

Wireless Network Coding – the Network-aware physical layer

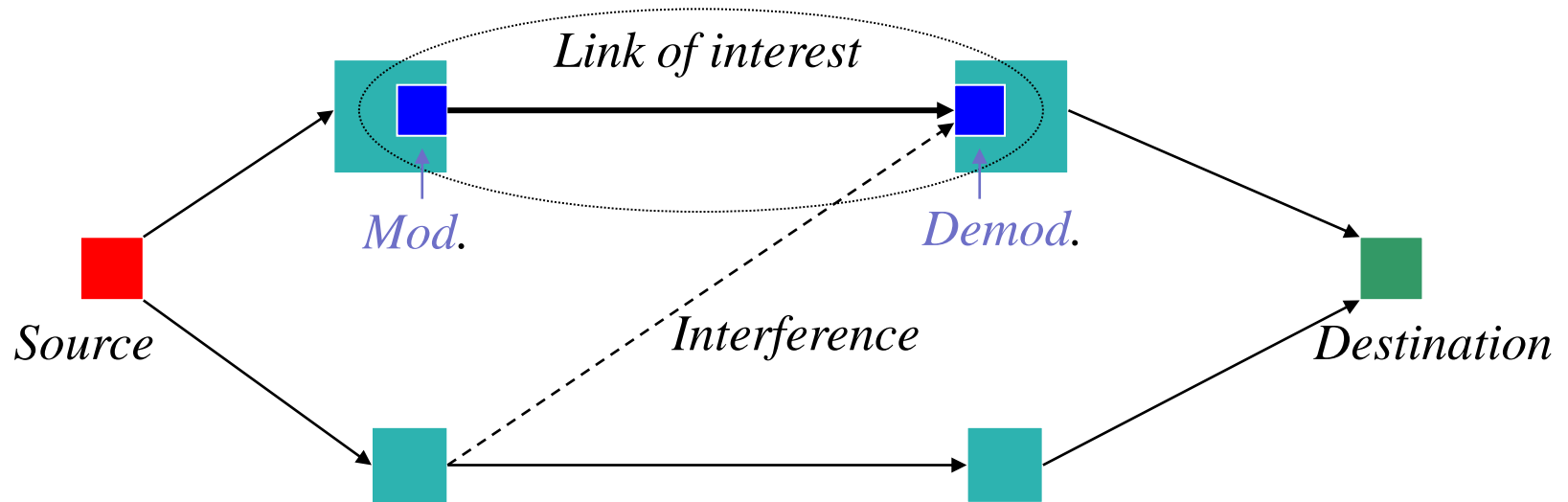
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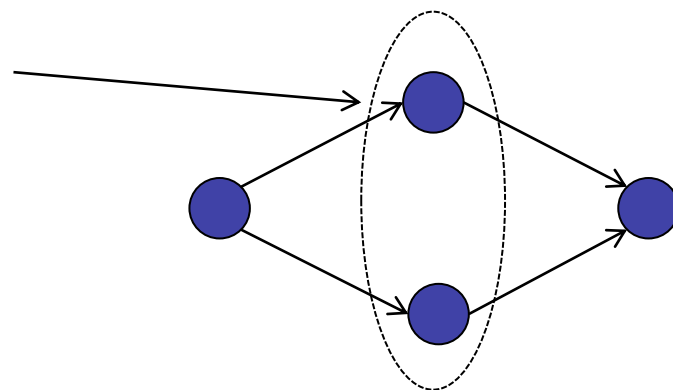
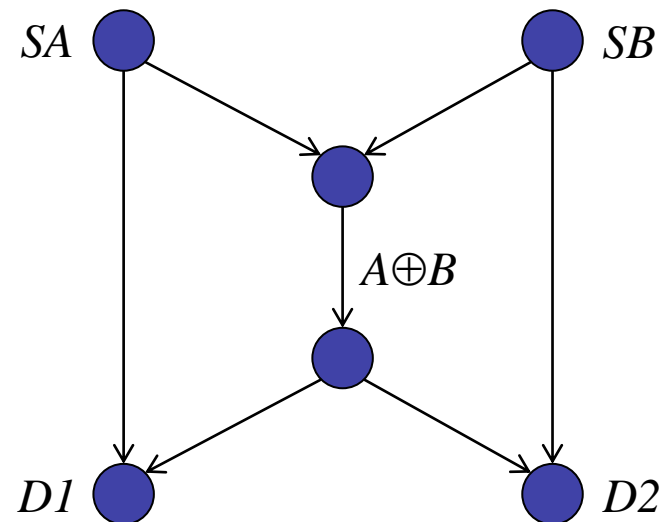
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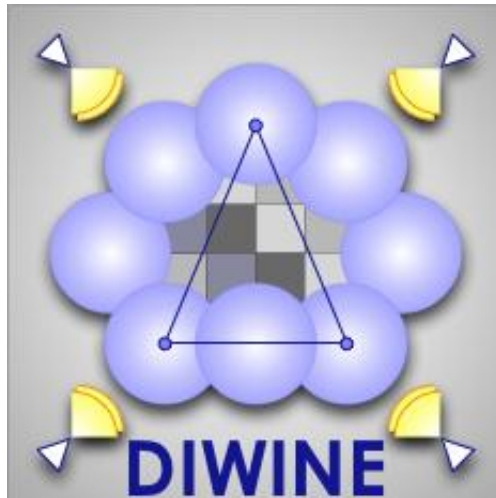
- “The physical layer is dead – long live the physical layer”
 - is there any further need for research on the physical layer?
- It has been suggested that the Shannon limit has already been achieved in wireless systems
- Be that as it may, there is a new context for physical layer research:
 - the ***Network-aware physical layer***
 - the physical layer as part of a network

- Treat each link separately
 - all other signals treated as deleterious interference
 - use MAC layer to control interference



- Networks involve multiple data streams
→ **Network Coding** to combine streams
- Networks involve multiple routes
→ **Distributed Source Coding** to exploit correlation of signals at intermediate nodes





- **D**ense Cooperative **W**ireless Cloud **N**etwork
- European FP7 STREP
- Focus on “Internet of Things”
- Starting Jan 2013