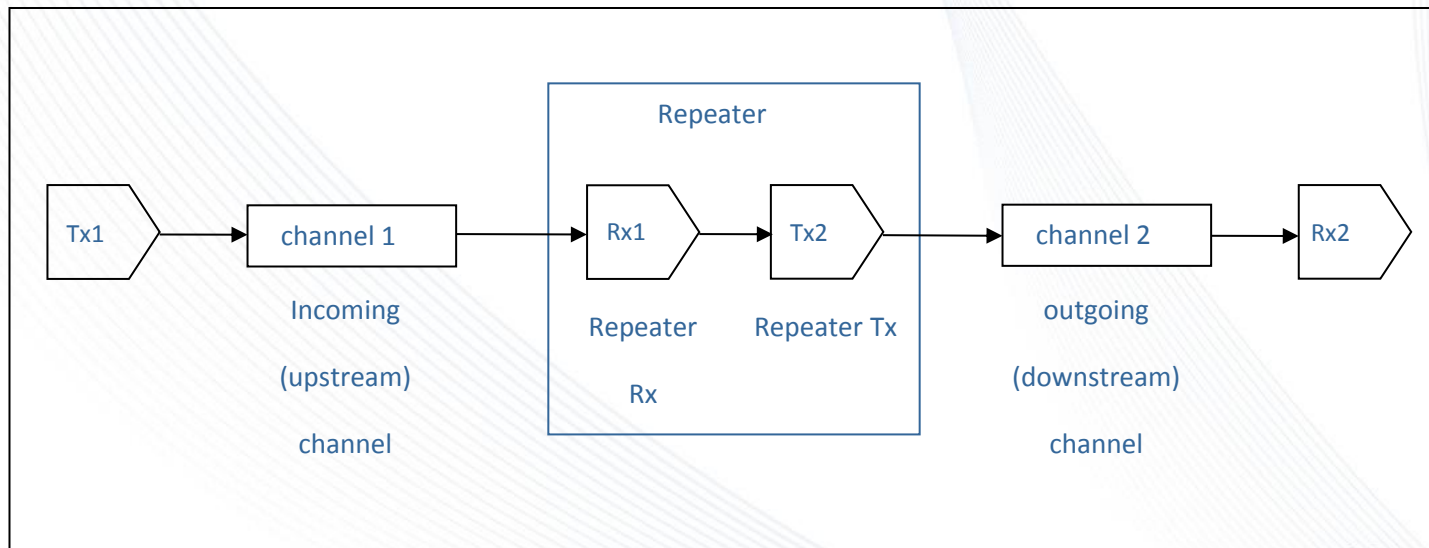# Redriver Flow Problem

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IBIS-ATM

June 17, 2014

Currently, the input to Rx2 is the output of Tx2 whose input it Channel 2. The Output of Rx2 is convolved with the output of Rx1. When the Repeater is a Redriver the optimization within Rx2 AMI_Init is incorrect because it does not include the equalized output of Rx1.

If Rx2 is Init Only, the only way for Rx2 to optimize itself is for it to have its Impulse Response input include the combined equalization of Tx1, Channel 1, Rx1, Tx2, and Channel 2.
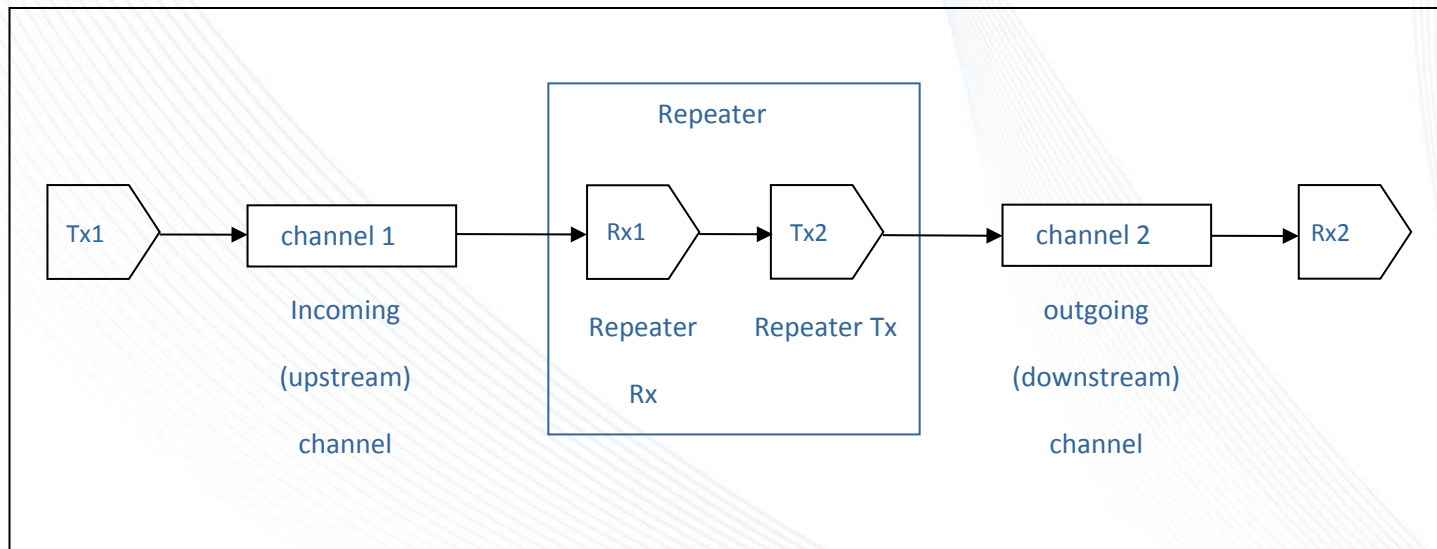
81 Combinations to Consider

- 81 3*3*3*3
  - Tx1
    - Init Only
    - GetWave Only
    - Both Init and GetWave
  - Rx1
    - Init Only
    - GetWave Only
    - Both Init and GetWave
  - Tx2
    - Init Only
    - GetWave Only
    - Both Init and GetWave
  - Rx2
    - Init Only
    - GetWave Only
    - Both Init and GetWave

Some Combinations are Worse than Others

- If Rx2 is Init Only
  - Tx1, Rx1 and Tx2 should have Init_Returns_Impulse True
- Note that adding each addition Redriver increases the number of Combinations by a factor of 9!
- Flows get very complex when any Tx optimizes itself. It would be good to have a new reserved parameter that tells the EDA tool this is the case. Currently EDA tool has no way of knowing.

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Simplified Conclusions

- Tx should not optimize itself
- Statistical simulation flows are straightforward if all Tx and Rx have Init_Returns_Impulse=True
- If any Tx or Rx is GetWave only, then all Rx should have GetWave_Exists=True

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