IEEE Std 802.1Q™-2014 Bridge Configuration Data and Status/State UML Models

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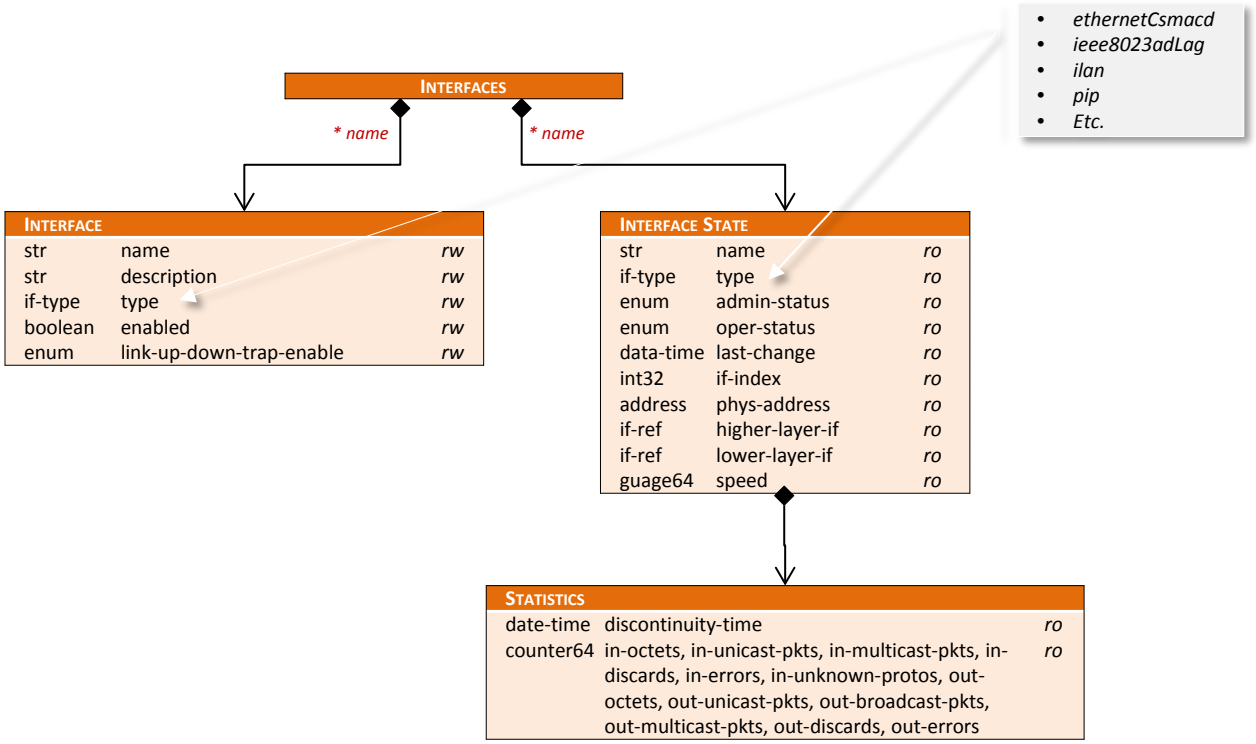
Introduction

- Introduce UML configuration data and state/status modeling of IEEE Std 802.1Q™-2014 Bridges
- IEEE 802.1Q bridging modelled includes:
  - TPMR (Two Port MAC Relay) Bridges
  - Customer VLAN Bridges
  - Provider Bridges
  - Provider Backbone Bridges
- IEEE 802.1Q features not (currently) being modelled includes:
  - Bridge protocol entities (e.g., MST, etc.)
  - MRP and MMRP entities
  - CFM and DDCFM entities
  - PBB-TE entities
  - Shortest Path Bridging entities
  - Forwarding and queuing for time-sensitive stream entities
  - Congestion Notification entities
  - Stream Reservation Protocol (SRP) entities
  - Edge Virtual Bridge (EVB) entities
  - Edge Control Protocol (ECP) entities

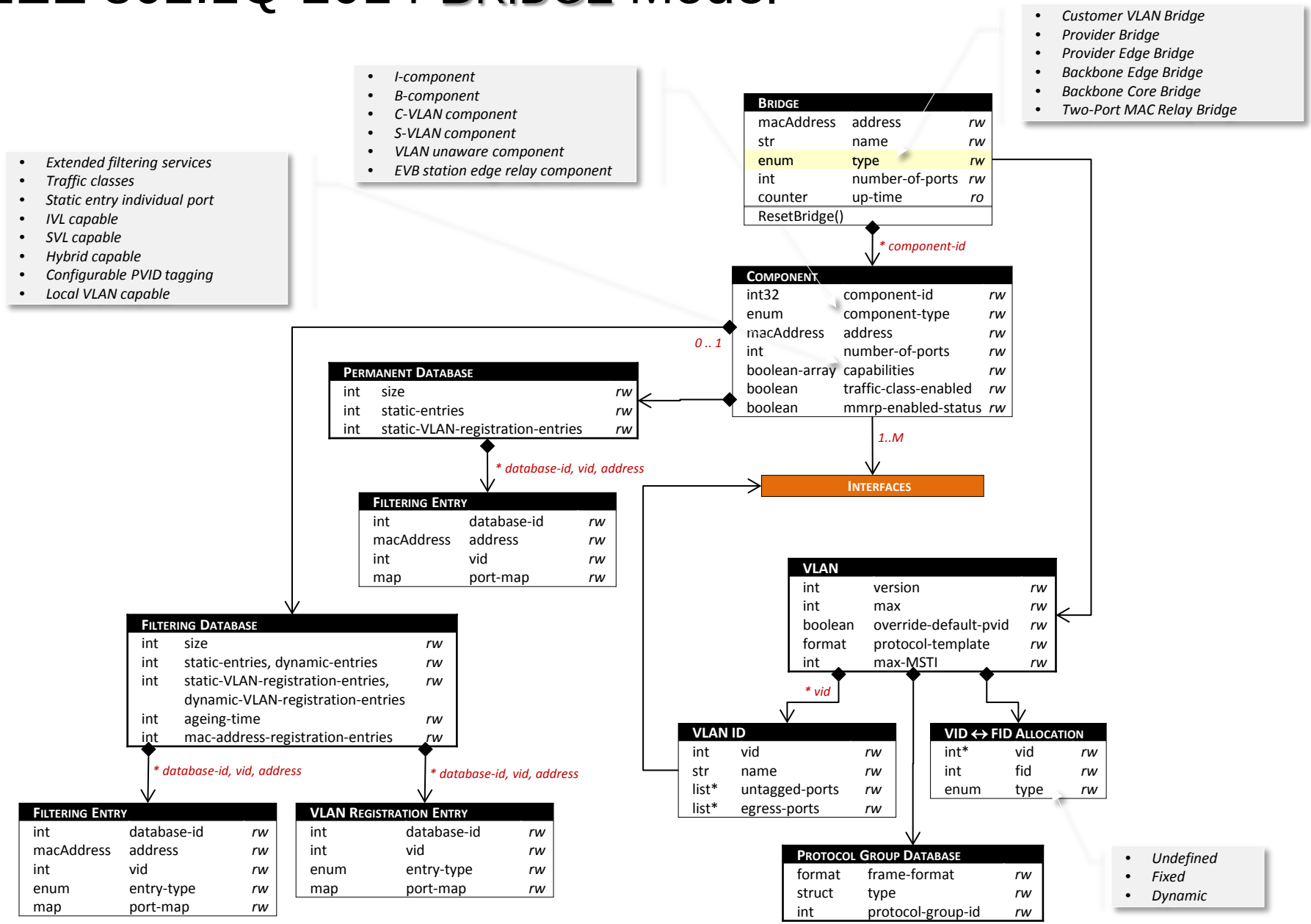
Outstanding Model Areas

- Confirmation/validation that proposed model (structure) can gracefully accommodate
  - Link Aggregation (802.1AX)
  - CFM
  - 802.1X

IETF INTERFACES Model (RFC7223)

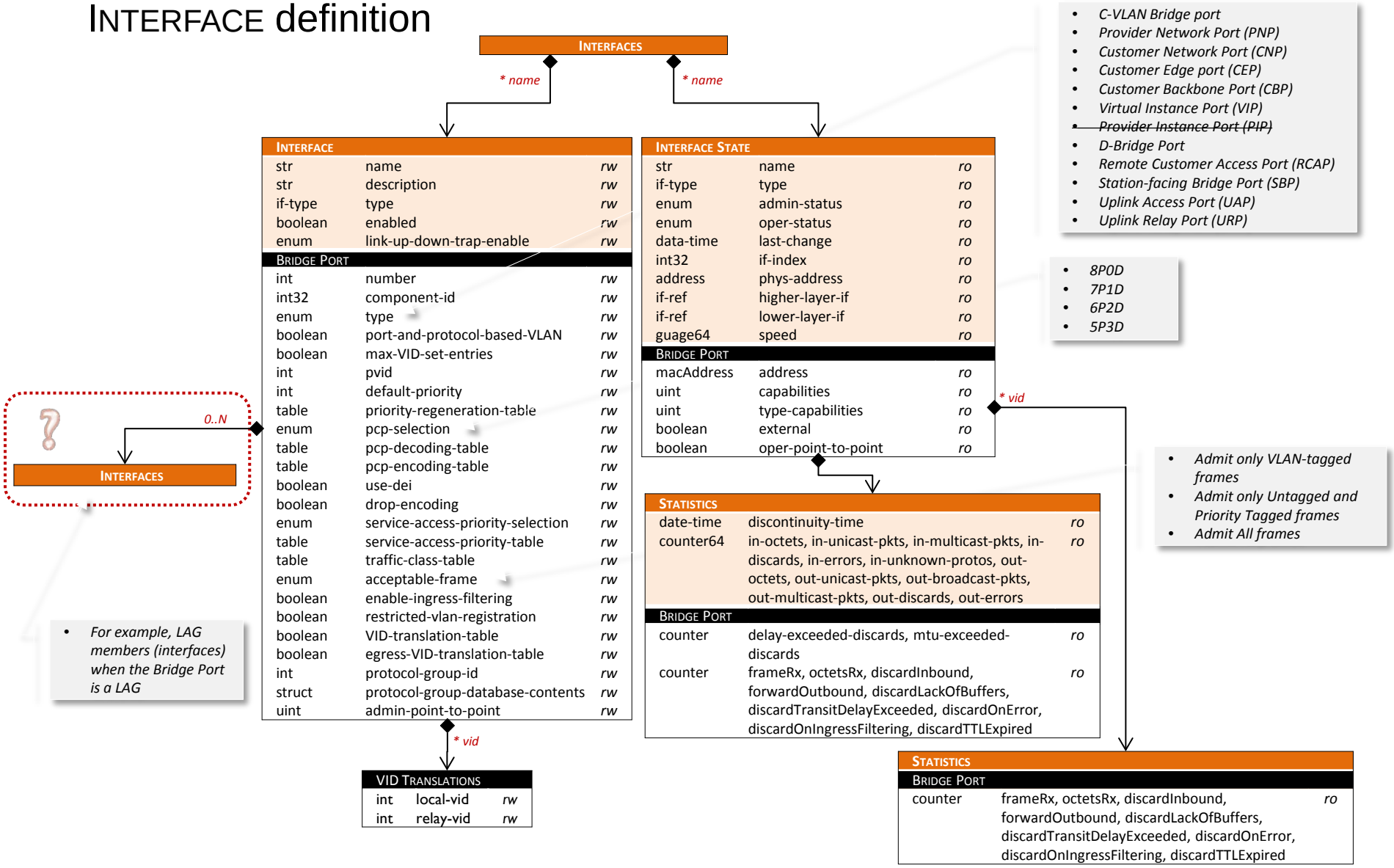


IEEE 802.1Q-2014 BRIDGE Model

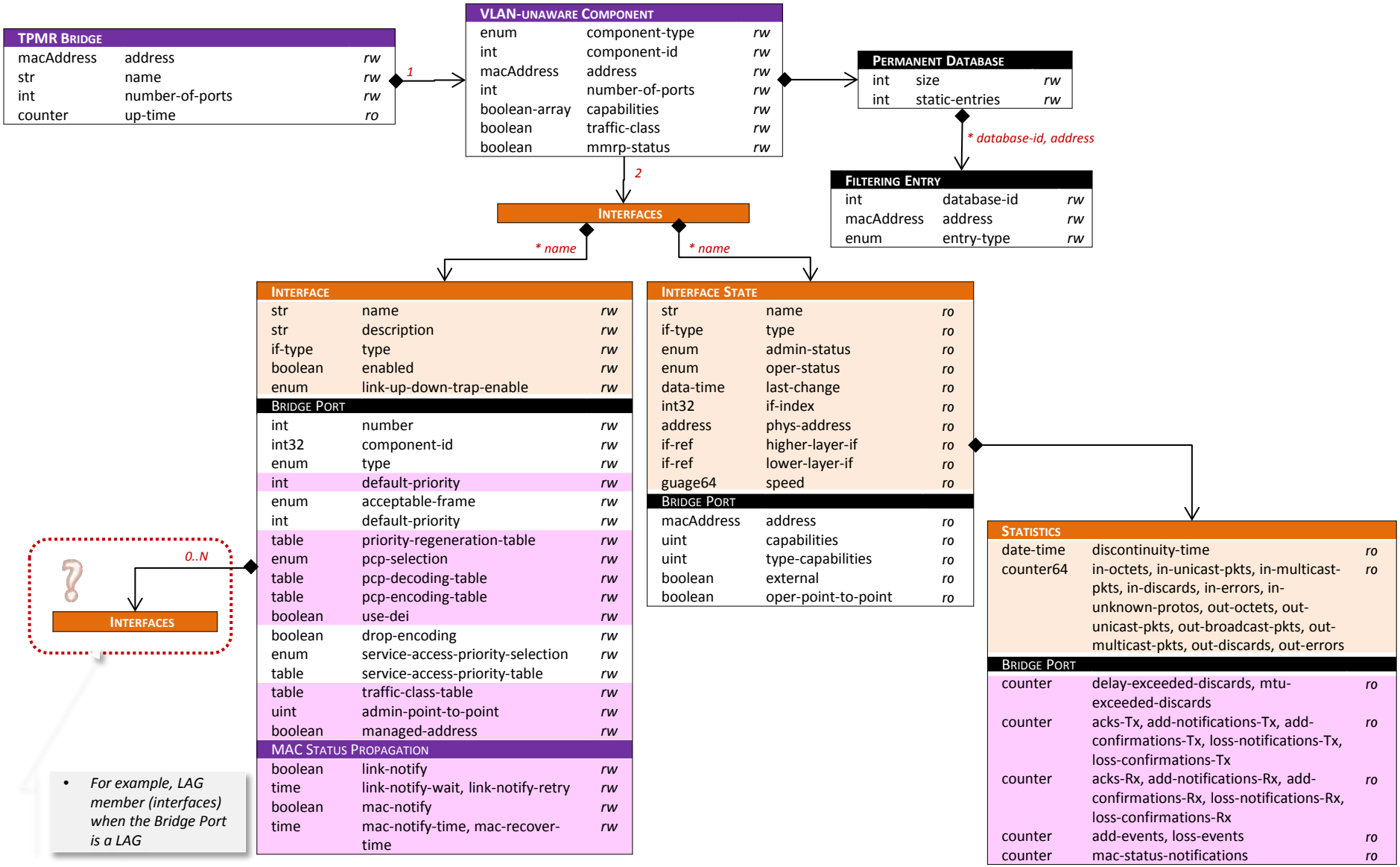


BRIDGE PORT Model

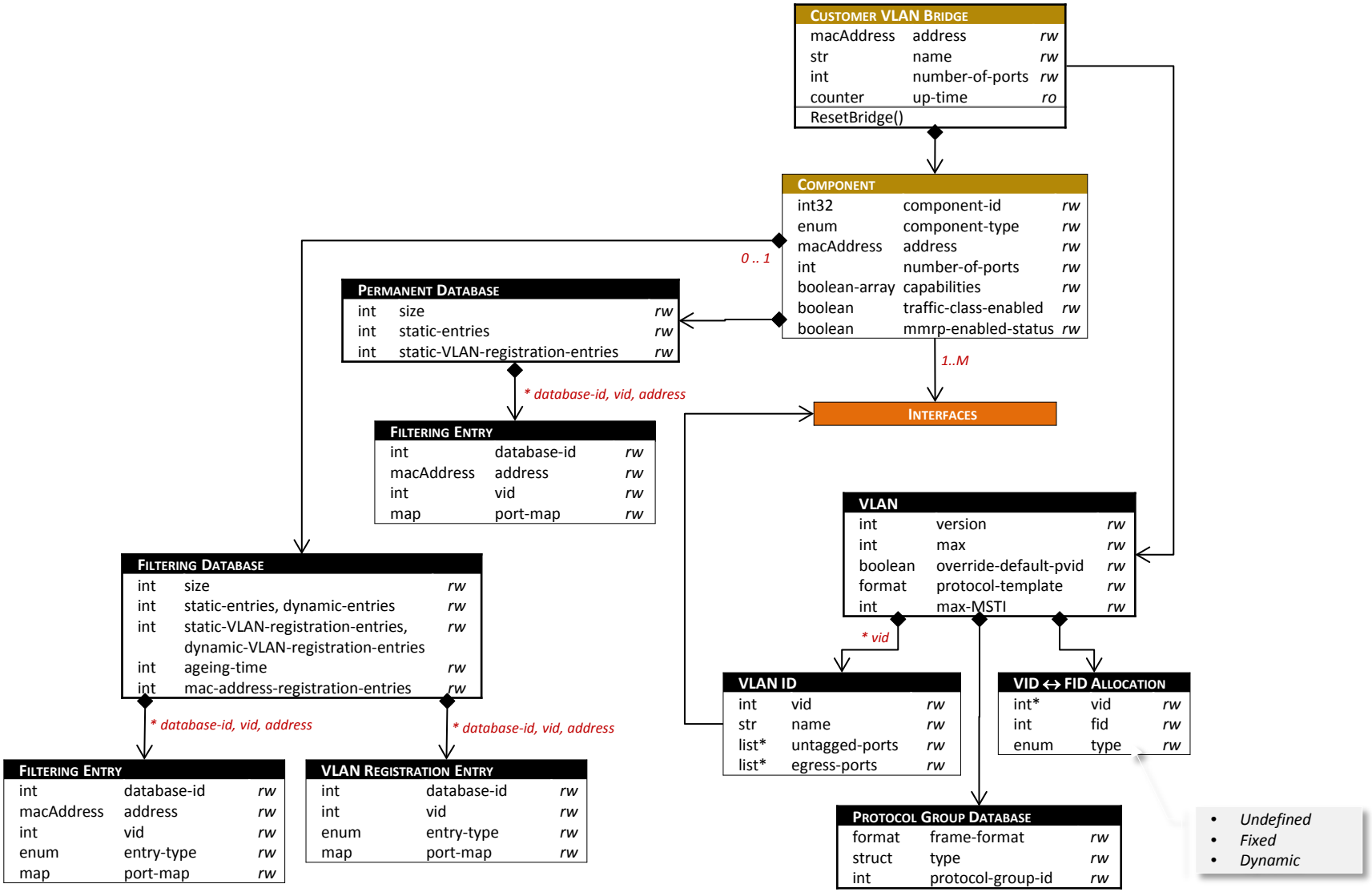
- BRIDGE PORT (representation) is an *extension* of the IETF INTERFACE definition



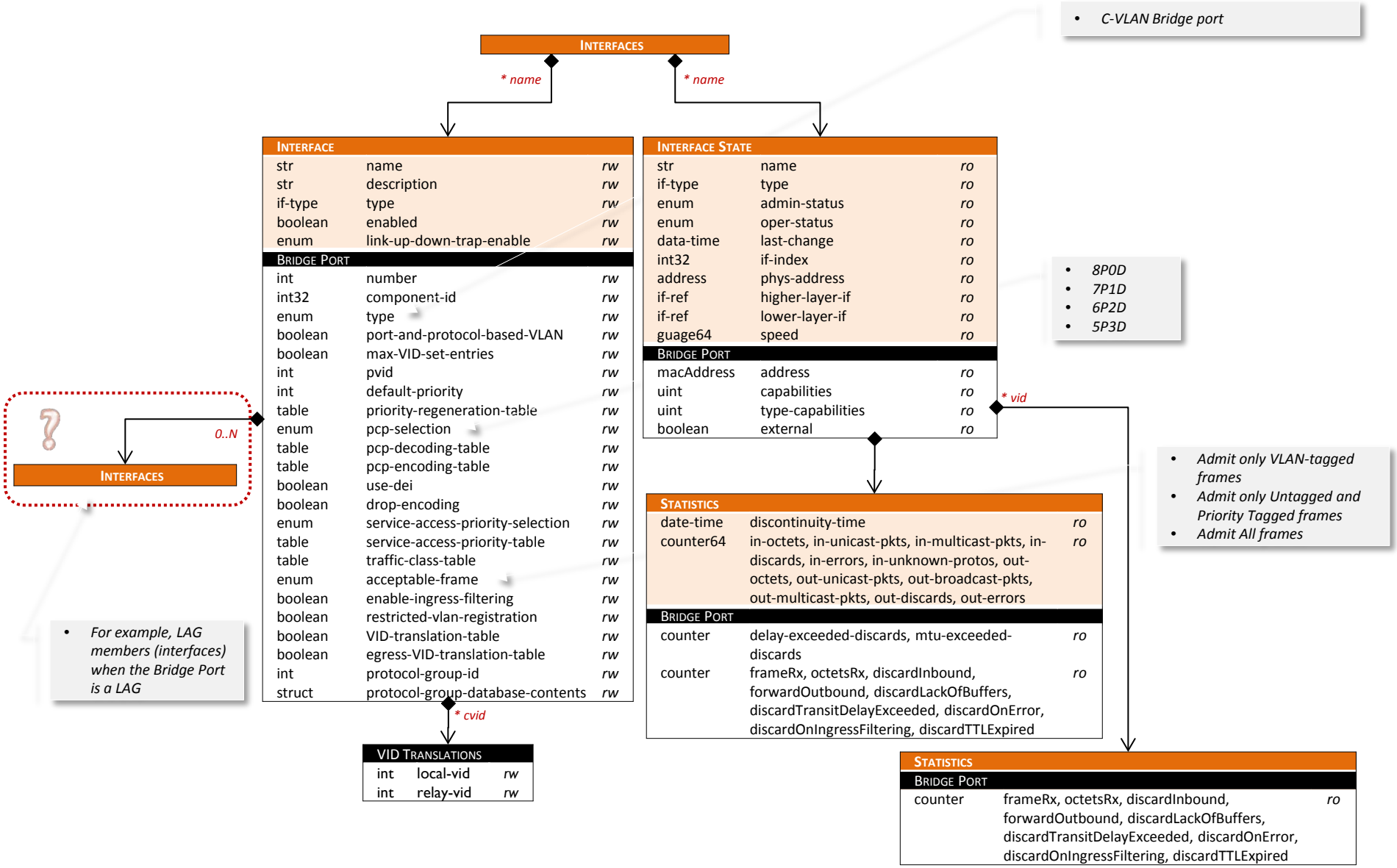
TPMR Bridge Model



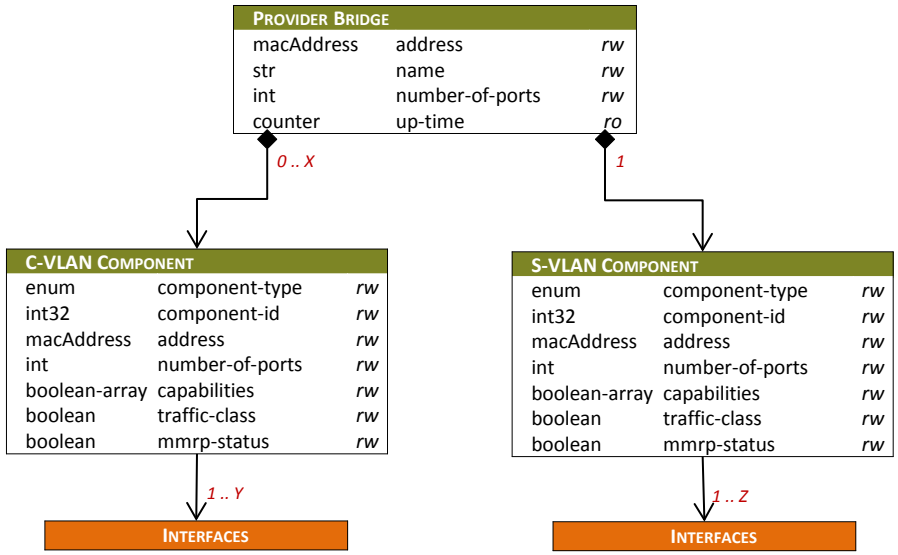
CUSTOMER VLAN BRIDGE Model



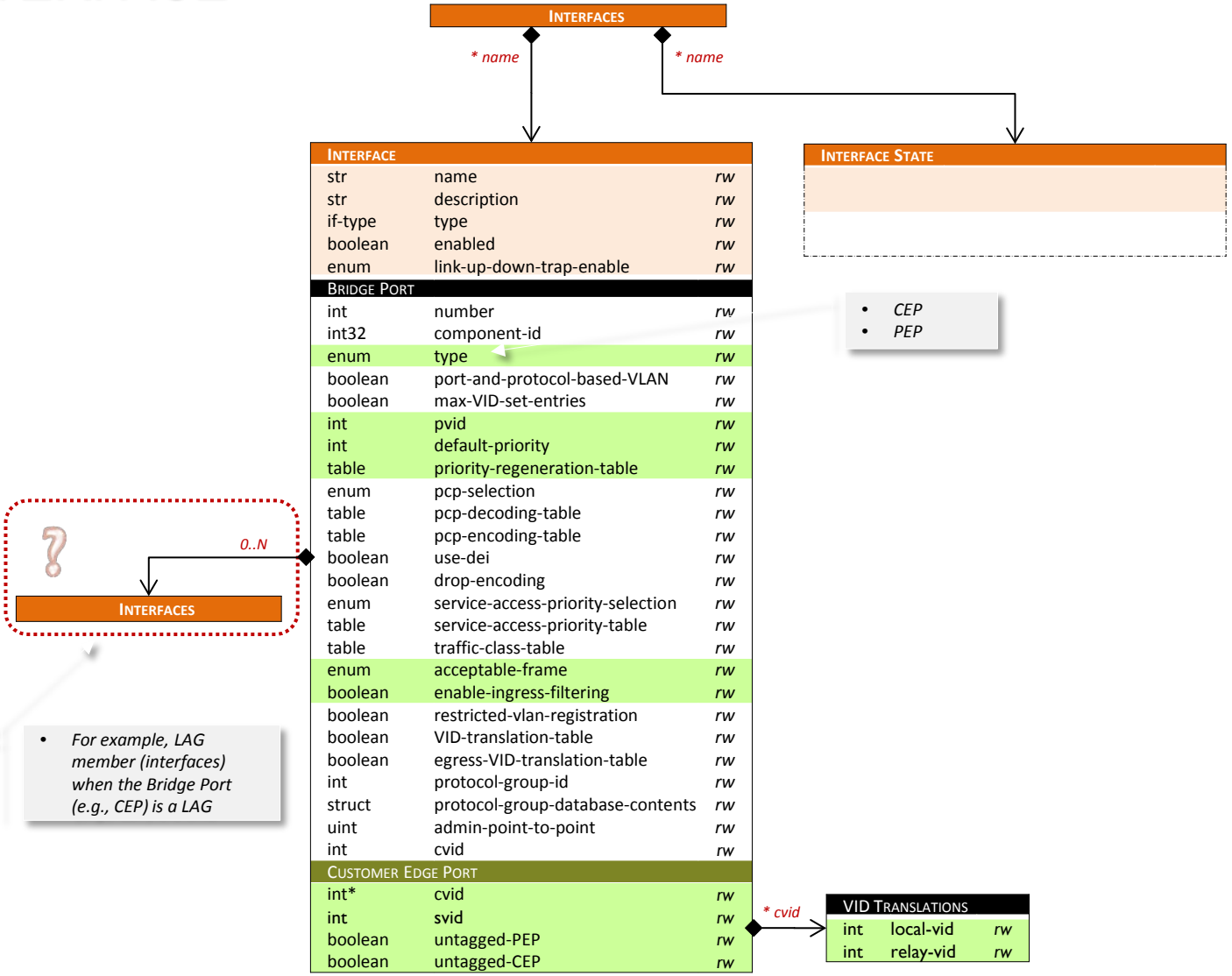
CUSTOMER VLAN BRIDGE COMPONENT INTERFACE Model



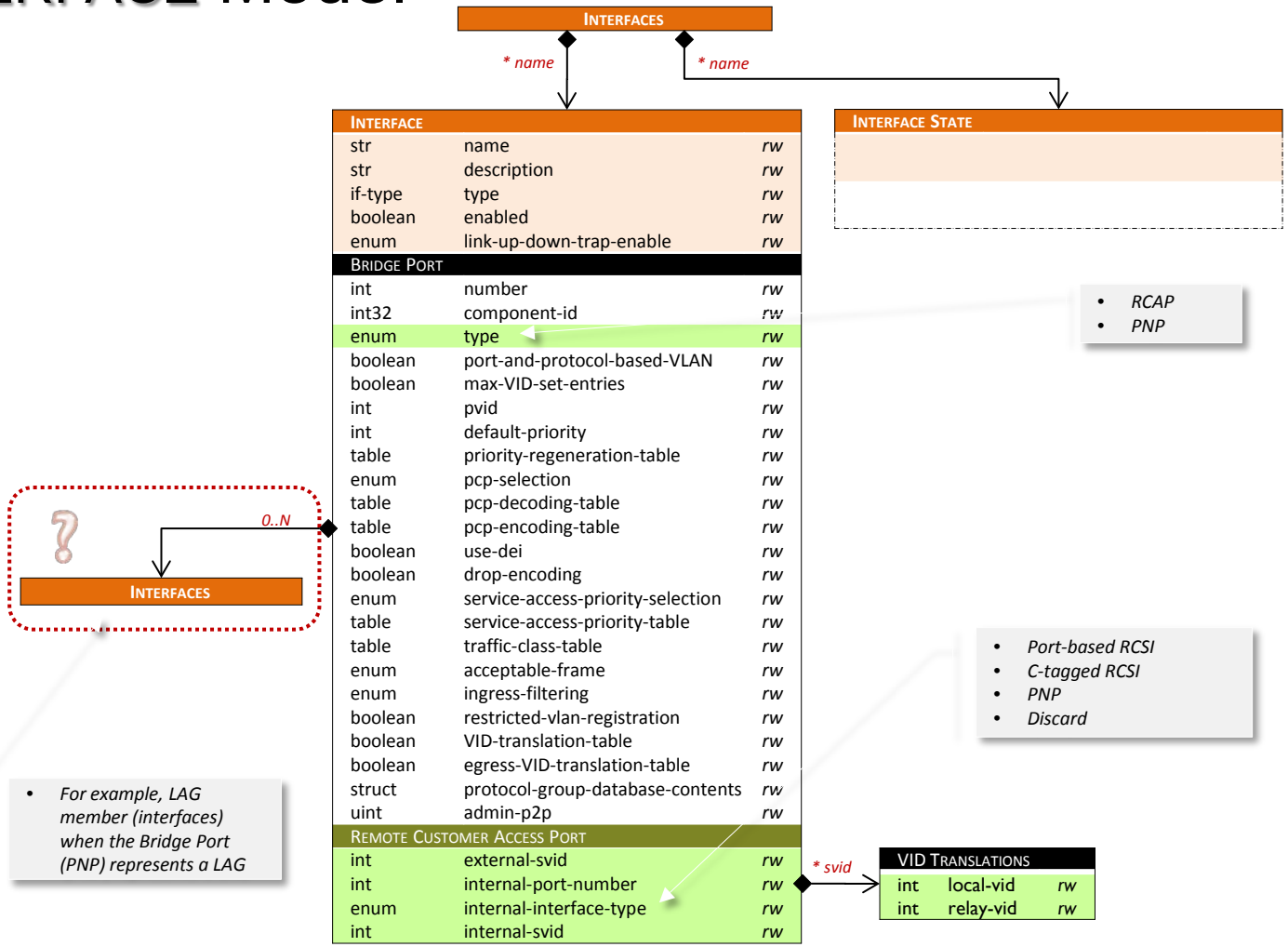
PROVIDER BRIDGE Model



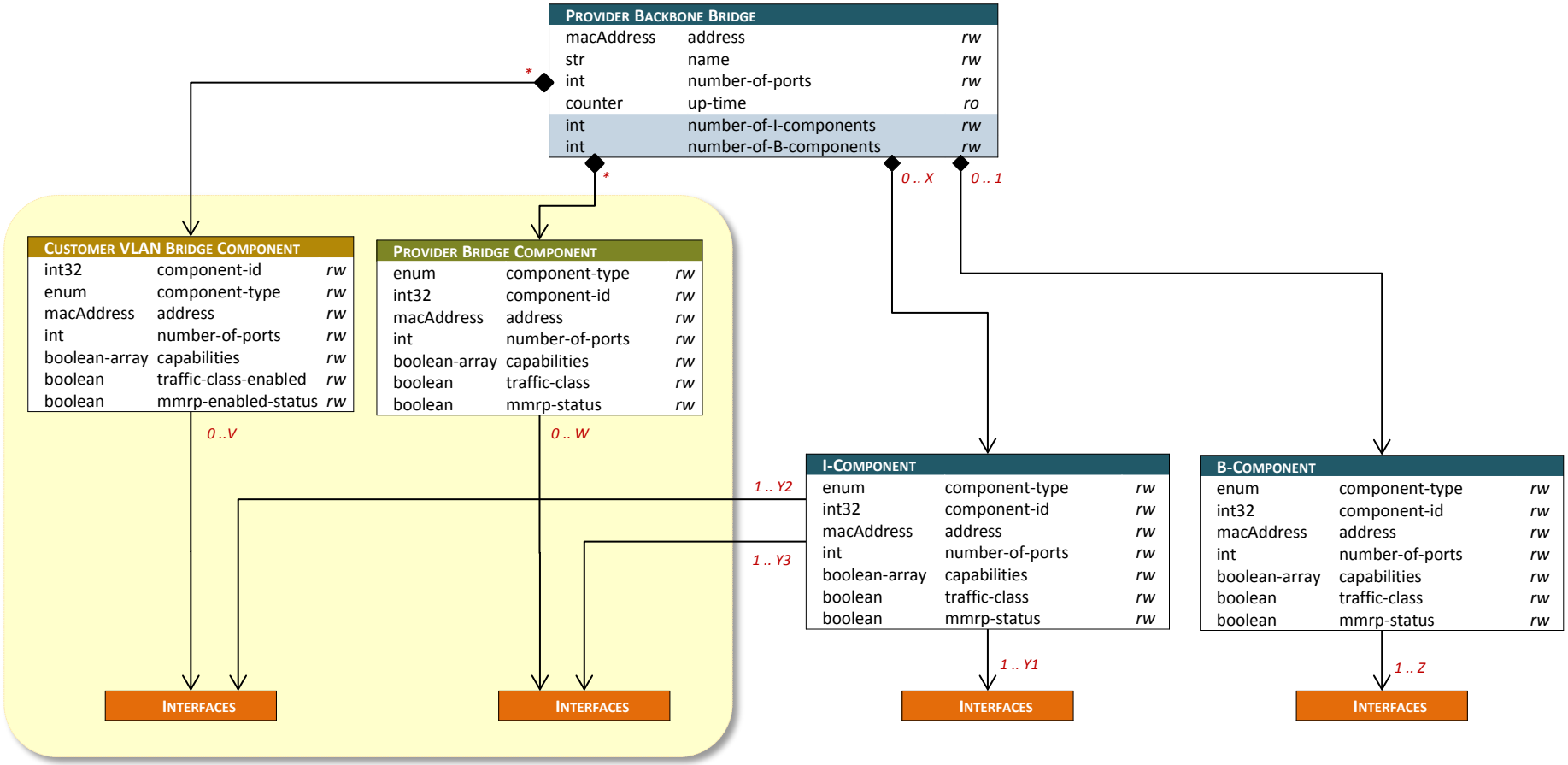
Provider Edge Bridge C-VLAN Component Interface Model



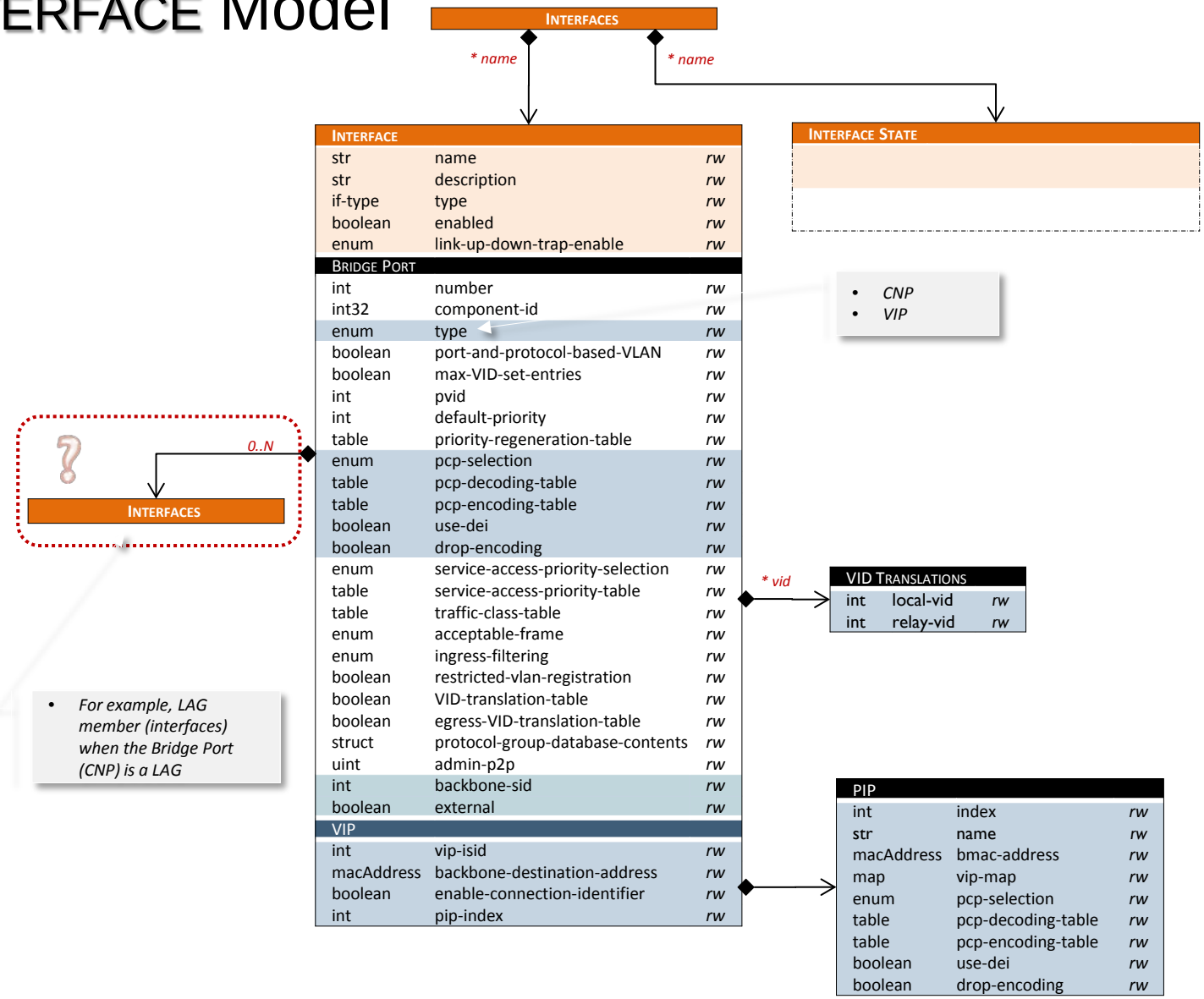
PROVIDER BRIDGE S-VLAN COMPONENT INTERFACE Model



PROVIDER BACKBONE BRIDGE Model



Backbone Edge Bridge I-Component Interface Model



BACKBONE BRIDGE B-COMPONENT INTERFACE Model