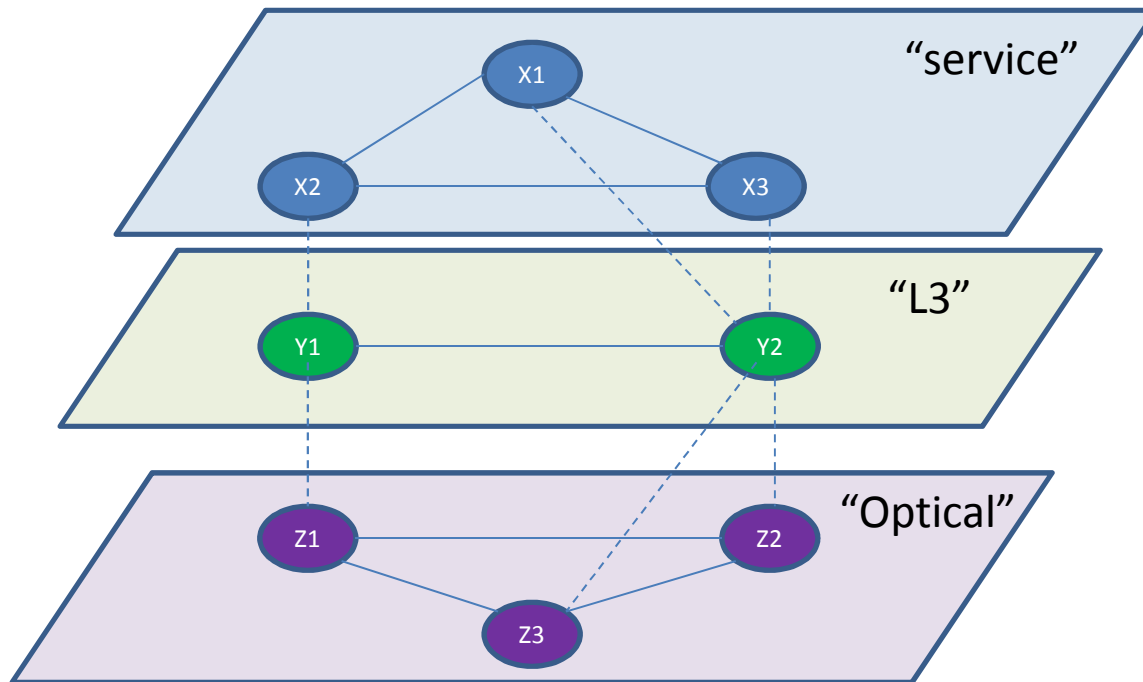# Network Topology Models
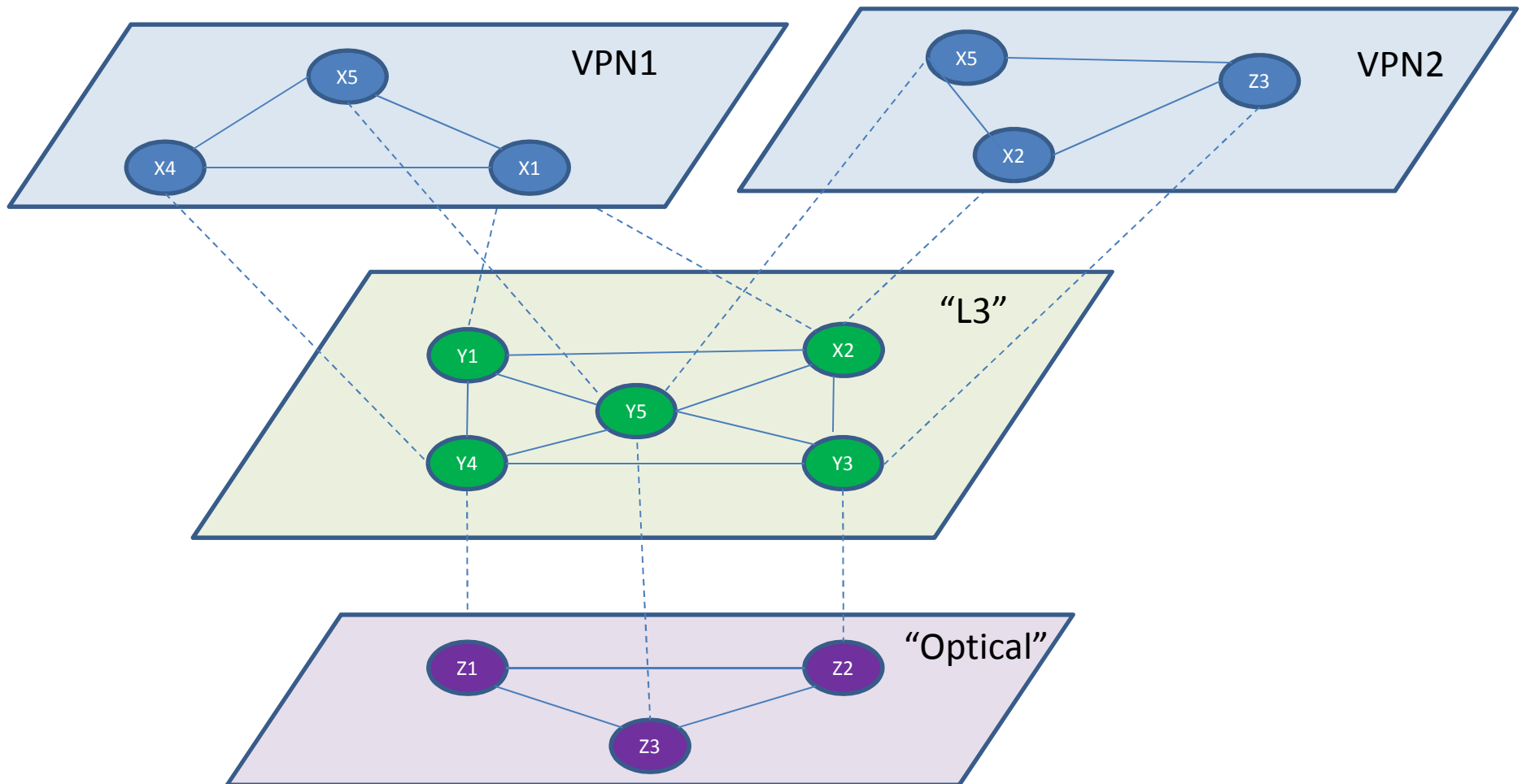## draft-ietf-i2rs-yang-network-topo

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(Bracket Computing), Robert Varga, Tony Tkacik (Cisco)
Hari Ananthakrishnan (Packet Design)

July 21, 2015

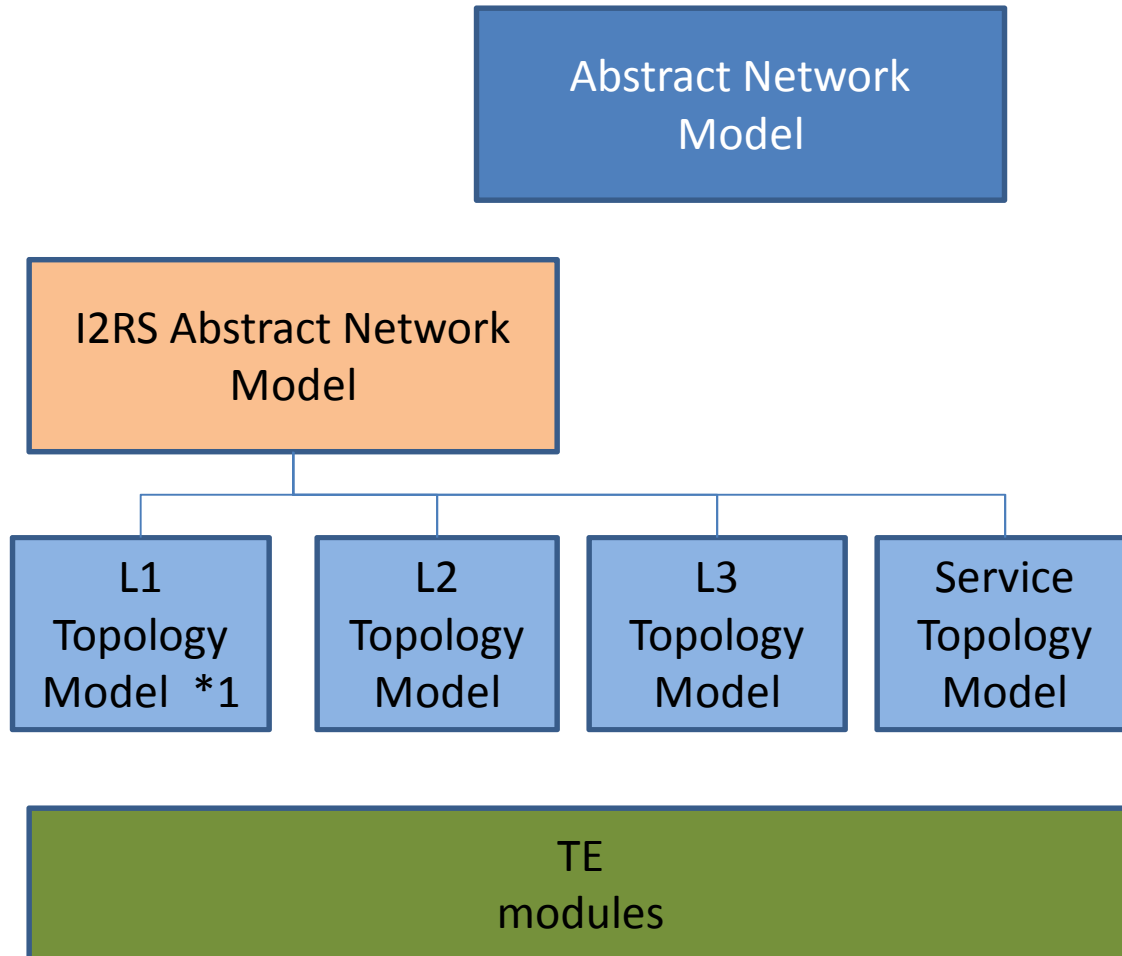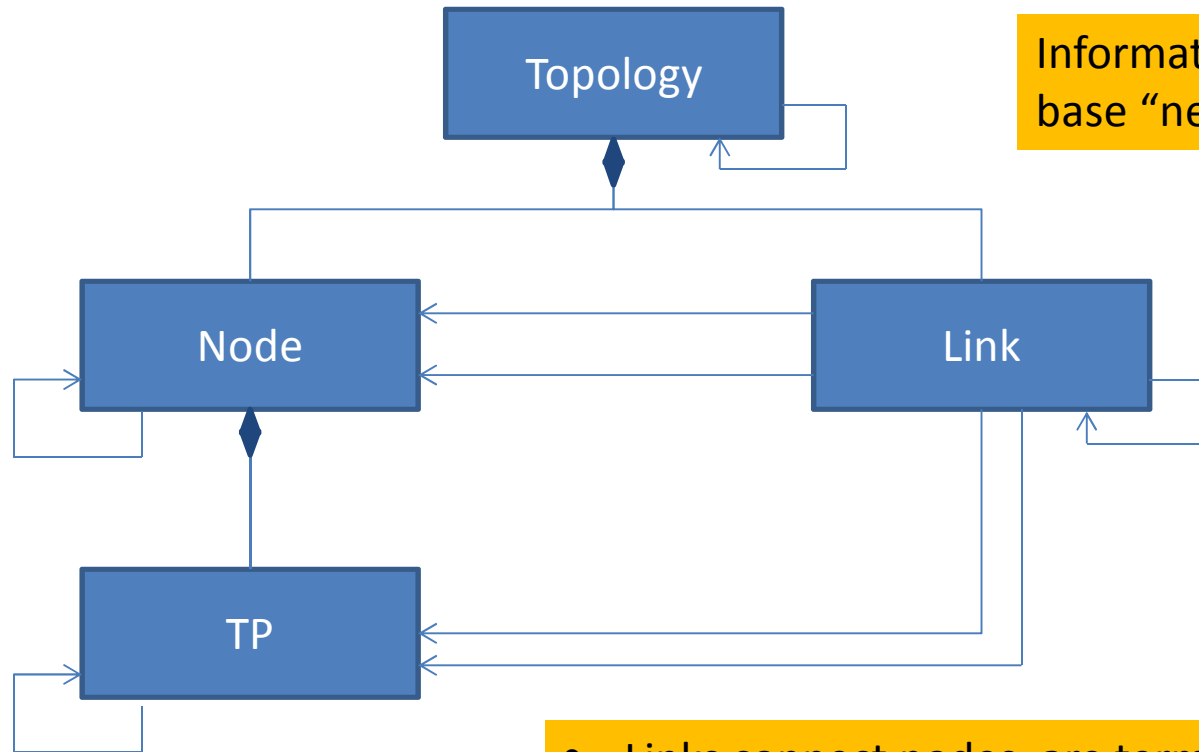# Horizontal and vertical layering

Stack Example

Abstract Toplogy

Abstract Network Model

I2RS Abstract Network Model

L1 Topology Model *1

L2 Topology Model

L3 Topology Model

Service Topology Model

TE modules

*1 – not in draft -03

Data model structure (contd.)

Topology

Node

Link

TP

Information model underlying
base "network topology" YANG module

- Links connect nodes, are terminated by termination points
- Topologies can refer to underlay topologies
- Links can refer to underlay links
- Nodes can refer to underlay nodes
- Unidirectional, point-to-point links
  represent non-ptp through hierarchies of nodes, links

BACK-UP

```
module: network-topology
   +--rw network-topology
      +--rw topology* [topology-id]
         +--rw topology-id              topology-id
         +--ro server-provided?         boolean
         +--rw topology-types
         +--rw supporting-topology* [topo-ref]
         |  +--rw topo-ref    leafref
         +--rw node* [node-id]
         |  +--rw node-id              node-id
         |  +--rw supporting-node* [network-ref node-ref]
         |  |   +--rw network-ref     leafref
         |  |  +--rw node-ref         leafref
         |  |  +--rw lnk:termination-point* [tp-id]
         |        +--rw lnk:tp-id                          tp-id
         |        +--rw lnk:supporting-termination-point*
         |                        [network-ref node-ref tp-ref]
         |        +--rw lnk:network-ref     leafref
         |        +--rw lnk:node-ref        leafref
         |        +--rw lnk:tp-ref          leafref
          +--rw lnk:link* [link-id]
            +--rw lnk:link-id              link-id
            +--rw lnk:source
            |  +--rw lnk:source-node     leafref
            |  +--rw lnk:source-tp?      leafref
            +--rw lnk:destination
            |  +--rw lnk:dest-node     leafref
            |  +--rw lnk:dest-tp?      leafref
            +--rw lnk:supporting-link* [network-ref link-ref]
               +--rw lnk:network-ref     leafref
               +--rw lnk:link-ref        leafref
```