Presented at the IBIS Interconnect Meeting on October 21, 2015

The logic of connecting supply interconnect models between package model pad nodes and on-die model pad nodes is straightforward, and can be described by discussing the following 6 cases:

Side A                   Side B

1. Pad\_name          pad\_name
2. Pad\_name          bus\_label
3. Pad\_name          signal\_name
4. Bus\_label            bus\_label
5. Bus\_label            signal\_name
6. Signal\_name      signal\_name

Note that the logic for the three cases exclude are handle by switching the Side A and Side B conditions:

1. Bus\_label            pad\_name
2. Signal\_name      bus\_label
3. Signal\_name      signal\_name

Side A                   Side B

1. Pad\_name          pad\_name
   1. Simple one to one mapping
2. Pad\_name          bus\_label
   1. All A Pad\_names have a bus\_label
   2. Connect the terminal for each bus\_label on B to the terminals on A that have the same bus\_label
3. Pad\_name          signal\_name
   1. All A Pad\_names have a signal\_name
   2. Connect the terminal for each signal\_name on B to the terminals on A that have the same signal\_name
4. Bus\_label            bus\_label
   1. Simple one to one mapping
5. Bus\_label            signal\_name
   1. All A Pad\_names have a signal\_name
   2. Connect the terminal for each signal\_name on B to the terminals on A that have the same signal\_name
6. Signal\_name      signal\_name
   1. Simple one to one mapping

This logic is self-evident, I do not think it is a requirement that is be in the specification. If we decide to put this logic in the specification, then this would have to be converted to English that is clear.

I point out that there is a requirement that there are one or more Side A models that need to be able to map all of the supply terminals to one or more Side B models. Model makers can create Side A and Side B models that are easy to match and marry. Model makers can create Side A and Side B models that can be extremely difficult (and sometimes impossible) to match and marry. For example an impossible set of models:

Side A has one model that has pad names VDD1, VDD2, and VDD3

There are two Side B models:

1. Side B model 1 has pad names VDD1, VDD2
2. Side B model 2 has pad names VDD2, VDD3