Applicability of RFC8795 YANG data model to SIMAP

NMOP WG, IETF 125, Shenzhen

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[*] Added in -01 revision

Motivation

- Analyze the applicability of the RFC 8795 YANG data model to Service & Infrastructure Maps (SIMAP)
  - Some SIMAP requirements already supported by RFC 8795
  - Other SIMAP requirements would require extensions
- RFC 8795 defines a topology model which supports
  - multi-layered topology
  - navigation and correlation among layers
  - applicable to multiple domains and technologies
- The TEAS WG draft on TE topology profile clarifies that the model can be profiled for non-TE applications
  - This draft focuses on SIMAP specific applications

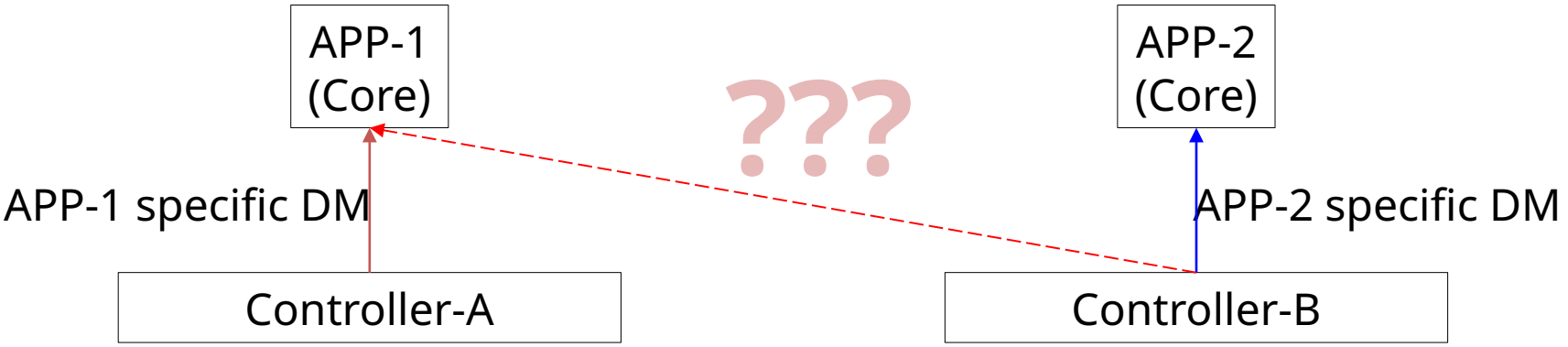
Initial gap analysis

- Initial gap analysis
  - Bidirectional Links
  - Multipoint Links
  - Links and nodes down
  - Multi-layer topology navigation
- Other gaps can be analyzed in future versions

Note: this I-D is a follow-up of the presentation at 2024-NMOP-01 WG Interim Meeting:

https://datatracker.ietf.org/meeting/interim-2024-nmop-01/materials/slides-interim-2024-nmop-01-sessa-applicability-of-te-topology-data-model-to-digital-map-01.pdf

Design considerations

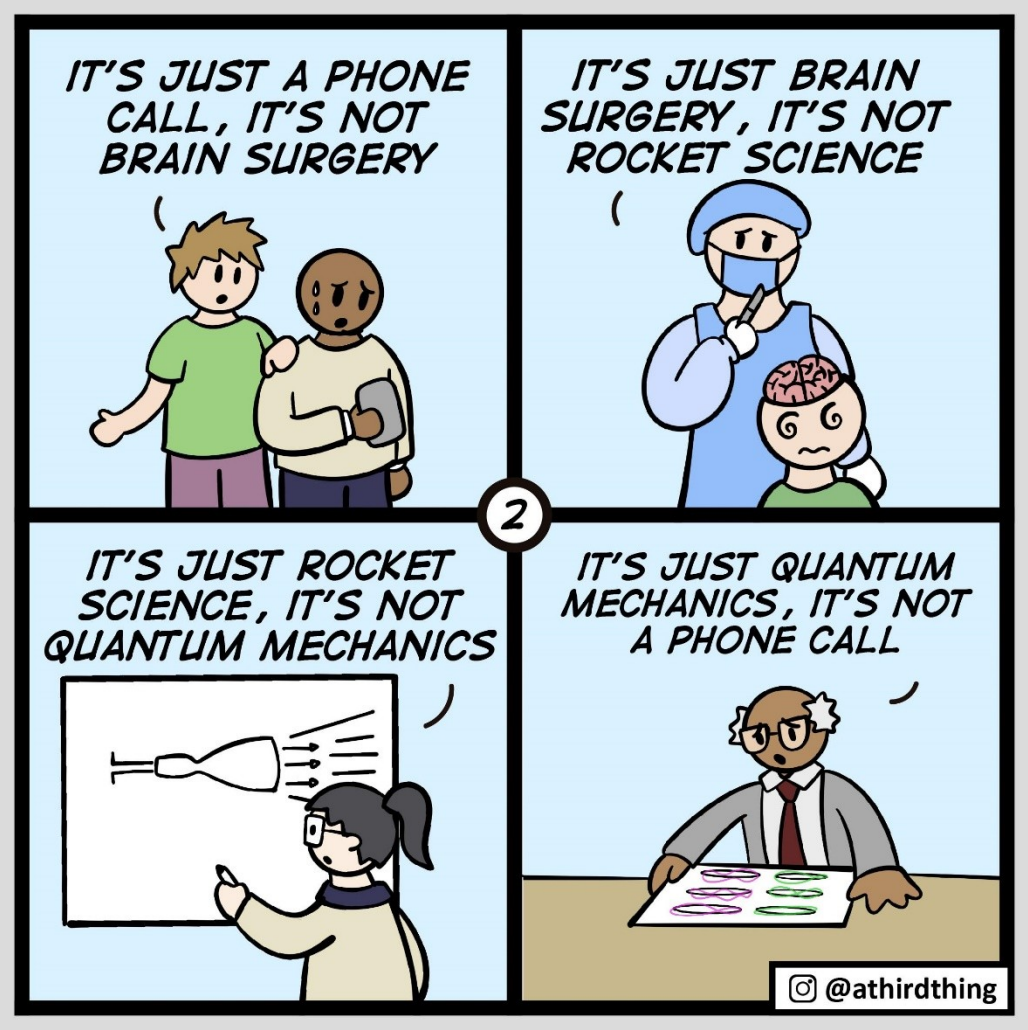


- Multi-vendor integration issues
  - APP-1/controller-A and APP-2/controller-B becomes isolated “silos”
- Need for the operators to negotiate with the vendor and controller vendors customized solutions before integrating a new application or a new controller in the network

Next Step

- Do operators still care about multi-vendor interop?
  - Shall we continue with this analysis?
  - Or having “simple” application-specific DM for SIMAP more important?

What is simple?



Backup

Content

- Initial gap analysis
  - Bidirectional Links
  - Multipoint Links
  - Links and nodes down
  - Multi-layer topology navigation
  - Other gaps to be analyzed in future versions
- Considerations for “programmatic” profiling
  - Implementations exist based on manual pruning/profiling of the YANG tree (see details in the TEAS WG draft on TE topology profile)
  - Deviation statements can be used to automatically generate a pruned/profiled YANG tree
  - More discussions needed to understand the real need

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Design considerations (2)