IEEE 1904.4 25G/50G SIEPON Task Force

Opening report

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Activities Since Last Meeting

❑Three consensus-building calls:
- July 13, 2021
- July 20, 2021
- July 27, 2021

Review of Action Items

#	Item	Category	Description of required changes	Big ticket?	Status	Assigned to
1	Develop and approve project timeline	Project management			Completed	
2	**Create draft D0.1 from 1904.1-2017 package A.**	Project management		YES	Completed	
3	**ULID provisioning**	LLID provisioning		YES	Completed	Glen Kramer
4	**GLID provisioning**	LLID provisioning		YES	Assigned	Glen Kramer
5	**Multicast ULID provisioning**	LLID provisioning		YES	Completed	Glen Kramer
6	**Report format and queue length**	Granting/Reporting	New behavior: gratuitous reports, dynamic reporting priorities	YES	Assigned	Glen Kramer
7	**Multicast operation**	New 802.3ca behavior	Based on multicast ULID	YES	Assigned	Glen Kramer
8	Transceiver status monitoring	New 802.3ca behavior	Similar, but should be wavelength-specific	NO	Unassigned	
9	Port selective loopback	New 802.3ca behavior	Maybe different to enable inter-channel loopback	NO	Unassigned	
10	**Optical link protection**	New 802.3ca behavior	New behavior in multi-channel PON. See slide 22 in tf4_2102_kramer_1.pdf	YES	Unassigned	
11	**Data encryption**	New 802.3ca behavior	1) Zero-overhead encryption as in SIEPON, pkg.A, but envelope-based instead of frame-based. 2) Add support for 256-bit keys. 3) Specify encryption using one key per ONU, not per LLID	YES	Unassigned	
12	**Power saving**	New 802.3ca behavior	Consider additional multi-channel mode	YES	Assigned	Marek Hajduczenia
13	Device and capability discovery	New 802.3ca behavior	New capabilities (fragmentation, multiple channels, etc.)		Unassigned	
14	**Low latency x-haul (AKA cooperative transport interface, mobile/PON coordination, Cooperative DBA)**	New feature		YES	Assigned	Curtis Knittle
15	LLID and mLLID object types	Management attributes	ONUs are unaware if LLID is unicast or multicast. Combine LLID and mLLID into one ObjectType. See tf4_2102_kramer_1.pdf		Completed	Glen Kramer
16	aLlidReportThresholds	Management attributes	Attribute is not applicable to 25G or 50G-EPON. Remove the attribute. See tf4_2102_kramer_1.pdf.		Completed	
17	aOnuId	Management attributes	Per 802.3ca, the ONU has only one MAC address.		Completed	Glen Kramer
18	aOnuLlidCount	Management attributes	LLID is not equivalent to L-ONU anymore.		Assigned	JC Marion

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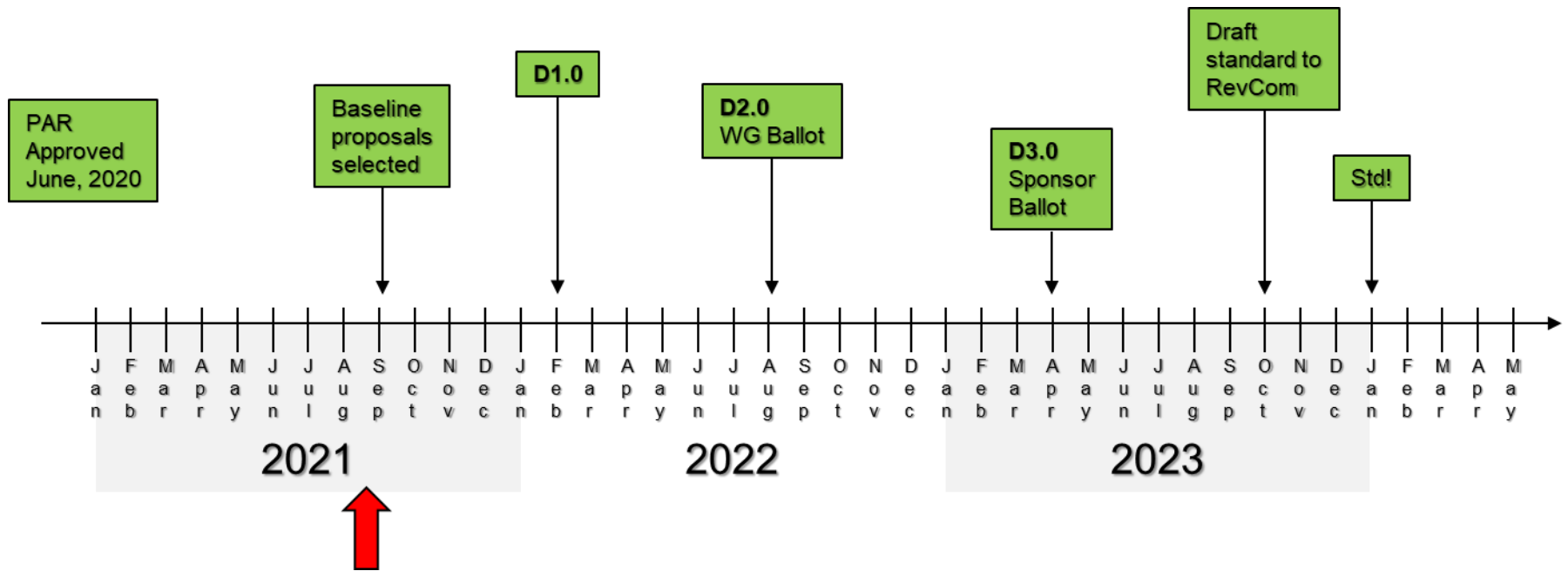
19	aOnuPonPortCount	Management attributes	Need to clarify if these are physical or logical PON ports		Assigned	Glen Kramer
20	aLlidForwardState	Management attributes	LLIDs don't combine user traffic, MPCP, and OAM anymore.		Assigned	JC Marion
21	aLlidOamFrameRate	Management attributes	OAM rate is per ONU now.		Assigned	JC Marion
22	aOnuUniPortType	Management attributes	This attribute a superset of aOnuUniPortCount (0x00-09). Do we keep both?		Completed	Glen Kramer
23	aLineRateMode	Management attributes	Need to add new downstream and upstream rates.		Assigned	Ryan Tucker
24	aOnuMulticastLlid	Management attributes	ONU doesn't know whether LLID is multicast or unicast. Just needs to report all provisioned LLID values as (Value, Type, Directionality)		Completed	Glen Kramer
25	aOnuPortConfig	Management attributes	Currently, aONUPortCount tells ONU how many UNI ports to enable and how many LLIDs to register. In 802.3ca, LLIDs are directly provisioned by NMS, so no LLID count is needed. The setting and querying of UNI port count can also be done using basic attribute aPhyAdminState (0x07/0x00-25) and basic action acPhyAdminControl (0x09/0x00-05). Do we keep both methods? Should be resolved together with #3 ULID Provisioning		Completed	Glen Kramer
26	aQueueConfig	Management attributes	Queues need to be associated with either LLID or UNI. Need to describe what happens to queues when the LLID is deallocated or UNI is disabled.		Completed	Glen Kramer
27	Counter of jumbo frames	Management attributes	New attribute(s) are needed		Assigned	Steve Burroughs
28	Counters related to fragments	Management attributes	What to count and how? Proposal is needed		Assigned	Steve Burroughs
29	Counters related to envelopes	Management attributes	New atrtibute(s) are needed		Assigned	Steve Burroughs
30	Counters related to separate channels in 50G-EPON	Management attributes	Discuss if we just need new attributes or also object types to use channels or context objects for various attributes		Assigned	Steve Burroughs
31	Redefine alarm thresholds	Management attributes	Instead of "high" and "low" thresholds, use "set" and "clear" thresholds and allow the "set" threshold be greater or less than the "clear" threshold. See tf4_2102_kramer_1.pdf		Assigned	Steve Burroughs
32	aFecMode	Management attributes	Change is needed to indicate new data rates. Default should be set to enabled. Also, FEC should be per ONU, not per LLID.		Assigned	Marek Hajduczenia

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33	aOnuPwrSavingCap	Management attributes	Change may be needed to add new power saving modes in a multi-channel 50G-EPON. Should be resolved togetrher with #12 Power Saving		Assigned	Marek Hajduczenia
34	aEeeStatus	Management attributes	What happens when aEeeStatus is set to enabled, but the UNI does not support the EEE function? Need to support querying the ONU capability separately in addition to enabling/disabling the feature.		Assigned	Marek Hajduczenia
35	aPoeStatus	Management attributes	What happens when aPoeStatus is set to enabled, but the UNI does not support the PoE function? Need to support querying the ONU capability separately in addition to enabling/disabling the feature.		Assigned	Marek Hajduczenia
36	aMediaType	Management attributes	Not clear what specific difference this attribute makes at the ONU. Can it be set in conflict with aPhyType (0x07/0x00-20)? The attribute purpose and function need to be clarified.		Assigned	Marek Hajduczenia
37	Allocate new branch codes different from 1904.1 package A.	Management attributes			Completed	Glen Kramer
38	Alternative term to replace "SIEPON"	Editorial	Current TF draft uses "SIEPON" in many places. To avoid confusion we should agree on a new term to distinguish the 25G/50G version of SIEPON from the original SIEPON		Completed	Glen Kramer
39	Support for TR-200 for 25G-EPON needs to be confirmed	Alignment			Assigned	Kevin Noll
40	Review and update all relevant references in Clause 2				Assigned	Marek Hajduczenia
41	Revise OLT_CI Interface definition				Assigned	Glen Kramer
42	align the architecture described in Clause 5 with that of 802.3ca	New 802.3ca behavior			Assigned	Glen Kramer
43	Attribute to discover whether ONU supports earlier versions of EPON					
44	Attribute to discover optical module version				Assigned	Marek Hajduczenia
45	updating the attribute: aPhyType (0x07/0x00-20)				Assigned	Ryan Tucker

Timeline

Plan for Meeting

- ❑ Comment resolution
- ❑ Other contributions – if any

Draft 0.4

- https://grouper.ieee.org/groups/1904/private/4/drafts/D0_3/draft_1904_4_D0_4_clean.pdf

Thank You