Potential Path Forward for Channel Modeling Ad Hoc

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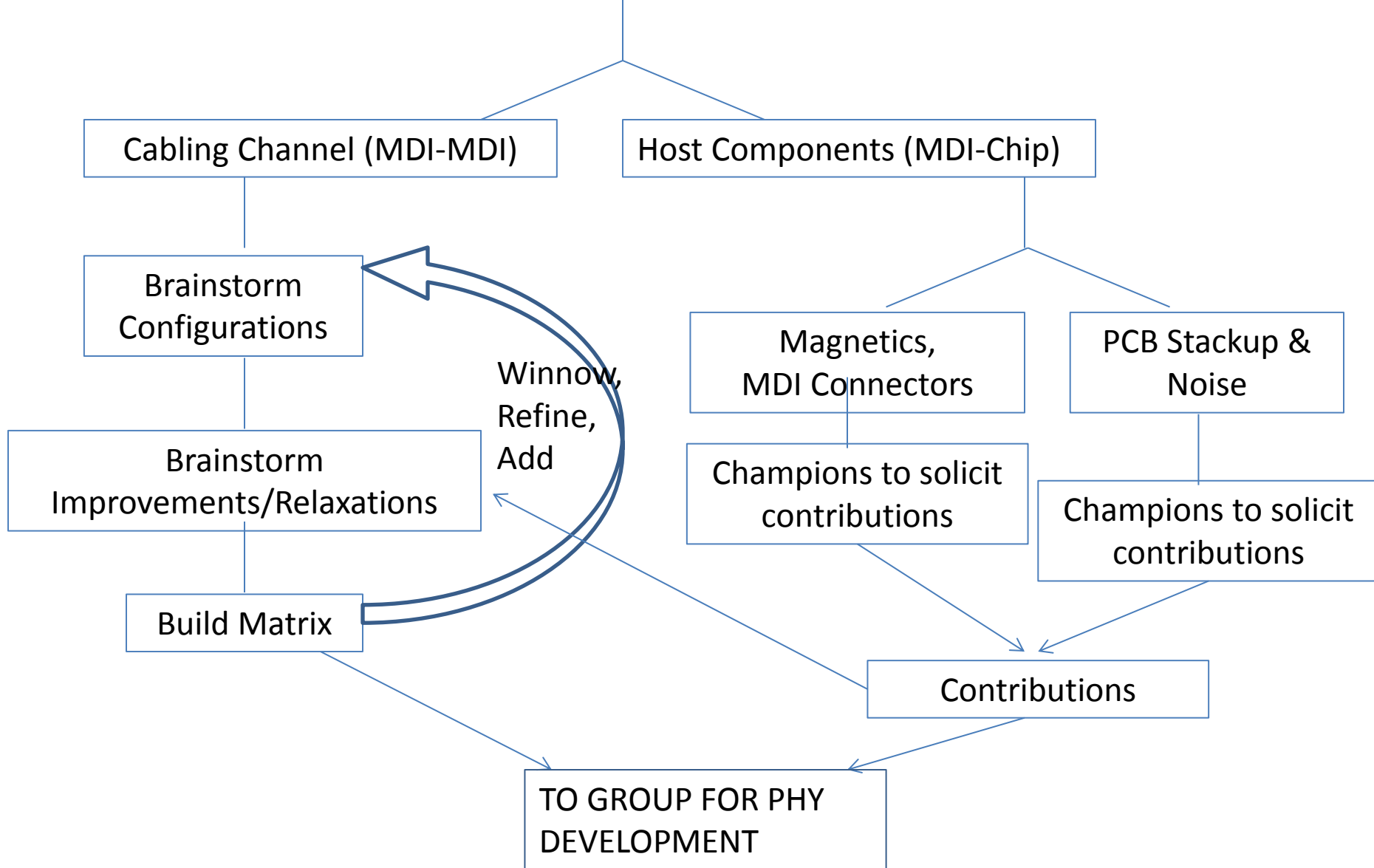
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Things Needed

- Matrix of Relevant Cabling Channels from Standards
  - E.g., 30m, 1-28-1 ISO Cl 1, …
  - Inspiration: 10GBASE-T Process, see:
  http://www.ieee802.org/3/an/public/mar04/kasturia_2_0304.pdf
- Matrix of Relevant Improvements & Relaxations to Cabling Standards
  - E.g., RL+2dB, 4dB, PSNEXT?, IL?
- List of Component elements for on-board model
  - E.g., MDI connector, Magnetics, PCB, etc.
- Matrix of Host board scenarios
- **Action items to solicit needed data**

Strawman Process

Cabling Channel (MDI-MDI)

Host Components (MDI-Chip)

Brainstorm Configurations

Brainstorm Improvements/Relaxations

Build Matrix

Winnow, Refine, Add

Magnetics, MDI Connectors

PCB Stackup & Noise

Champions to solicit contributions

Champions to solicit contributions

Contributions

TO GROUP FOR PHY DEVELOPMENT

Possible On Board Elements

- Magnetics, OEM PCBs, etc.
- MDI Connector IL, Crosstalk, RL
- Magnetics Crosstalk, IL, RL
- PCB Passives IL
- PCB trace model
- PCB Noise models
- IC package models

Possible Channel Configurations

- A: ISO Class 1, 30m (x-y-z)

- B: ISO Class 2, 30m (x-y-z)

- C: TIA Category 8, 30m (x-y-z)
  - Can this be merged with A?

- Improvements/Relaxations on A, B, C
  - 2, 4, 6 dB improved RL
  - 2, 4 dB improved PSNEXT (A & C only)