**The ILP Formulation for CG2NoC**

**Constants**

: the width of NoC (default: 8)

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: the coordinate of (default: (0, 0) to (7, 7))

: the number of virtual cores

: the number of edges between virtual cores

: the number of neurons in

: the number of axons in

: data transfer from to

: unit energy for computation

: unit energy for data transfer

**Variables**

: if is mapped onto

: computation latency of

: the time stamp when is finished

: data transfer latency from to

**Minimize**

Total latency:

or

Total energy:

**Subject to**

(1) no copy constraint:

(2) core capacity constraint:

(3) latency constraint

(4) serial physical core constraint

(5) virtual core order constraint:

**Tricks**

(3-2) can be written as:

(3-2) can be strengthened by adding a new constraint:

(4) can be written as (s are auxiliary variables):