

# Latency Proposal

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# Points Taken From The Reflector

- Many Applications Need (Want) The Lowest Possible Latency
  - ◆ Typically Within Data Center
  - ◆ Willing To Make Some Trades To Get It
- Low Latency Increases The Market Potential (If Power Isn't Increased)
- Latency Is Tied To Complexity

# Recommended Solution

- Add A “Low Latency” Mode To Auto-Negotiation Process
  - ◆ Permits Applications That Demand Low Latency To Intelligently Make That Choice
  - ◆ Could Be Implemented With Little To No Increase In Complexity

# Low Latency Option Comparison

Mode	Key Parameters		Latency (approximately)
	FEC	SNR Gain	
Normal	Turbo (LDPC)	9db	Big
	RS + TCM (T8/B256, TB=10)	6db	~1.2 $\mu$ S
Reduced 1	RS (T4/B128)	4db	~560nS
Reduced 2	None	-	<100nS

**All Modes Must Support The Line Code!**

# Considerations

- Facilitates Selection Of An Optimal Solution For The Worst Case Situation Without Sacrifice
- Disabling Part Or All Of The FEC Will Impact Reach
  - ◆ Ideal Solution Would Permit Estimating Attached Cable Length At Startup But Auto-Neg Comes 1<sup>st</sup>