# Choice of grid for 10km 100GbE

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# Introduction

Over several meetings of the HSSG and 802.3ba Task Force there has been a debate over whether the 10km 100GbE interface should use a CWDM or LAN WDM grid.

In the Orlando meeting the CWDM proposals were contained in:

traverso_01_0308, traverso_02_0308, traverso_03_0308

and the LAN WDM proposals were in:

cole_01_0308, cole_02_0308

At the end of the meeting, a straw poll was taken to gauge the support for each of the proposals (see next slide) but the result did not show the required 75% majority.

In order to try to help reach a consensus on this issue, the authors of this contribution have prepared the following summarized pros and cons.

# Straw Poll

During the Orlando 802.3ba meeting a straw poll was taken:

I believe that a baseline proposal for the 100GE 10km SMF PMD should be based on:

A) CWDM grid

B) LAN-WDM grid

C) I need more information and presentation material before deciding

D) I will abstain now and later

Results:

| | Task Force | 802.3 voters |
|---|---|---|
| A | 28 (36%) | 13 (31%) |
| B | 49 (64%) | 29 (69%) |
| C | 35 | 19 |
| D | 20 | 5 |

# Summary of considerations

| CWDM | LAN WDM |
| --- | --- |
| First gen. cooled EA mod laser | First gen. cooled EA mod laser |
| No cooler required<br>Only if laser can operate uncooled | Cooler required<br>Not a major problem |
| OK for uncooled EA mod laser<br>Hard to make | OK for cooled DML<br>Expected to be easier to make |
| MUX / DEMUX easier to make<br>Available now | MUX / DEMUX harder to make<br>Feasible |
| Integrated devices harder to make<br>60 nm wavelength range | Integrated devices easier to make<br>14 nm wavelength range |
| Cannot be same grid as 40km 100GbE | Can be same grid as 40km 100GbE |
| Can be same grid as 10km 40GbE | Not likely same grid as 10km 40GbE |

# Conclusion

After reviewing in detail the pros and cons as summarised on the previous slide the view of the authors is that on balance the preferable choice of grid for the 4x25G 10km 100GbE interface is:

800 GHz spacing LAN WDM