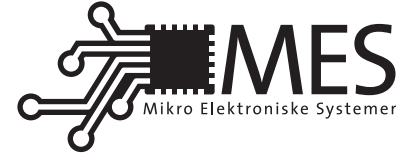




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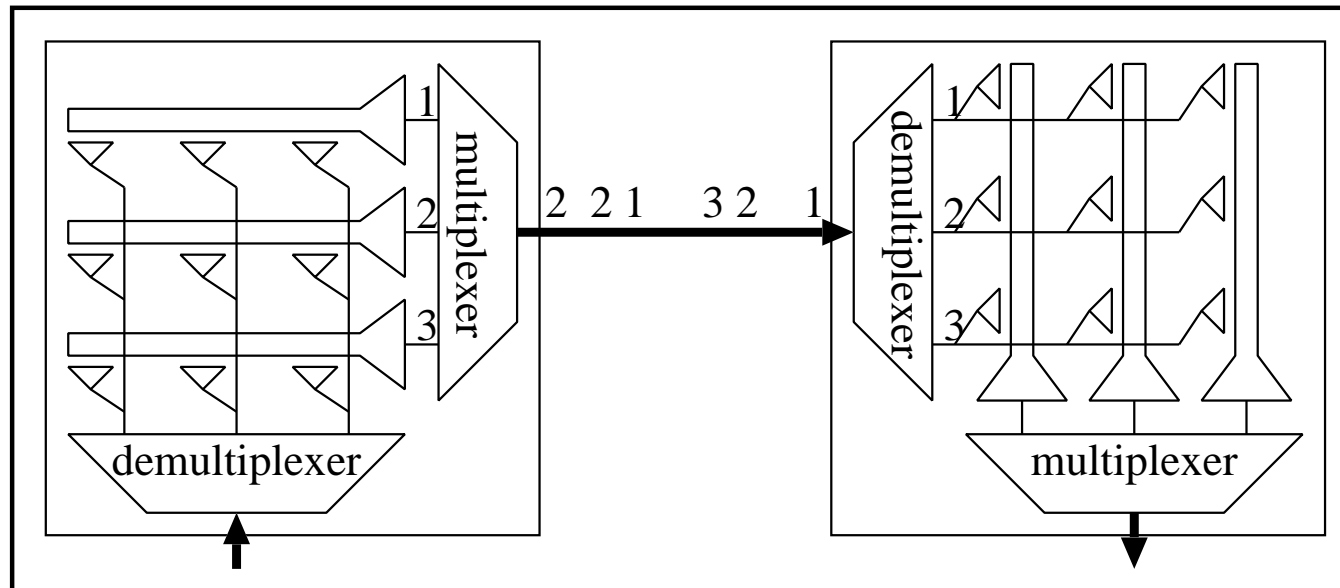


Neuromorphic Electronics

Neuromorphic Communication

The basic Idea of AER

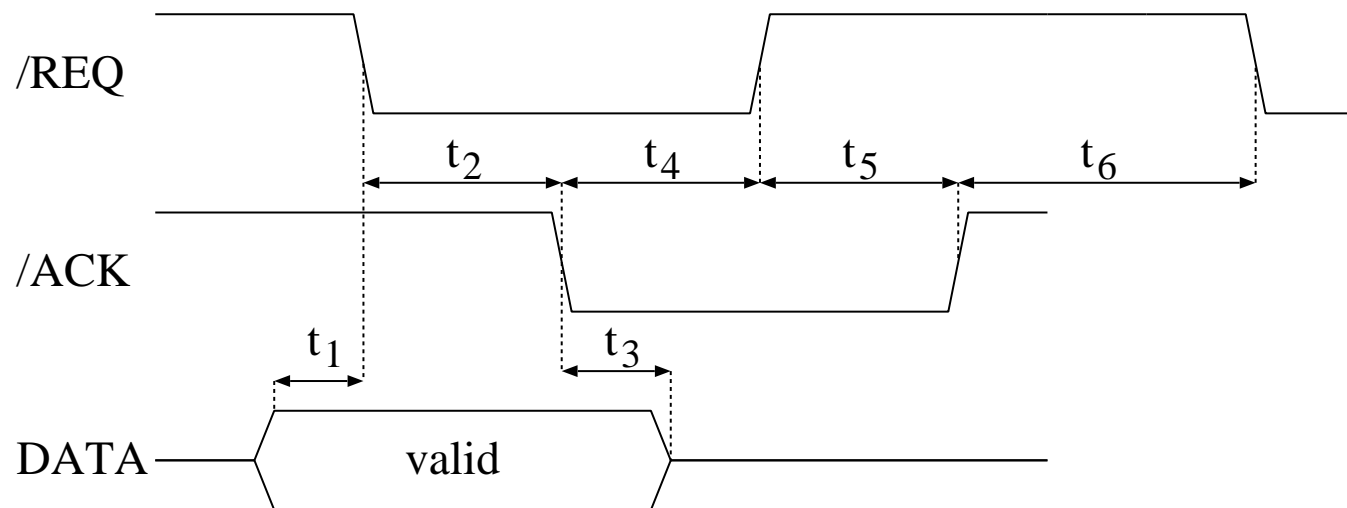
trading in parallelism for speed





4 Phase Handshake

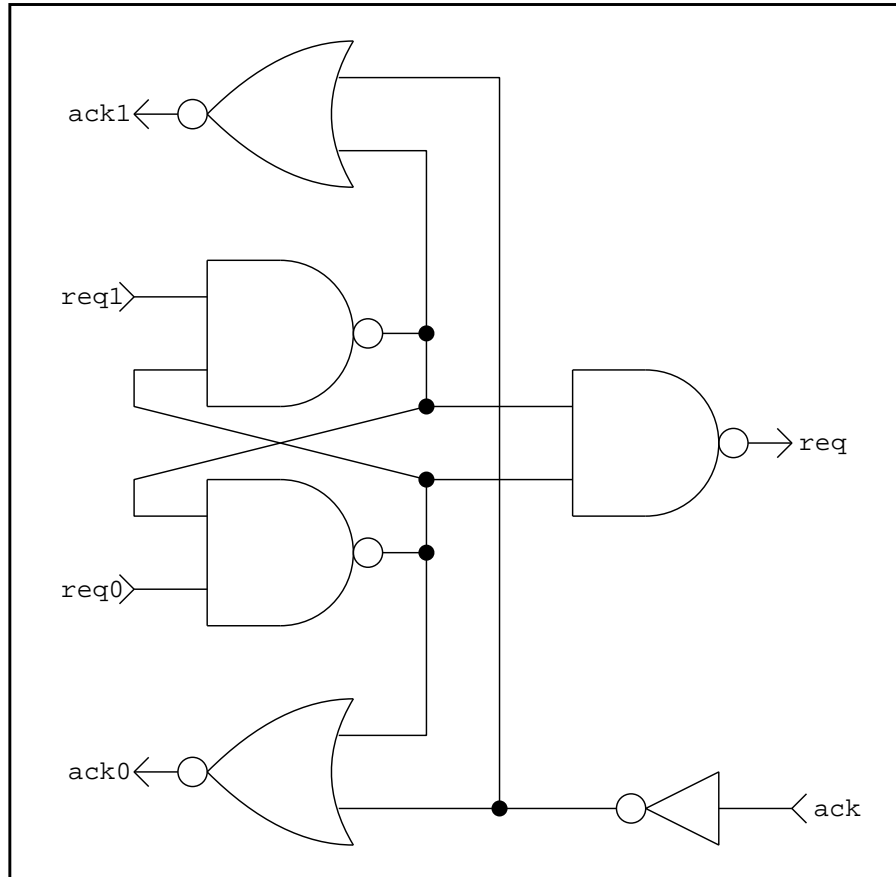
Asynchronous Communication





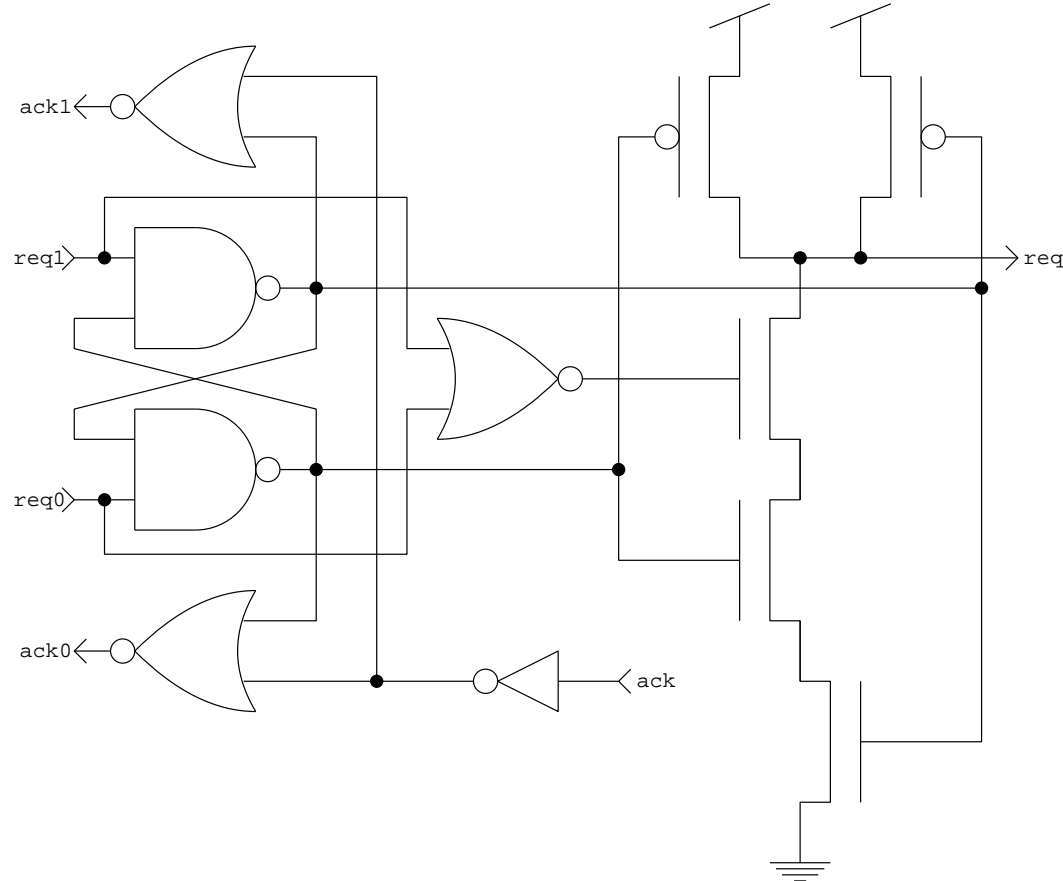
Full Arbitration (1/3)

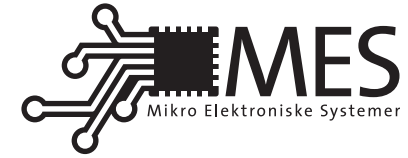
two input greedy arbiter



Full Arbitration (2/3)

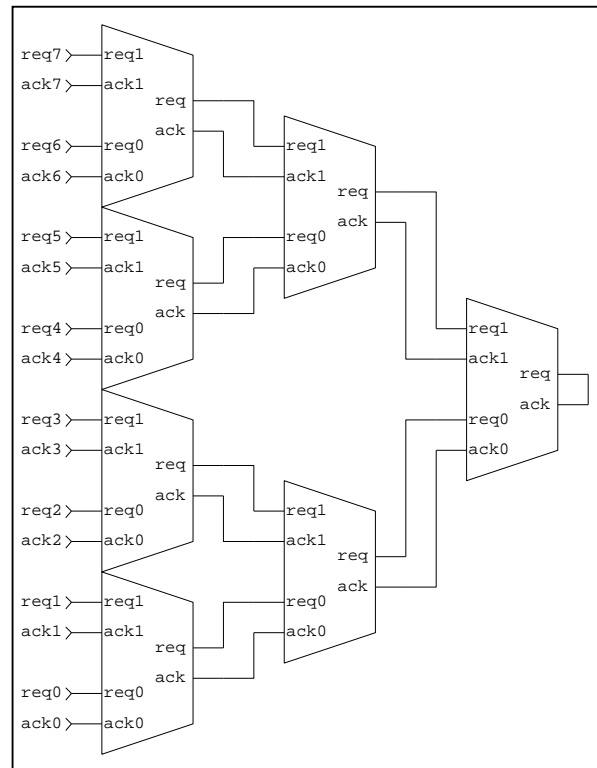
glitch free two input greedy arbiter





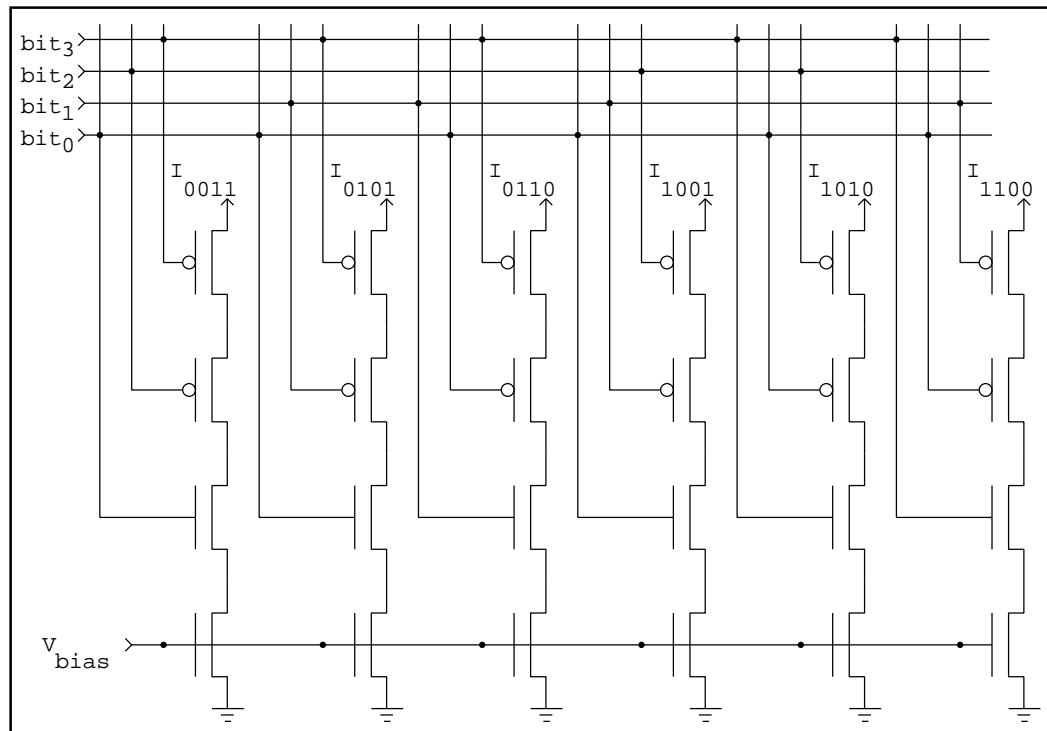
Full Arbitration (3/3)

8 input arbiter binary tree



Discarding

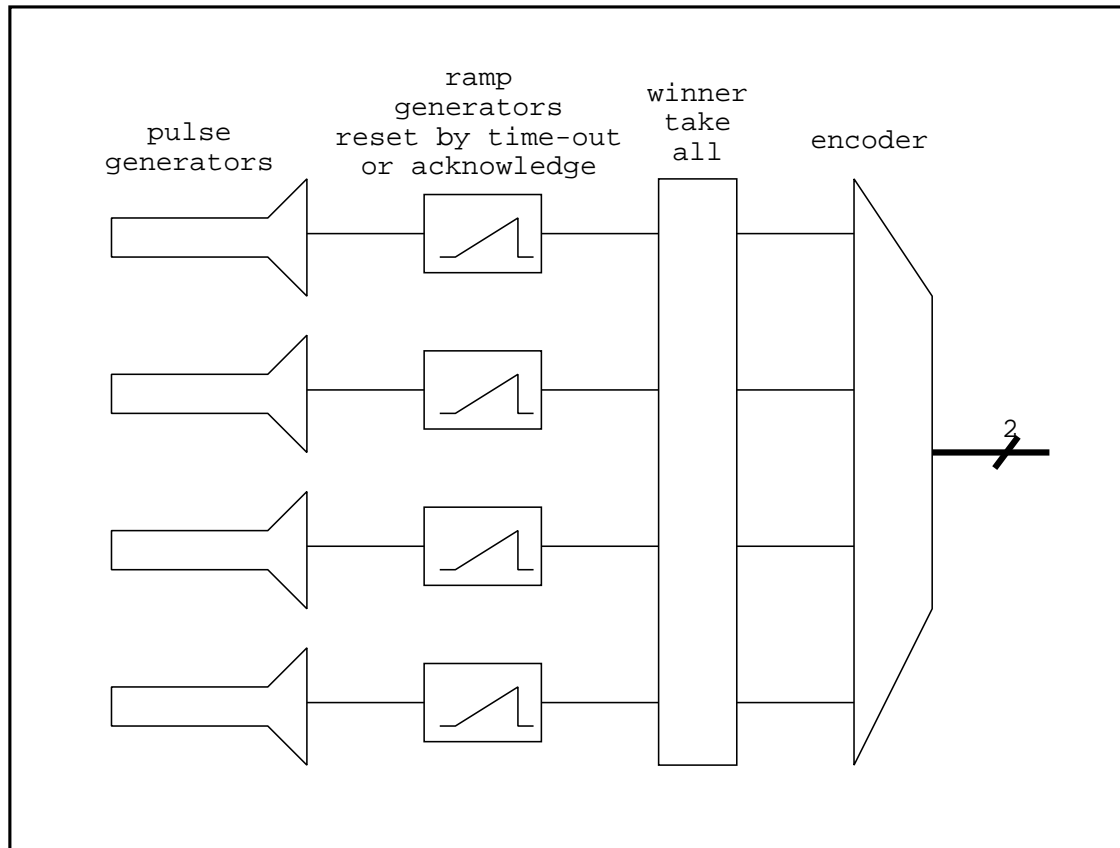
error detection encoding and collision discarding





Age versus Loss Trade Off

A tunable compromise





High Speed LVDS Serial AER

- + compact connector
- + high speed (~ 100 Mevents/s)
- + flexible word length
- synchronous
- power hungry (relatively)