

Security Level:

Wavelength plan comparison

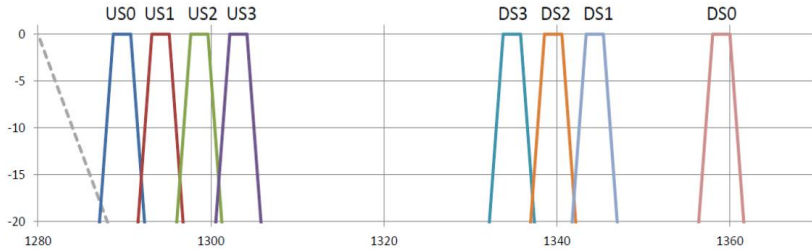
Dekun Liu
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Wavelength plan candidates

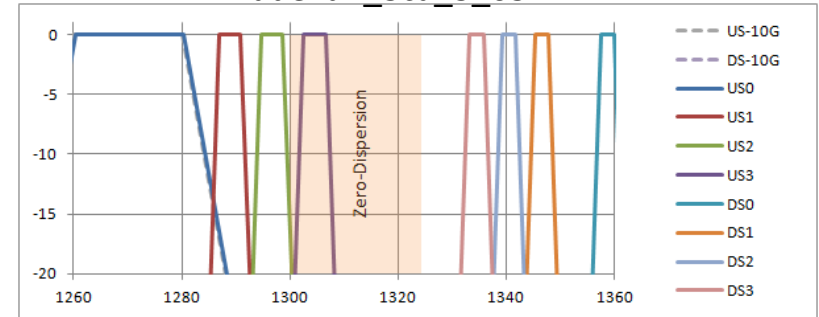
Plan A

guo_3ca_1_0317



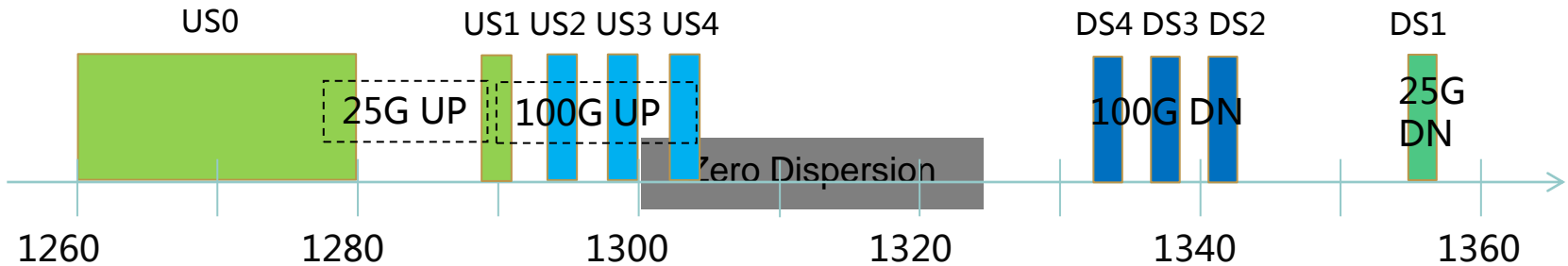
Plan B

liudekun_3ca_3_0317



Compromise wavelength plan

liudekun_3ca_2_0517

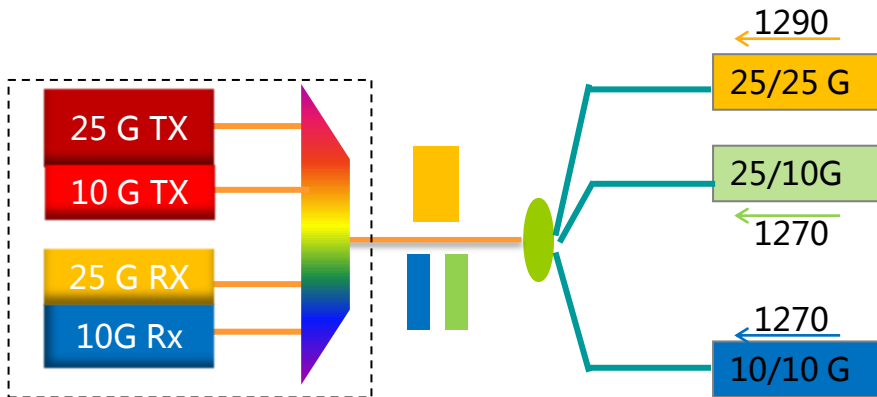


Comparison (1)

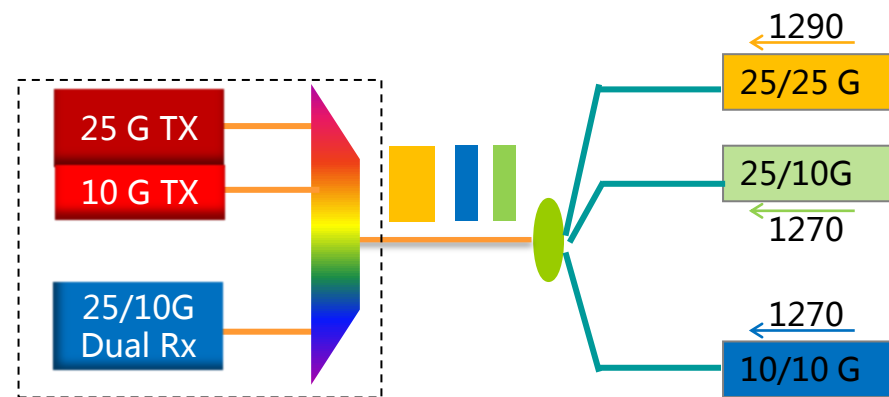
	Item	Plan A (compromise option 1)	Plan B	Compromise option 2
25G PON	coexistence with 10G	<ul style="list-style-type: none"> •WDM with 10/10 •TDM with 25/10 & 10/10 	TDM	TDM
	ONU	cooled	uncooled	uncooled
	Same upstream wavelength between 25/10 and 25/25G	No	Yes	Yes
	Multiple rate receiver coexist with 10/1G PON	<ul style="list-style-type: none"> •No (if no 25/10) •Probably Yes (if with 25/10) 	Yes	Yes
	•Allow separate 10G OLT	<ul style="list-style-type: none"> •Yes if no 25/10 •No if with 25/10 	No	No

25/25, 25/10 and 10/10 coexistence in plan A

25/25G, 25/10G & 10/10G WDM



25/25G, 25/10G & 10/10G TDM



Quadr-plexer OLT module

Triplexer OLT dual rate module

- Due to the difference upstream wavelength of 25/10 & 25/25G, 25G can't have a separate OLT with 10G when 25/10G is on the network
- Considering the narrow gap between 25G upstream and 10G upstream, the right configuration with triplexer dual rate module will be more feasible for 25G OLT in plan A.

Comparison (2)

	Item	Plan A (compromise option 1)	Plan B	Compromise option 2
100G PON	coexistence with 10G	WDM	TDM	WDM
	upstream capacity (shared with 10G)	100G (no shared with 10G)	85~100G (shared with 10G)	100G (no shared with 10G and 25G)
	ONU	cooled	cooled	cooled
	minimal ONU channel width	2nm	3nm	2nm
	Uniform channel width	Yes	No	Yes
	SOA gain for preamplifier	good	medium	good

Summary :

- Only when there is no 25/10G ONUs in the network, plan A can have the advantage of “enabling separate OLT without 10G” and high upstream bandwidth efficiency
- Plan B have the advantage of lower cost compared with plan A
- The compromise plan can have both “low cost” and “high upstream bandwidth efficiency” advantage

Thank you
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