

Interface extensions YANG & VLAN sub-interface YANG Status update

[draft-ietf-netmod-intf-ext-yang-01&](#)
[draft-wilton-netmod-intf-vlan-yang-03](#)

Rob Wilton (Cisco)

rwilton@cisco.com

IETF 96, NETMOD WG

Recap of the two drafts:

draft-ietf-netmod-intf-ext-yang:

- Defines common interface configuration for configuring network devices:
E.g. MTU, Link flap mitigation, loopback, L2 encapsulation, Sub-interfaces

draft-wilton-netmod-intf-vlan-yang:

- Defines a flexible encapsulation for classifying Ethernet/VLAN tagged traffic to sub-interfaces
- Features/forwarding can be applied to the sub-interfaces *just like any other if:interface*.
- **Without this draft (or equivalent), many IETF forwarding YANG models (IPv4, IPv6, L3VPN, PWs, VPLS, EVPN) cannot interoperate with VLAN tagged traffic**

draft-ietf-netmod-intf-ext-yang status:

- Only minor updates made to fix compile warnings from -00 revision
- Progress slightly slow, due to focus on opstate solution
- Questions received regarding the use of “identity ethSubInterface”:
 - This is a more generic future proof mechanism over using iana:iftypes directly
 - I’m writing up an information draft (with Martin) explaining this approach in more detail.
- Some desire (e.g. from Broadband Forum) to progress this draft more quickly, they want to build on top of the sub-interface type.
- Relatively little review feedback received so far, more would be helpful.

draft-wilton-netmod-intf-vlan-yang status:

- Mainly trying to resolve concerns from IEEE 802.1 WG to allow this be adopted and progress as a WG document
- Engaging with the IETF-IEEE Coordination group to help progress.
- Also presented to the 802.1 WG at the IEEE 802.1 Interim (Budapest/May)
- Received quite a lot of constructive feedback from 802.1 WG:
 - Interop with IEEE 802.1Q standards compliant bridges is the key concern
 - Don't really like the use of 802.1Q tags as traffic service delimiters outside of 802.1Q
 - Also concerns about architecture violation and possible overlap with the 802.1Q standard
- The main issues/resolution are covered in the following slides

IEEE 802.1 WG Issue 1

Issue:

- IETF model must interoperate with IEEE 802.1Q

Resolution:

- Draft has been updated (-03 version):
 - To make interoperability with 802.1Q bridging an explicit goal and requirement
 - To add explicit YANG must statements restricting matching and pushing tags to only be allowed in an 802.1Q compatible order.
 - To make it clear that the model is to allow IETF defined forwarding protocols to interoperate with 802.1Q bridges.

IEEE 802.1 WG Issue 2

Issue:

- IETF model may fundamentally violate IEEE 802.1Q architecture

Resolution:

- This needs to be discussed/decided by the IEEE 802.1Q WG

IEEE 802.1 WG Issue 3

Issue:

- May overlap with 802.1Q host stack model

Resolution:

- IEEE does not currently define a host stack manageability model.
- This needs to be discussed/decided by the IEEE 802.1Q WG

IEEE 802.1 WG Issue 4

Issue:

- Flexible VLAN classification may put pressure on 802.1Q to implement the same features.

Resolution:

- None required?
- The functionality that is being modelled here has been implemented and deployed for almost 10 years
- Any pressures on 802.1Q will already have happened

IEEE 802.1 WG Issue 5

Issue:

- Only allow configuration that can be efficiently implemented in hardware

Resolution:

- None required?
- These models are already supported by multiple vendors using a variety of different custom and off the shelf ASICs
- Further, model should be expandable if/when hardware capabilities increase in future

IEEE 802.1 WG Issue 6

Issue:

- It may be better if draft is Informational/Experimental rather than Stds Track

Resolution:

- Seek guidance from the NETMOD WG chairs and Ops AD.

Other feedback:

- Comments received from BBF, with an aim to generalize parts of the model, so that it can be reused/extended by BBF if possible.
 - Still need to try and incorporate this feedback, subject to the constraints of interoperability with IEEE 802.1
- Recent comments have been received suggesting that we should try and coordinate some parts of the model (e.g. tag manipulation) with 802.1Q.
 - Not fully processed yet
 - Will engage, further investigation is required.

Next steps

draft-ietf-netmod-intf-ext-yang:

- Request and incorporate further feedback, write up interface type draft.

draft-wilton-netmod-intf-vlan-yang:

- Continue to engage with 802.1 WG
- Will ask if the current revision has addressed main concerns, and whether it is acceptable to 802.1 to be adopted as a formal Netmod WG draft

Any questions?