YANGster Meeting Week 13 2020

24 March 2020

Webex Link

Meeting number: 795 139 311

Password: gPZhmrZc528

Agenda

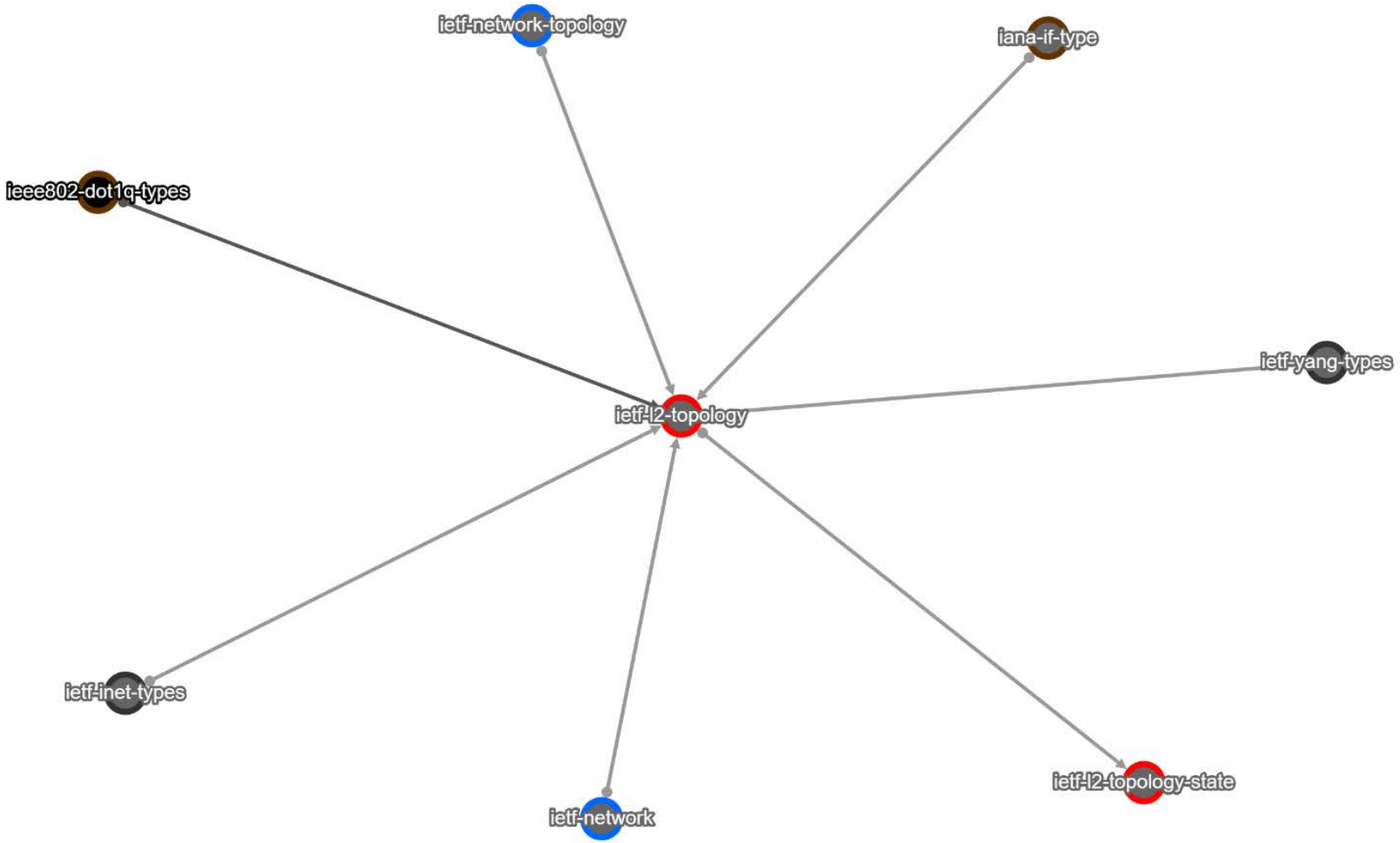
- 24 March 2020 (week 13)
  - Preamble
  - Hot Issues
    - I2RS Discussion
      - Higher Level Topic related to how to ensure IEEE and IETF YANG work together
    - IEEE 802f Status and Way Forward
    - TLV Discussion and Problem Statement
  - Continue Maintenance/Guidelines Discussion
  - AoB

I2RS Discussion - Background

- Background Discussed on 17 March (w12)
- 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

IETF Model Impact

https://yangcatalog.org/yang-search/impact_analysis/ietf-l2-topology



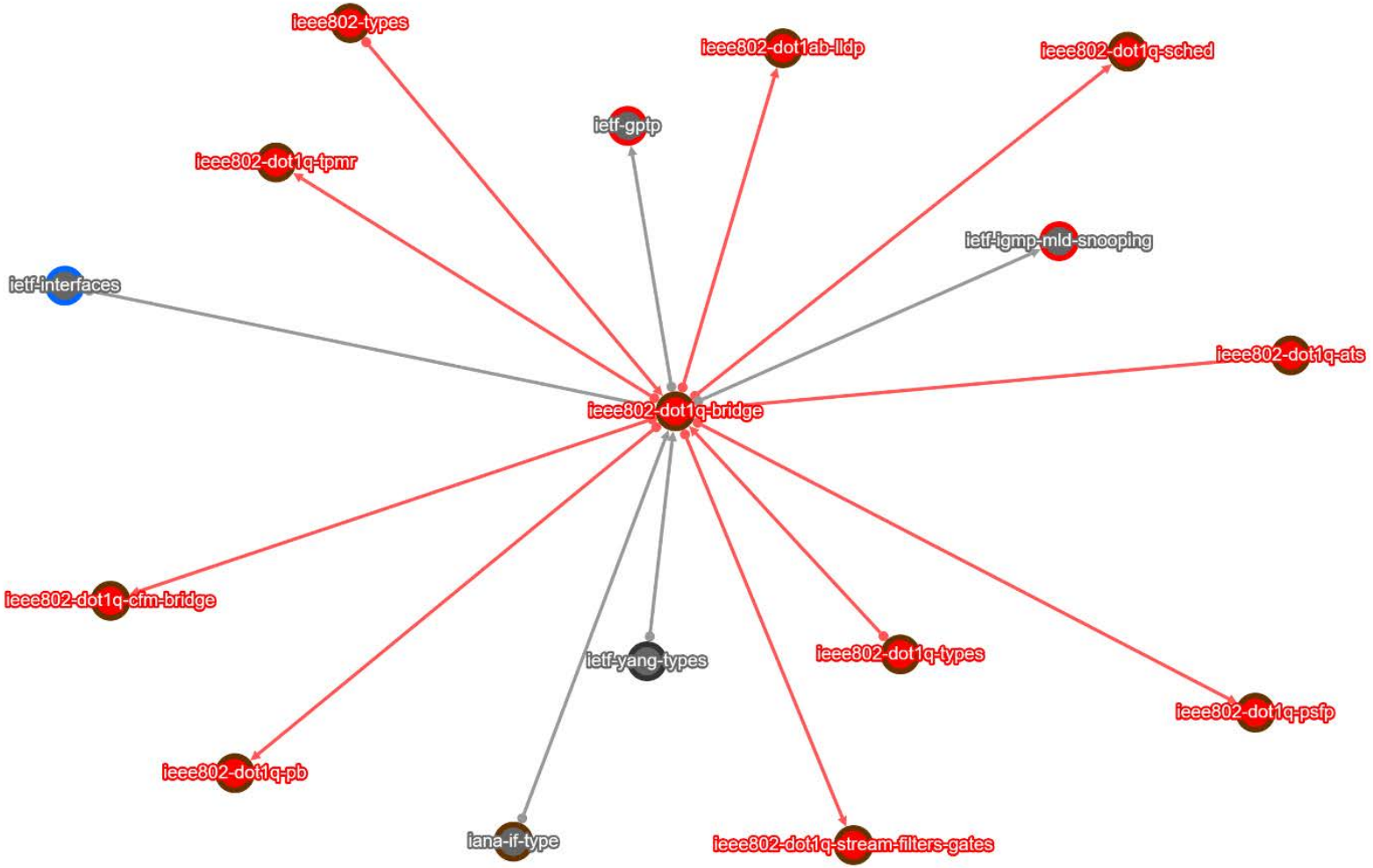
IETF Tree

https://yangcatalog.org/yang-search/yang_tree/ietf-l2-topology

Element [+] Expand All [-] Collapse All	Schema	Type	Flags	Opts	Status	Path	Sensor Path
ietf-l2-topology	module	module					
l2t:notifs		..					
l2t:augments		..					
/nw:networks/nw:network/nw:network-types		..					
/nw:networks/nw:network		..					
l2-network-attributes	container	container	config		current	/nw:networks/nw:network/l...	/ietf-l2-topology:networks
/nw:networks/nw:network/nw:node		..					
l2-node-attributes	container	container	config		current	/nw:networks/nw:network/n...	/ietf-l2-topology:networks
name	leaf	string	config	?	current	/nw:networks/nw:network/n...	/ietf-l2-topology:networks
description	leaf	string	config	?	current	/nw:networks/nw:network/n...	/ietf-l2-topology:networks
management-address	leaf-list	inet:ip-address	config	*	current	/nw:networks/nw:network/n...	/ietf-l2-topology:networks
sys-mac-address	leaf	yang:mac-address	config	?	current	/nw:networks/nw:network/n...	/ietf-l2-topology:networks
management-vid	leaf	dot1q-types:vlanid	config	?	current	/nw:networks/nw:network/n...	/ietf-l2-topology:networks
flag	leaf-list	node-flag-type	config	*	current	/nw:networks/nw:network/n...	/ietf-l2-topology:networks
/nw:networks/nw:network/nt:link		..					
/nw:networks/nw:network/nw:node/nt:termination-point		..					
l2-termination-point-attributes	container	container	config		current	/nw:networks/nw:network/n...	/ietf-l2-topology:networks
description	leaf	string	config	?	current	/nw:networks/nw:network/n...	/ietf-l2-topology:networks
maximum-frame-size	leaf	uint32	config	?	current	/nw:networks/nw:network/n...	/ietf-l2-topology:networks
(l2-termination-point-type)	choice	choice	config	Choice	current	/nw:networks/nw:network/n...	/ietf-l2-topology:networks
:(ethernet)	case	case	config		current	/nw:networks/nw:network/n...	/ietf-l2-topology:networks
mac-address	leaf	yang:mac-address	config	?	current	/nw:networks/nw:network/n...	/ietf-l2-topology:networks
eth-encapsulation	leaf	identityref	config	?	current	/nw:networks/nw:network/n...	/ietf-l2-topology:networks
lag	leaf	boolean	config	?	current	/nw:networks/nw:network/n...	/ietf-l2-topology:networks
member-link-tp	leaf-list	leafref	config	*	current	/nw:networks/nw:network/n...	/ietf-l2-topology:networks
mode	leaf	neg-mode	config	?	current	/nw:networks/nw:network/n...	/ietf-l2-topology:networks
port-vlan-id	leaf	dot1q-types:vlanid	config	?	current	/nw:networks/nw:network/n...	/ietf-l2-topology:networks
vlan-id-name	list	list	config		current	/nw:networks/nw:network/n...	/ietf-l2-topology:networks
qinq	list	list	config		current	/nw:networks/nw:network/n...	/ietf-l2-topology:networks
vxlan	container	container	config		current	/nw:networks/nw:network/n...	/ietf-l2-topology:networks
:(legacy)	case	case	config		current	/nw:networks/nw:network/n...	/ietf-l2-topology:networks
layer-2-address	leaf	yang:phys-address	config	?	current	/nw:networks/nw:network/n...	/ietf-l2-topology:networks
encapsulation	leaf	identityref	config	?	current	/nw:networks/nw:network/n...	/ietf-l2-topology:networks
tp-state	leaf	enumeration	no config	?	current	/nw:networks/nw:network/n...	/ietf-l2-topology:networks

IEEE

https://yangcatalog.org/yang-search/impact_analysis/ieee802-dot1q-bridge



IEEE Tree

https://yangcatalog.org/yang-search/yang_tree/ieee802-dot1q-bridge

ieee802-dot1q-bridge	module	module					
bridges	container	container	config		current	/dot1q:bridges	/ieee802-dot1q-bridge
bridge	list	list	config		current	/dot1q:bridges/dot1q:bridge	/ieee802-dot1q-bridge
name	leaf	dot1qtypes:name-type	config		current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
address	leaf	ieee:mac-address	config		current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
bridge-type	leaf	identityref	config		current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
ports	leaf	uint16	no config	?	current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
up-time	leaf	yang:zero-based-counter32	no config	?	current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
components	leaf	uint32	no config	?	current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
component	list	list	config		current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
name	leaf	string	config		current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
id	leaf	uint32	config	?	current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
type	leaf	identityref	config		current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
address	leaf	ieee:mac-address	config	?	current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
traffic-class-enabled	leaf	boolean	config	?	current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
ports	leaf	uint16	no config	?	current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
bridge-port	leaf-list	if:interface-ref	no config	*	current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
capabilities	container	container	no config		current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
filtering-database	container	container	config		current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
permanent-database	container	container	config		current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
bridge-vlan	container	container	config		current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
version	leaf	uint16	no config	?	current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
max-vids	leaf	uint16	no config	?	current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
override-default-pvid	leaf	boolean	no config	?	current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
protocol-template	leaf	dot1qtypes:protocol-frame-format-type	no config	?	current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
max-msti	leaf	uint16	no config	?	current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
vlan	list	list	config		current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
vid	leaf	dot1qtypes:vlan-index-type	config		current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
name	leaf	dot1qtypes:name-type	config	?	current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
untagged-ports	leaf-list	if:interface-ref	no config	*	current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
egress-ports	leaf-list	if:interface-ref	no config	*	current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
protocol-group-database	list	list	config		current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
vid-to-fid-allocation	list	list	config		current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
fid-to-vid-allocation	list	list	config		current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
vid-to-fid	list	list	config		current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge
bridge-mst	container	container	config		current	/dot1q:bridges/dot1q:bridg…	/ieee802-dot1q-bridge

Things to consider

- How the IETF Modules leverage the IEEE Modules
- Differences between
  - yang::mac-address
    - https://github.com/YangModels/yang/blob/master/standard/ietf/RFC/ietf-yang-types%402013-07-15.yang
  - ieee::mac-address
    - https://github.com/YangModels/yang/blob/master/standard/ieee/published/802/ieee802-types.yang
- Usage of vlanid vs. vlan-index-type
- Using latest IEEE .1Qcp enhancements in the IETF?
- How to advertise the new .1Q amendments to the IETF?
- Bigger picture issue of putting IETF and IEEE together to validate that the YANG works together

802f

- Background discussed on 17 March Call
  - http://www.ieee802.org/1/files/public/docs2020/802f-mansfield-status-0320-v02.pdf
- Status presentation has some next steps (on next slide)

802f Discussion Points

- Test the automatic generation
- Discuss options with YANG Doctors
- Agree on how to create the IEEE document for the ethertypes module
- RAC
  - Well Known name
  - Short Description
- Proposals for subsetting
- Get the missing ethertypes added to the IEEE ethertypes list (bigger RAC issue)
- How to minimize impact on what the IETF is already using

Some ideas to explore for 802f

- Have tooling that generates complete list and also (some number) of subset YANG modules using a filtering mechanism (like hashtags for instance)
- Have 802f contain only an example YANG module
- Agree with RAC on a publication process that would allow the tool generated YANG files based on eth.txt to be the official YANG
  - The YANG generation would be kicked off each time the RAC modified the eth.txt file.
  - the YANG would then be committed to github under the ieee/published/802 directory as new versions
- Using enums?
  - That is what the IETF uses

802f To Do

- Outline of Standard
- Tooling
  - Getting the use of YANG generated by a tool accepted
- Discussions with RAC
- Discussion with YANG Doctors and IETF

TLV Discussion

- Discussed on 17 March 2020 Call
- 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

- This is a general issue that needs to be explored for projects like IEEE 802.1Qcz
- Review what was done for MIBs in 802.1Q and look at the wording needed in Annex D
  - This could be done as maintenance
- Evaluate the modifications that could be made to ABcu (since the work is still open) to provide an example or framework for YANG extensions needed for the organizational TLV support?

Maintenance Discussion

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

AoB

Preamble

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- IEEE SA Copyright FAQs
  - http://standards.ieee.org/faqs/copyrights.html/
- IEEE SA Best Practices for IEEE Standards Development
  - http://standards.ieee.org/develop/policies/best_practices_for_ieee_standards_development_051215.pdf
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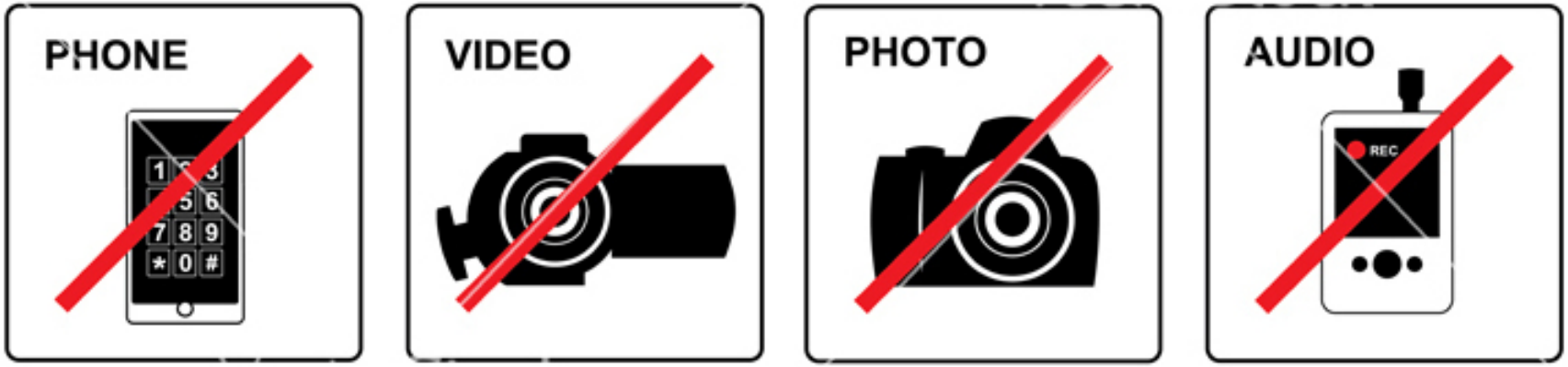
Decorum



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Back to Agenda