

SIMULATIONS AND PROPOSALS FOR CDAUI8 LINK BUDGETS



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- **Raw BER targets for CDAUI8 FEC are RX architecture dependent**
 - FEC performance is a function of error patterns in addition to raw BER
 - Error pattern is a function of RX architecture and TX pre-coding among other things
- **BER targets for several architectural flavors are presented**
- **Standard should allow a range of implementations**
- **Proposal to move towards an implementation-independent performance metric**

BER TARGETS



For electrical sub-links in Multi-Part links with a penalty of ~0.1dB in the optical sub-link

	FLR = 6.2e-11	
	DER0	BER
Random (No DFE)	1.60E-04	8.02E-05
a=0.5	5.19E-05	5.19E-05
a=0.75	3.67E-07	7.34E-07*
a=0.75 precoded	2.66E-05	2.66E-05
a = 0.5 bit interleaved	1.55E-05	1.55E-05
a=0.75 bit interleaved	1.38E-07	2.77E-07*

- **Precoder allows substantial BER target relaxation by breaking up long error bursts**
- DER0 is the Detector Error Ratio as defined in COM
- Note: Values marked by "*" differ from [anslow 3bs 04 0715.pdf](#) page 11 and include an update to fully capture the effect of error propagation

- **Allow for a range of implementations**
- **Accommodate differential precoder to expand RX implementations**
 - Very easy to implement as part of TX PMA
 - Its use to be made optional
- **Raw BER required to reach the FLR target is implementation dependent**
 - Move towards defining a single metric that captures the implementation dependence of raw BER?
 - Reference receiver for Channel compliance can use one of the rows depending on the precoding and RX configuration choice.