

Our Path Forward Optically

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IEEE P802.3bs 400 GbE Task Force

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Charting Our Path Forward

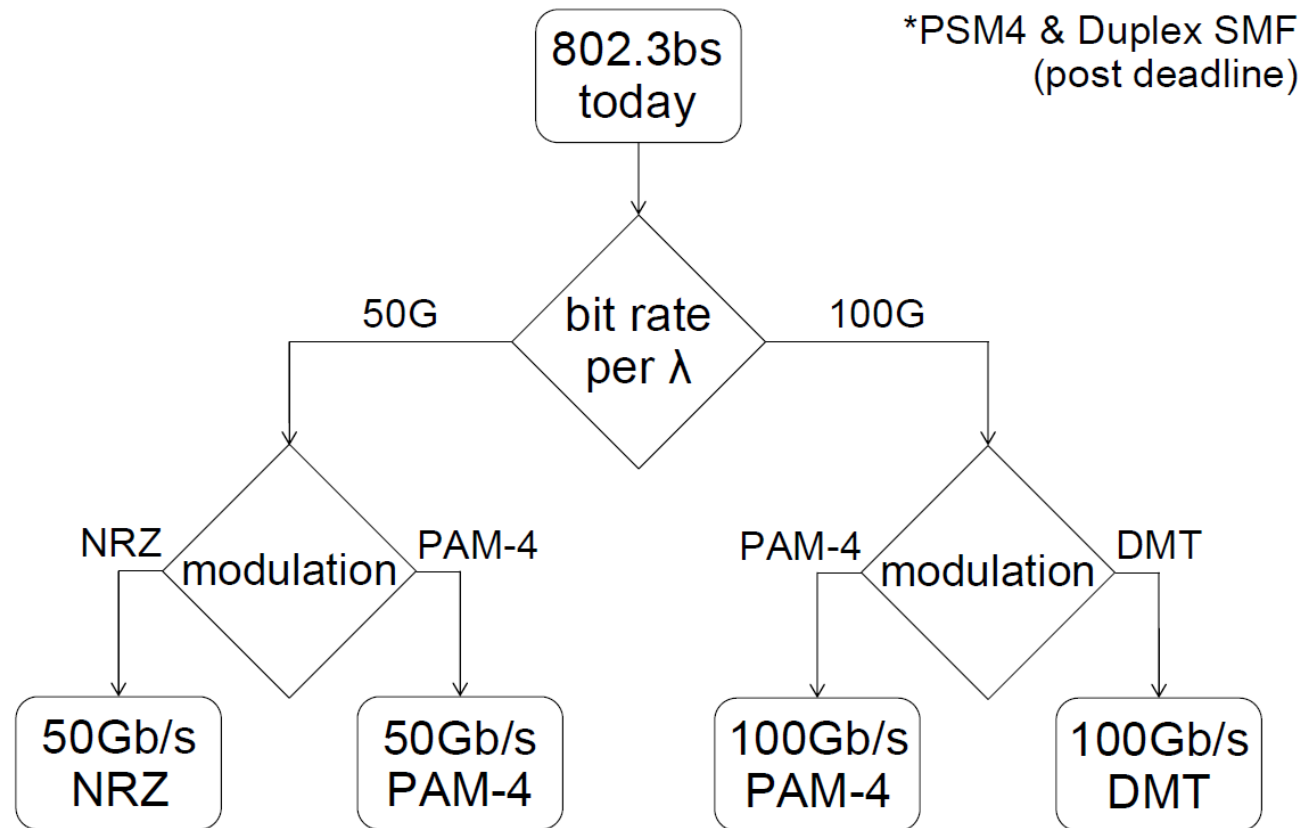
- * Some consensus observed in May Straw Polls (next slide)
 - * 500m could use parallel fiber
 - * 2km – duplex fiber
 - * 10km - duplex fiber
- * Optical Lane Rates – primary interest in 50G / 100G
- * Modulation – Options available – how do we decide?

Straw Polls

4a	I believe that 2km 400GbE SMF PMD will use a duplex fiber solution	Y/N	70 / 6
4b	I believe that 10km 400GbE SMF PMD will use a duplex fiber solution	Y/N	85 / 0
5	Chicago Rules: For 2km duplex SMF 400GbE PMD, I believe the TF should select a proposal based on an effective bit rate per wavelength per direction of:	25G 50G 100G 400G	5 51 77 10
6	Chicago Rules: For 10km duplex SMF 400GbE PMD, I believe the TF should select a proposal based on an effective bit rate per wavelength per direction of:	25G 50G 100G 400G	5 53 74 11
7	I believe that a 500m SMF PMD could use parallel fiber solutions:	Y/N	77 / 0
8	Chicago Rules: I believe fiber count for a 500m SMF PMD parallel fiber link solution should be based on (in each direction):	4 fibers 8 fibers 16 fibers	82 28 16
9	Chicago Rules: I believe fiber count for a 100m MMF PMD using a parallel fiber link solution should be (in each direction)	4 fibers 8 fibers 16 fibers Room	29 33 62 118

A Proposed Approach (cole_3bs_01a_0514)

Appx.2: Proposed SMF PMD* Decision Tree



A Good Summary (maki_3bs_01a_0514)

PMD and Media (Other Solutions Possible)

PMD	Media		
	Parallel MMF	Parallel SMF	Duplex SMF
MMF (At least 100 m)	4 x 100GBASE-SR4		
	400GBASE-SR16 (25G-λ: NRZ)		
	400GBASE-SR8 (50G-λ: NRZ or PAM-4)		
SMF (At least 500 m)		4 x 100GBASE-LR4	
		400GBASE-PSM16 (25G-λ: NRZ)	16-Ch 25G-λ WDM (NRZ)
		400GBASE-PSM8 (50G-λ: NRZ or PAM-4)	8-Ch 50G-λ WDM (NRZ or PAM-4)
		400GBASE-PSM4 (50G-λ: NRZ or PAM-4)	
	400GBASE-PSM4 (100G-λ: PAM-4 or DMT)	4-Ch 100G-λ WDM (PAM-4 or DMT)	
SMF (At least 2 km)			8-Ch 50G-λ WDM (NRZ or PAM-4)
			4-Ch 100G-λ WDM (PAM-4 or DMT)
SMF (At least 10 km)			8-Ch 50G-λ WDM (NRZ or PAM-4)
			4-Ch 100G-λ WDM (PAM-4 or DMT)

Discussion

- * Resolution of rate and modulation debates?
 - * Ad hoc could “assess” technical & economic feasibility as starting point (similar to 802.3ba Optics ad hoc)
- * Ad Hoc Options?
 - * One to address all PMDs?
 - * One to address MMF and one to address SMF?
- * Would like to enable at least one teleconference prior to July for Ad Hoc Plan