IETF 92

draft-lam-teas-usage-info-model-net-topology-00

Introduction

- draft-lam-teas-usage-info-model-net-topology-00

- Provides an introduction to an Information Model that is relevant to the data modeling work on Topology underway in the IETF

- Rationale and benefits for the use of Information Models is provided in draft-betts-netmod-framework-data-schema-uml

What this draft does/ doesn't do

- Does
  - Describes relevant work that is under development outside of the IETF
  - Provides examples of utilizing Information modeling to aid in developing consistent and complete data models regardless of protocol
  - Multi-stakeholder model which leverages the expertise of the various participants in the standards landscape

- Doesn't
  - Suggest or attempt to drive information model development in the IETF

Background

- RFC 3444
  - On the Difference between Information Models and Data Models
  - Information Model
  - Data Model

- Key difference
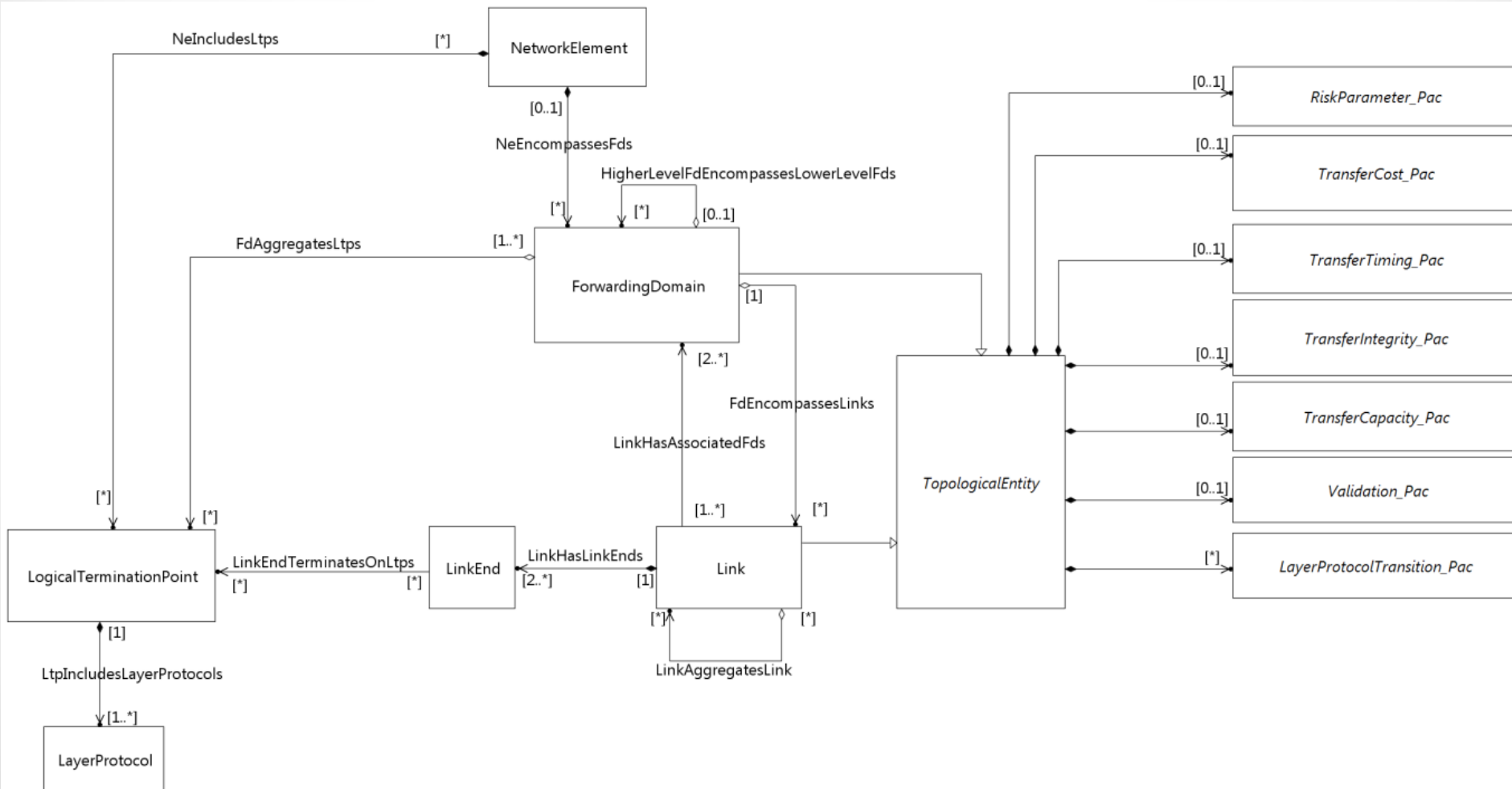 - IM is abstract – DM is concrete

ONF Common Information Model

- Defines objects, properties, and relationships
- Full scope described in draft-betts
- Captured in UML
  - Using the Papyrus open source UML Tool.
  - The instruction on how to obtain the Papyrus tool and view the model are described in onf2015.017.03 attached in LS https://datatracker.ietf.org/liaison/1385/.

- The IM is divided into fragments
- Core Model Fragment
  - Core Network Module (CNM)
  - Core Foundation Module (CFM)
  - …

- The Core Network Module (CNM) is relevant to the Topology works

Concepts

- Forwarding Domain (FD)
  o Switching and routing capabilities
  o Forwarding Construct (FC)

- Link and Link End
  o Adjacency between two or more Forwarding Domains

- Logical Termination Point (LTP)
  o Termination, adaptation, and OAM functions
  o Layer Protocol (LP) – anchor for associating layer-specific conditional packages

- Topological Entity
  o Collects topology-related properties that are common to Forwarding Domain and Link

UML Model

For Further Information

- draft-lam: https://tools.ietf.org/html/draft-lam-teas-usage-info-model-net-topology-00
- draft-betts: https://tools.ietf.org/html/draft-betts-netmod-framework-data-schema-uml-01

- ONF Liaison
  o https://datatracker.ietf.org/liaison/1385/
  o Provides many resources
    - Papyrus model files (onf2014.408.03)
    - Core Model base document (onf2015.074.03)
    - Common Information Model Overview (onf2015.005.03)
    - UML Guidelines (onf2015.018.03)
    - Papyrus Guidelines (onf2015.017.03)
    - Model sketches and Spec Model thoughts (onf2014.416.01, onf2014.415.01)

Next Steps

- Immediate usage
  - Work with YANG Routing Directorate to assist in providing a framework that enables consistent development of YANG models
  - Work together with authors of Yang Topology modules, e.g., draft-liu-teas-yang-te-topo-00,
    - Identify commonality and distinction among entities / attributes / entity relationships considered in these drafts
    - Contribute the result to enhance the solution drafts
  - Create an environment fostering interoperable and consistent YANG models
    - YANG solutions development in conjunction with consideration of relevant available IM modules

- Engage on mailing list, using standard IETF process
  - Update draft per feedback
- Aspire to be adopted as WG draft leading to an Informational RFC