



CI 73 AN baseline proposal for 802.3cd

Jeff Slavick

20 July 2016



Supporters

- Eric Baden
- Kent Lusted
- Mike Dudek

802.3cd Objectives for Copper Links

- 50GBASE-CR
- 50GBASE-KR
- 100GBASE-CR2
- 100GBASE-KR2
- 200GBASE-CR4
- 200GBASE-KR4

Clause 73 Auto-Negotiation Process

- Provides mechanism for links to negotiate to fastest rate both sides advertise they can run at.
- Useful for plug-and-play linking up
- Copper PHY type support only

Proposal

- Update Clause 73 AN to support new copper PHY types
- Follow the 802.3BY approach of not distinguishing between the Backplane and Copper Cable PHYs during AN.
 - The same SerDes generally supports both Direct Attach Copper (DAC) and Backplane (BP)
 - Implementations know if the Port is DAC or BP so they can take care of all the necessary SerDes setup before starting AN to configure the appropriate PMD operation
- FEC is non-negotiable for these PHYs

Table 73-4 Technology Ability Field Updates

Bit	Technology
A8	100GBASE-CR4
A9	25GBASE-KR-S or 25GBASE-CR-S
A10	25GBASE-KR or 25GBASE-CR
A11	2.5GBASE-KX ¹
A12	5GBASE-KR ¹
<u>A13</u>	<u>50GBASE-KR or 50GBASE-CR</u>
<u>A14</u>	<u>100GBASE-KR2 or 100GBASE-CR2</u>
<u>A15</u>	<u>200GBASE-KR4 or 200GBASE-CR4</u>
<u>A16 through A22</u>	Reserved for future technology

Table 73-5 Priority Resolution Updates

Priority	Technology	Capability
1	<u>200GBASE-CR4 or 200GBASE-KR4</u>	<u>200Gb/s 4 lane, highest priority</u>
2	<u>100GBASE-CR2 or 100GBASE-KR2</u>	<u>100Gb/s 2 lane</u>
3	100GBASE-CR4	100Gb/s 4 lane, highest priority
4	100GBASE-KR4	100Gb/s 4 lane
5	100GBASE-KP4	100Gb/s 4 lane
6	100GBASE-CR10	100Gb/s 10 lane
7	<u>50GBASE-CR or 50GBASE-KR</u>	<u>50Gb/s 1 lane</u>
8	40GBASE-CR4	40Gb/s 4 lane
9	40GBASE-KR4	40Gb/s 4 lane
10	25GBASE-CR or 25GBASE-KR	25Gb/s 1 lane
11	25GBASE-CR-S or 25GBASE-KR-S	25Gb/s 1 lane, short reach
...	Etc.	

Conclusion

- The previous two slides provide a baseline for how to update CI 73 to support the new copper PHYs being defined in P802.3cd



Thank You

