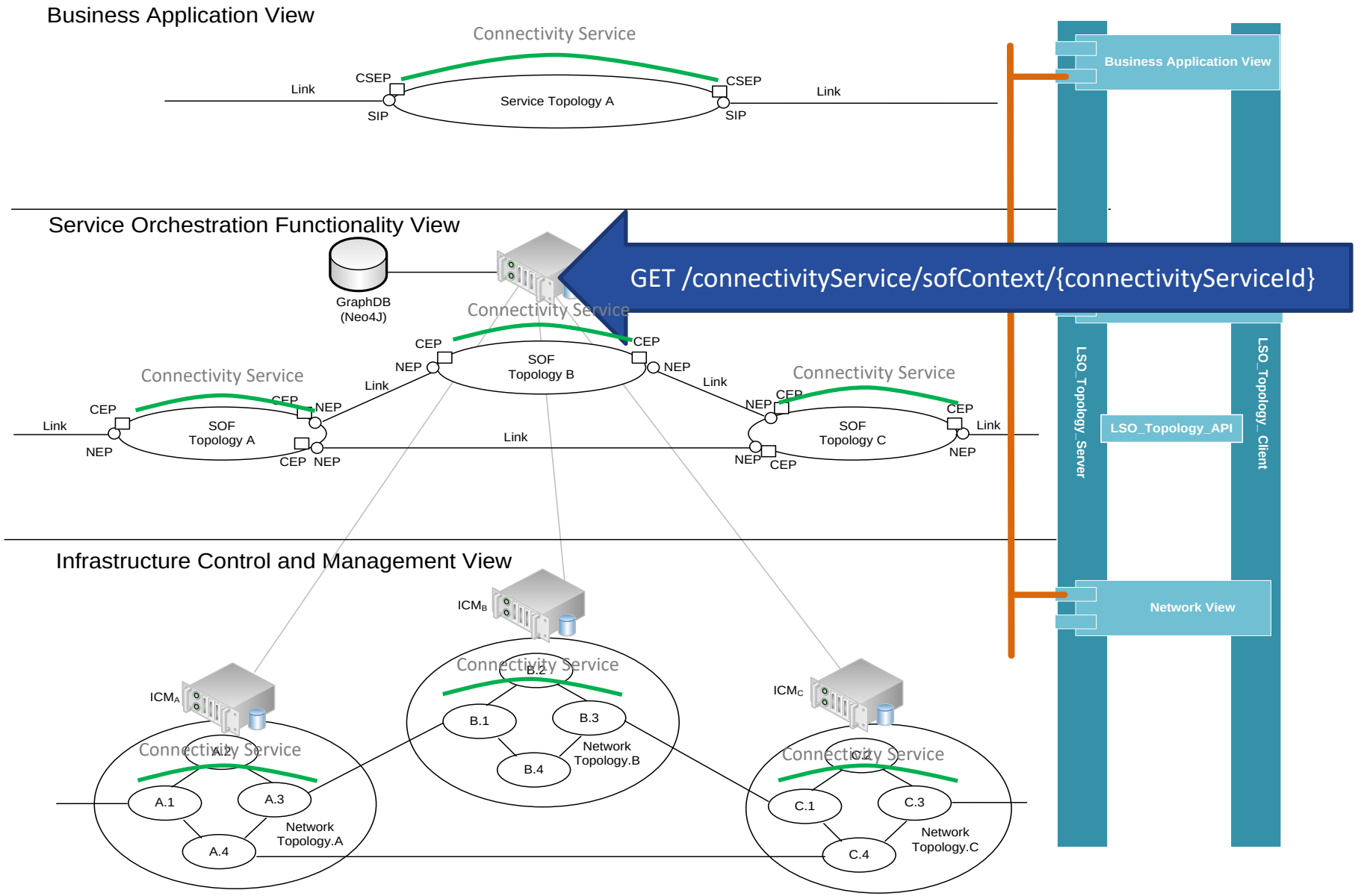
LSO Layered Network Topology – Discovery is first step



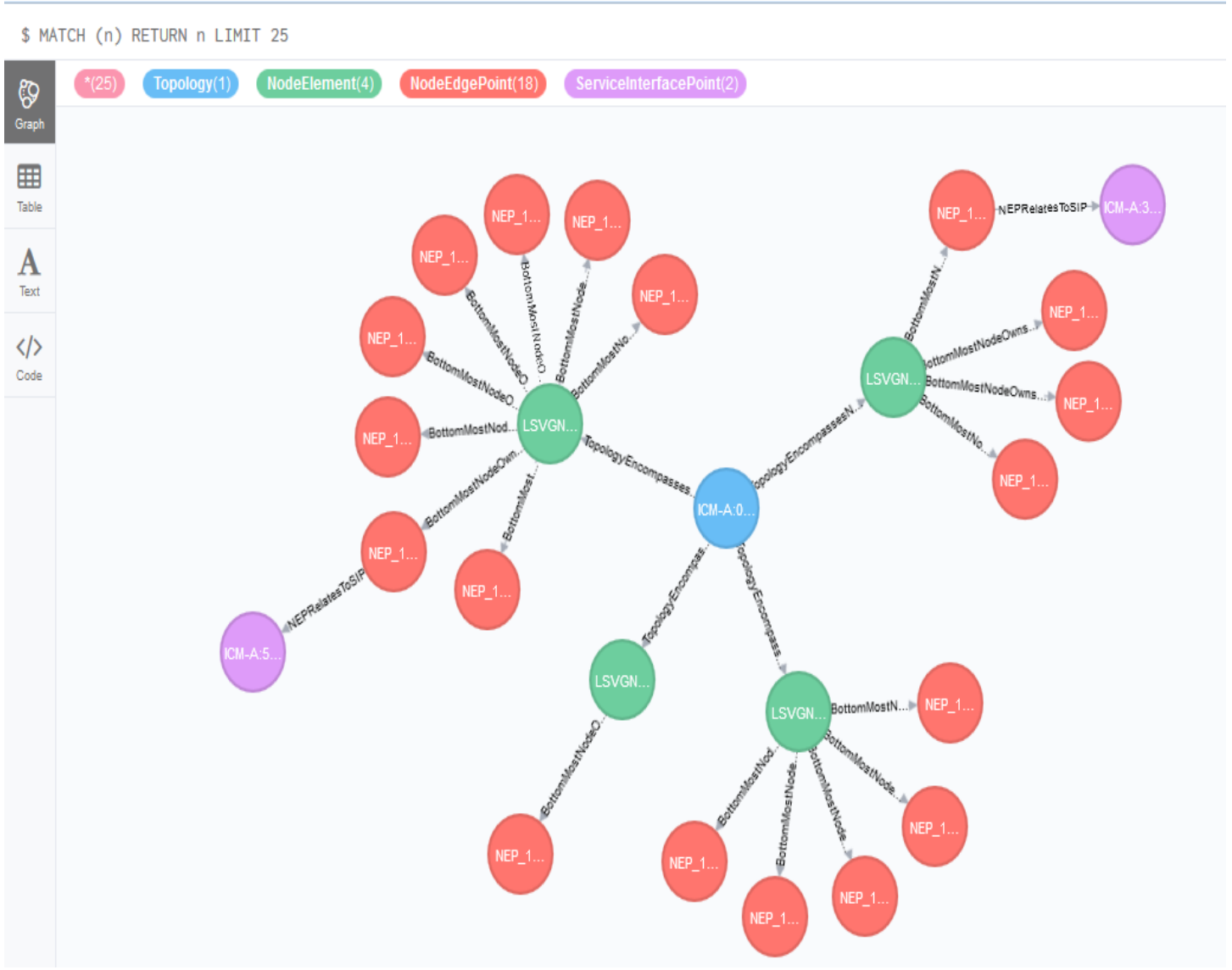
LSO Layered Network Topology – Retrieve the Topology



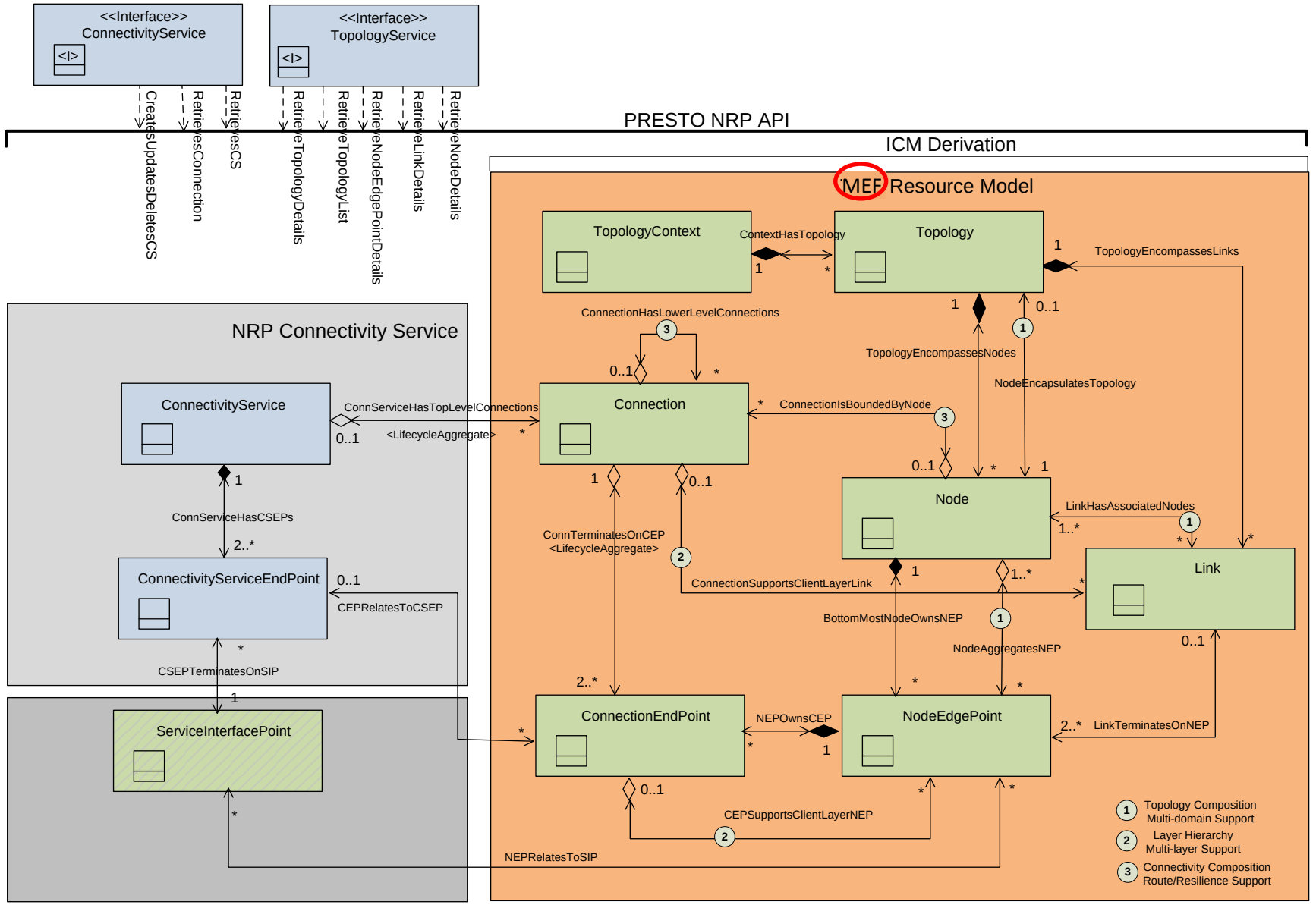
LSO Layered Network Topology – Retrieve the Connectivity Service



GraphDB (Neo4J) Representation of Network Topology



Presto NRM/NRP Topology and Service Association



MEF Resource Model (W89) – Network Topology & Connectivity