

Discussion on directions of standardization

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Observations on direction of standardization

■ In Sep. Meeting, direction of standardization was discussed with some ideas

- mixed rate wavelengths (25G and 50G) (refer to slide 3 of Kramer_3ca_3_0917.pdf as example)
- 25G and 2x25G solutions may be kept in the p802.3ca project
- remove 100G (4x25G objective)
- a separate project on 50G/wavelength PMD to be considered

Straw Poll #4

1. Define wavelength plan that includes mixed rate wavelengths as illustrated in slide 3 of Kramer_3ca_3_0917.pdf (as an example)
2. Remove 100G-EPON from objectives
3. Initiate a separate project on 50G/wavelength PMD

I support the above proposal

Yes: 13

No: 3

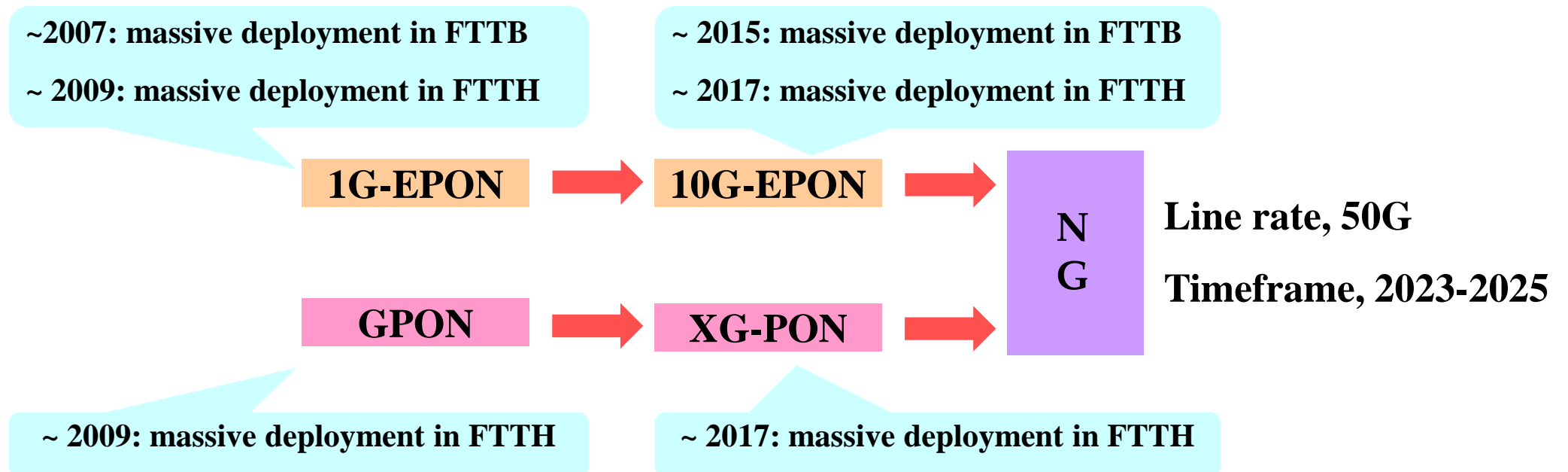
Don't care: 3

Proposal on standardization direction of p802.3ca Project

- **For 25G PON, keep going as it is**
- **For 100G PON (4x25G), agree to remove it at this stage**
- **For 50G PON, propose to have only *ONE* 50Gbps EPON solution in standard, not two**
 - In Berlin meeting, group agreed to analyze and compare the following solutions for 50G PON and choose the best one for 50G EPON (motion 6, July 2017, Berlin, Germany)
 - In Berlin meeting, feasibility of 50Gbps (single wavelength solution) has been demonstrated in contribution liu_3ca_2a_0917
 - If 50 Gbps per wavelength solution is better than 2x25 Gbps solution after careful analysis in the future, it is not necessary to standardize 2x25 Gbps solution, and vice versa

Better to have more time to analyze two ways before decision (1)

- 10G PON is under massive deployment in China
- Massive deployment of next generation PON may happen 7-8 years later
- Considering the time period for standardization and industry maturity, at least 1-2 years left to analyze the feasible solutions and choose the best way forward

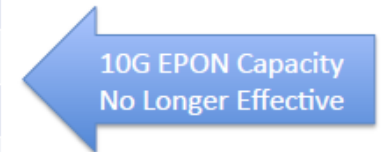


Better to have more time to analyze two ways before decision (2)

- 25G EPON would satisfy the service bandwidth requirement around Y2021
- 50G EPON would satisfy the service bandwidth requirement around Y2023
- That leaves more time to study and development

Peak Speed Growth YoY Projection

Year	Peak Speed Projection
2014	1 Gbps (Actual)
2015	2 Gbps (Actual)
2016	3 Gbps
2017	5 Gbps
2018	7 Gbps
2019	10 Gbps
2020	15 Gbps
2021	22 Gbps
2022	33 Gbps
2023	50 Gbps
2024	75 Gbps
2025	>100 Gbps



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Prefer to have one single solution for 50G PON system

- **If two solutions exists in standard, then need to clarify some questions**
 - Coexistence of 2x25 and 1x50 required? Whether wavelength of 2x25 could be reused by 1x50, and visa versa?
 - When considering 100G, which one is the legacy technology? Select one or both?
- **Two solutions for 50G PON system is not good for standardization**
 - Not the traditional way in IEEE, as “one problem one solution”
 - Waste the time and resources to debate and develop the standards
- **Two solutions for 50G PON system is not good for industry**
 - Confuse the industry to focus on one solution and push forward
 - Hard to share the key optics, and Split the market
- **Two solutions for 50G PON system is not good for deployment**
 - Slow the acceptance of technology
 - May delay the deployment decision
- **Two solutions for 50G PON system make PON convergence more difficult**
 - Hard to work with ITU-T SG15Q2 on converged PON by this way

Proposal on Standardization

- **It is proposed to take time to analyze the solutions for 50G EPON, and select the better one for standardization**
- **If decision can't be made given the timeline limitation, then it is proposed to keep 25G in the scope and take out 50G (both 2x25G and 1x50G) for new project**

Thanks !