

YANGster Meeting Week 12 2020
March 2020 Electronic Meetings in
lieu of Plenary Session in Atlanta,
GA, USA

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Instructions for the WG Chair

The IEEE-SA strongly recommends that at each WG meeting the chair or a designee:

- **Show slides #1 through #4 of this presentation**
- **Advise the WG attendees that:**
 - IEEE's patent policy is described in Clause 6 of the *IEEE-SA Standards Board Bylaws*;
 - Early identification of patent claims which may be essential for the use of standards under development is strongly encouraged;
 - There may be Essential Patent Claims of which IEEE is not aware. Additionally, neither IEEE, the WG, nor the WG Chair can ensure the accuracy or completeness of any assurance or whether any such assurance is, in fact, of a Patent Claim that is essential for the use of the standard under development.
- **Instruct the WG Secretary to record in the minutes of the relevant WG meeting:**
 - That the foregoing information was provided and that slides 1 through 4 (and this slide 0, if applicable) were shown;
 - That the chair or designee provided an opportunity for participants to identify patent claim(s)/patent application claim(s) and/or the holder of patent claim(s)/patent application claim(s) of which the participant is personally aware and that may be essential for the use of that standard
 - Any responses that were given, specifically the patent claim(s)/patent application claim(s) and/or the holder of the patent claim(s)/patent application claim(s) that were identified (if any) and by whom.
- The WG Chair shall ensure that a request is made to any identified holders of potential essential patent claim(s) to complete and submit a Letter of Assurance.
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Note: **WG** includes Working Groups, Task Groups, and other standards-developing committees with a PAR approved by the IEEE-SA Standards Board.

Participants have a duty to inform the IEEE

- Participants shall inform the IEEE (or cause the IEEE to be informed) of the identity of each holder of any potential Essential Patent Claims of which they are personally aware if the claims are owned or controlled by the participant or the entity the participant is from, employed by, or otherwise represents
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**Early identification of holders of potential
Essential Patent Claims is encouraged**

Ways to inform IEEE

- **Cause an LOA to be submitted to the IEEE-SA (patcom@ieee.org); or**
- **Provide the chair of this group with the identity of the holder(s) of any and all such claims as soon as possible; or**
- **Speak up now and respond to this Call for Potentially Essential Patents**

If anyone in this meeting is personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance, please respond at this time by providing relevant information to the WG Chair

Other guidelines for IEEE WG meetings

- All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws.
 - Don't discuss the interpretation, validity, or essentiality of patents/patent claims.
 - Don't discuss specific license rates, terms, or conditions.
 - Relative costs of different technical approaches that include relative costs of patent licensing terms may be discussed in standards development meetings.
 - Technical considerations remain the primary focus
 - Don't discuss or engage in the fixing of product prices, allocation of customers, or division of sales markets.
 - Don't discuss the status or substance of ongoing or threatened litigation.
 - Don't be silent if inappropriate topics are discussed ... do formally object.

For more details, see *IEEE-SA Standards Board Operations Manual*, clause 5.3.10 and *Antitrust and Competition Policy: What You Need to Know* at <http://standards.ieee.org/develop/policies/antitrust.pdf>

Patent-related information

The patent policy and the procedures used to execute that policy are documented in the:

- ***IEEE-SA Standards Board Bylaws***
(<http://standards.ieee.org/develop/policies/bylaws/sect6-7.html#6>)
- ***IEEE-SA Standards Board Operations Manual***
(<http://standards.ieee.org/develop/policies/opman/sect6.html#6.3>)

Material about the patent policy is available at
<http://standards.ieee.org/about/sasb/patcom/materials.html>

**If you have questions, contact the IEEE-SA
Standards Board Patent Committee
Administrator at patcom@ieee.org**

Participation in IEEE 802 Meetings

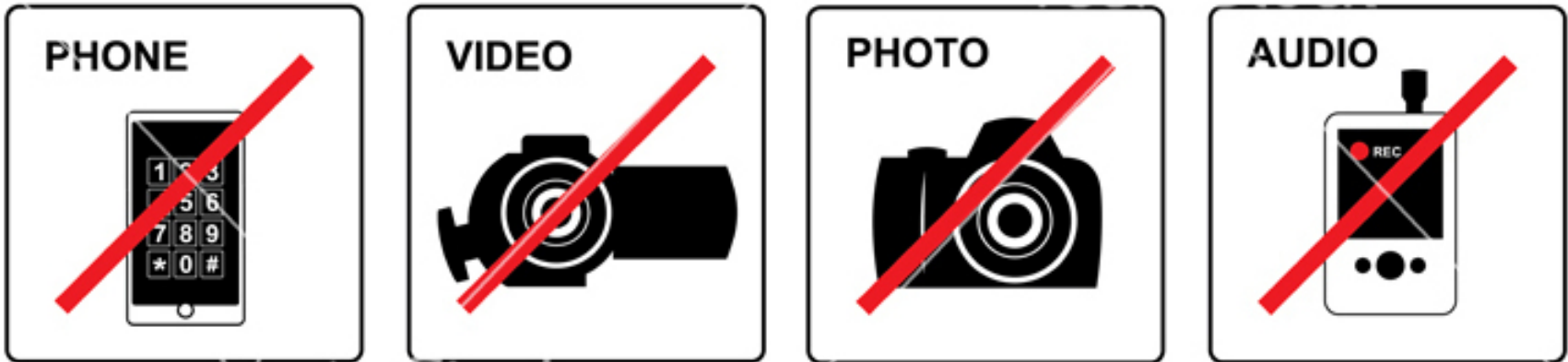
Participation in any IEEE 802 meeting (Sponsor, Sponsor subgroup, Working Group, Working Group subgroup, etc.) is on an individual basis

- **Participants in the IEEE standards development individual process shall act based on their qualifications and experience. (https://standards.ieee.org/develop/policies/bylaws/sb_bylaws.pdf section 5.2.1)**
- **IEEE 802 Working Group membership is by individual; “Working Group members shall participate in the consensus process in a manner consistent with their professional expert opinion as individuals, and not as organizational representatives”. (subclause 4.2.1 “Establishment”, of the IEEE 802 LMSC Working Group Policies and Procedures)**
- **Participants have an obligation to act and vote as an individual and not under the direction of any other individual or group. A Participant’s obligation to act and vote as an individual applies in all cases, regardless of any external commitments, agreements, contracts, or orders.**
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By participating in IEEE 802 meetings, you accept these requirements. If you do not agree to these policies then you shall not participate.

(Latest revision of IEEE 802 LMSC Working Group Policies and Procedures: <http://www.ieee802.org/devdocs.shtml>)

Decorum



- Press (i.e., anyone reporting publicly on this meeting) are to announce their presence (SASB Ops Manual 5.3.3.5)
- Photography or recording by permission only (SASB Ops Manual 5.3.3.4)
- Cell phone ringers off please

ELECTRONIC MEETING GUIDELINES

Please provide your information:

- Full name
- Affiliation as part of your family name (in brackets)
- For example: John Smith (Plumbers Co.)
- If your data displayed in the participant list is incorrect or incomplete, then please submit your data via the Chat

Please mute yourself when you are not speaking

Please put yourself into the queue “at the mic” via the Chat

Agenda

- | 17 March 2020 (week 12)
 - | Preamble
 - | Status of YANG work
 - | IEEE 1906.1.1 Ballot
 - | I2RS discussion
 - | 802f Presentation
 - | TLV Discussion
 - | YANG Doctors Input
 - | Continue Maintenance/Guidelines Discussion
 - | AoB

IEEE 1906.1.1

Purpose:

- ┆ The YANG data model defines a common network management and configuration data model for nanoscale communication systems. In so doing, it fulfills several purposes: it enforces requirements to be compliant with IEEE 1906.1-2015, it describes nanoscale communication systems, it represents the fundamental physics impacting IEEE 1906.1-2015 systems, it defines configuration and management for simulation and analysis, and finally, it defines a self-describing data structure used in repositories of nanoscale communication experimental data.

Need for the Project:

- ┆ A standard network and management and configuration data model enables efficient understanding and use of IEEE 1906.1-2015 systems and simulations. A standard data model is needed to ensure that systems and simulations are compliant with IEEE 1906.1-2015. A standard data model is needed to serve as human and machine-readable documentation of IEEE 1906.1-2015 systems. Because small-scale communication systems interact directly with nanoscale physics, a data model is needed that represents fundamental physics. A common data model is needed to accurately and fairly compare and contrast IEEE 1906.1-2015 systems. Repositories of experimental data from small-scale communication systems require clear and accurate documentation for the data to be meaningful. This common data model will provide a self-describing data model that can address this purpose.

YANG

- ┆ <https://github.com/YangModels/yang/tree/master/experimental/ieee/1906.1>
- ┆ Discussed si-units before

SA Ballot Invitation

I2RS Discussion

- | <https://tools.ietf.org/html/draft-ietf-i2rs-yang-l2-network-topology-13>
- | Is there any overlap of this IETF layer 2 YANG with what we have? They use VLAN, QiQ, PBB, CVLAN, etc they refer only to 802.1 “informatively”
- | Also need to understand why some of the references to IEEE standards are “old” versions
- | If this needs escalation, we should probably add this to the list of topics too coordinate

802f

- | <http://www.ieee802.org/1/files/public/docs2020/f-mansfield-status-0320-v01.pdf>
- | (file names for 802f will change to be 802f-)

TLV Discussion

Organizationally Specific TLV information in YANG

(Note from Paul Congdon)

- It looks like the current YANG in ABcu has two different types of local system data it keeps. There is per-bridge local system data and per-port local system data. I suspect that organizationally specific TLVs would also fall into a similar category - some of the stuff is per-bridge and some per-port. The organizationally specific TLVs are identified by the organization's OUI plus the organizationally managed subtype. So, maybe in the UML, we want to have a block of data and separate enable bits for each OUI at both the port level and the bridge level? Maybe we just augment the existing stuff at the bridge and port level, but I don't think the enable bits will work.
- So, in Q, we should be defining all the managed objects that make up the 802.1 Organizationally specific TLVs as well as the enable bits to transmit them. The subtypes for those TLVs would also be defined in Q. What ABcu needs to do is provide a structure for other organizations to easily augment the model with their own objects to populate TLVs, enable bits, subtypes for their TLVs and a place to hold the received stuff.

To be discussed on the YANGsters mailing list and upcoming calls

YANG Doctors Input

| Background on Xpath question

```
module: ieee802-dot1q-bridge
+--rw bridges
  +--rw bridge* [name]
    +--rw name      dot1qtypes:name-type
    +--rw address   ieee:mac-address
    +--rw bridge-type identityref
    +--ro ports?   uint16
    +--ro up-time? yang:zero-based-counter32
    +--ro components? uint32
    +--rw component* [name]
      +--rw name      string
      +--rw id?       uint32
      +--rw type      identityref <- This is the type we want to test.
      +--rw address?  ieee:mac-address

augment /if:interfaces/if:interface:
  +--rw bridge-port
    +--rw bridge-name?      -> /bridges/bridge/name
    +--rw component-name?   -> /bridges/bridge[dot1q:name=current()/../bridge-name]/component/name
```

Xpath background

In several places we are using a when statement with an xpath condition while in the interface tree context: (This is what it looks like in the ieee802-dot1q-pb module)

when

```
"/dot1q:bridges/dot1q:bridge[dot1q:name=current()/../dot1q:bridge-name]/dot1q:component[dot1q:name=current()/../dot1q:component-name]/dot1q:type = 'dot1q:c-vlan-component'
```

We had a discussion on our Yangsters meeting this seem rather cumbersome and whether the component type value could be locally instantiated with the value of the respective component type to reduce the when statement to:

```
when " ../dot1q:component-type = 'dot1q:c-vlan-component' "
```

The suggestion was adding this:

```
leaf component-type {  
  type leafref {  
    path "/dot1q:bridges/dot1q:bridge[dot1q:name=current()/../bridge-name]/dot1q:component[dot1q:name=current()/../component-name]/dot1q:type";  
  }  
  description  
    "Used to reference the Component type.";  
}
```

However I don't think this works it seems to only make the leafref type of component-type the same as the dot1q type of ../component/type which is an identityref. (type-of-component) . Other attempts to make this work failed too.

Does YANG offer another mechanism for a more compact form to do what we want?

YANG Doctor responses

- | The response seems to be that there is no more compact way to write what is needed.
- | There were a couple of comments that would change the structure which would change the complexity of the Xpath

It might helpful to note that some IETF protocol YANG models choose to put their interface configuration under the protocol rather than under the interface.

E.g. <https://tools.ietf.org/html/draft-ietf-isis-yang-isis-cfg-42>

All of the ISIS interface configuration (e.g. described in section 2.4) lives under the isis protocol instance rather than the top level "/if:interfaces/..." tree.

- | Continue discussion on YANGsters calls/reflector

Maintenance Discussion

- | <http://www.ieee802.org/1/files/public/docs2019/maint-specht-yang-comments-0919-v01.pdf>
- | Start at #8

AoB