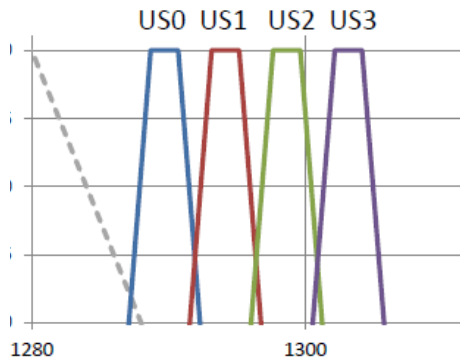


Upstream wavelength plan straw poll

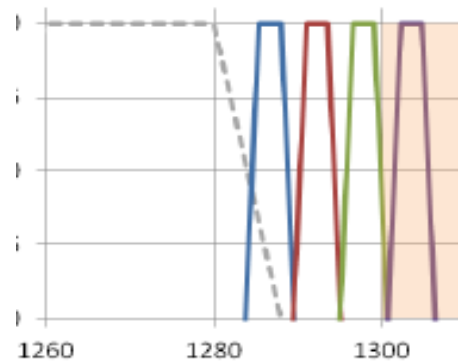
- Ed Harstead
- March 2017

Pure WDM co-existence plans

Plan A (guo_3ca_1_0117)



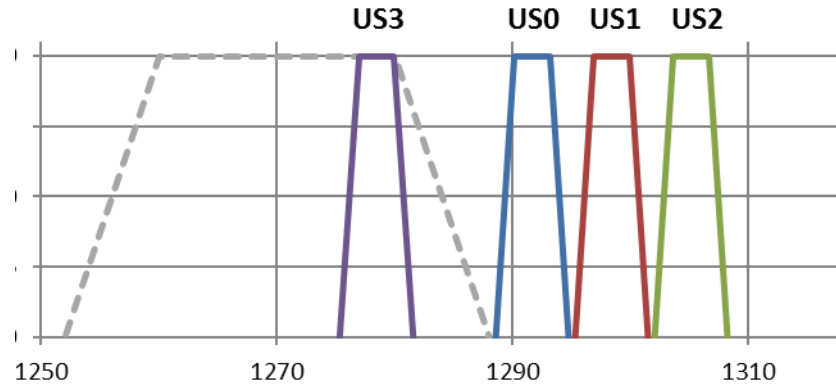
Plan A1 (liudekun_3ca_3_0317)



Initial WDM co-existence plan that postpones TDM co-existence

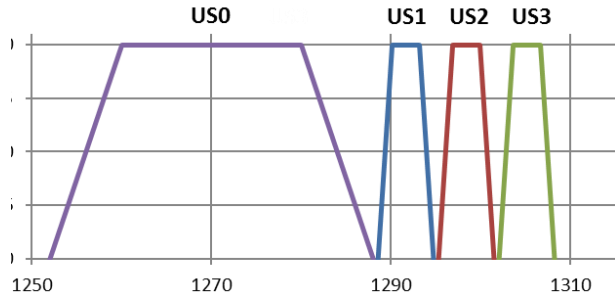
Convergence option #1 (guo_3ca_1_0317)

- WDM co-existence for 25G & 50G.
- TDM co-existence for 100G.

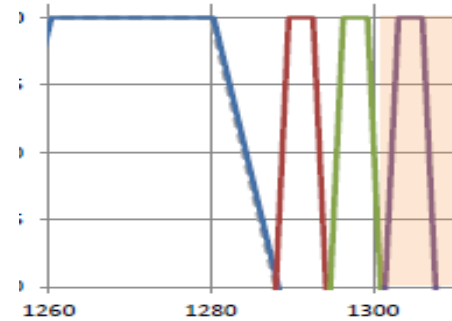


Pure TDM co-existence plans

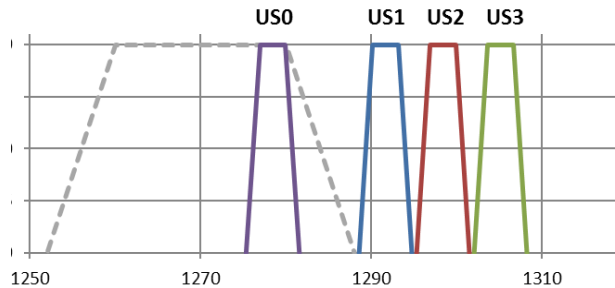
Plan B harstead_3ca_1_0117



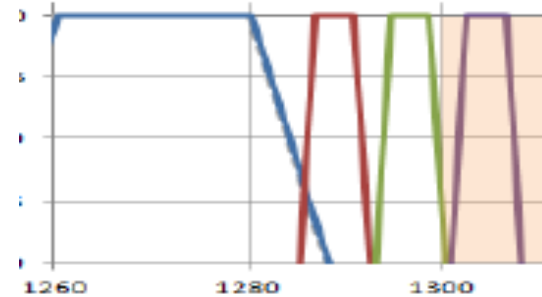
Plan B1 (liudekun_3ca_3_0317)



Convergence option #2 (guo_3ca_1_0317)

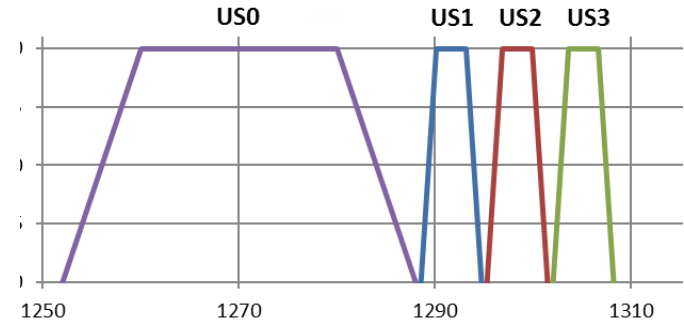


Plan B2 (liudekun_3ca_3_0317)



Compromise plans: optionally support both WDM and TDM co-existence

- 1) Pure TDM co-existence: 25G on US0
- 2) WDM co-existence: 25G on US1
 - a) “Simple” compromise: 50G on US0 and US1 (as usual). Postpones TDM co-existence to 50G.
 - b) “Great” compromise: 50G on US1 and US2 (and 75G on US1, US2 and US3). Postpones TDM co-existence to 100G.



emmendorfer_3ca_1a_0317,
harstead_3ca_1_0317

Straw poll

Which of the following upstream wavelength plan (categories) could you live with? (Choose as many as you wish):

1. Pure WDM co-existence plans, as described in harstead_3ca_3_0317, slide 2
2. Initial WDM co-existence plan that postpones TDM co-existence, as described in harstead_3ca_3_0317, slide 3
3. Pure TDM co-existence plans , as described in harstead_3ca_3_031, slide 4
4. Compromise plans: optionally support both WDM and TDM co-existence, as described in harstead_3ca_3_0317, slide 5

Backup: Comparison: all plans (harstead 3ca 2b 0317)

Element	Co-existence 10G EPON:	Plan A guo_3ca_1_0117	Convergence option #1	Plan B harstead_3ca_1_0117	Convergence option #2	Compromise plan	
		WDM	WDM for 25G, 50G. TDM for 100G.	TDM	TDM	WDM for 25G. TDM for 50G, 100G. (1290 nm ONU)	TDM (1270 nm ONU)
25G power budget	Wider DS/US gap (about 12 nm): 0-0.2 dB advantage	no	no	yes	yes	no	no
25G power budget	To support 25/10 or 10/10 ONUs: One less filter in OLT (upstream): 0.5 dB advantage	no	no	yes	yes	no	yes
25/25 ONU	Potential use of uncooled DML: 33% optics cost savings	no	no	yes	no	no	yes
25G OLT	to support 10G upstream, additional 10G receiver and 1280/1290 nm filter	yes	yes	no	no	yes	no
25/50/100G OLTs	requires multi rate receiver (implementation risk?)	no	100G	25G, 50G, 100G	25G, 50G, 100G	50G, 100G	25G, 50G, 100G
100G ONU	Relaxed wavelength tolerance (3 nm vs. 2 nm): 25% transmitter cost savings	no	yes	yes	yes	yes	yes
100G OLT	1260-1280 receiver sensitivity (implementation risk?)	no	yes	yes	yes	yes	yes
Capacity	25G upstream capacity shared with 10G (1G)	no	100G	25G, 50G, 100G	25G, 50G, 100G	50G, 100G	25G, 50G, 100G
Operations	In PONs with no 25/10 ONUs, allow separate 10G OLT	yes	25G, 50G OLT	no	no	25G OLT	no
All	25G co-existence with GPON (US 1290-1330 nm). Improves the probability of a converged wavelength plan with ITU-T, driving higher volumes on common optics for lower costs	no	no	yes	yes	no	yes
Future	Leaves some or all of 1260-1280 nm for future use (when no 10G EPON co-existence requirement)	all	some	no	some	no	no

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