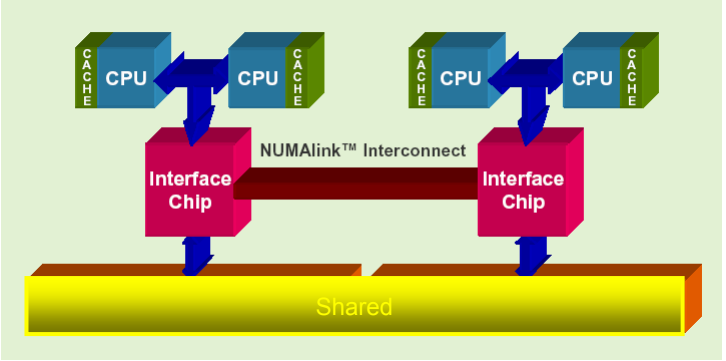
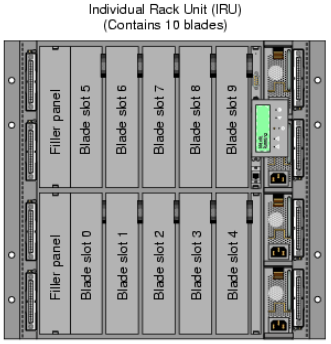
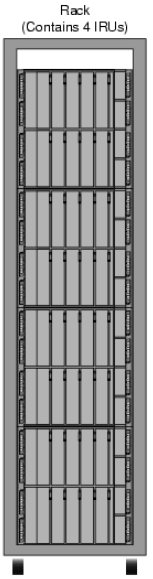
Altix 4700: ccNUMA shared memory

- **Shared memory**
- **ccNUMA:**
  - cache-coherent
  - Non-Uniform Memory Access



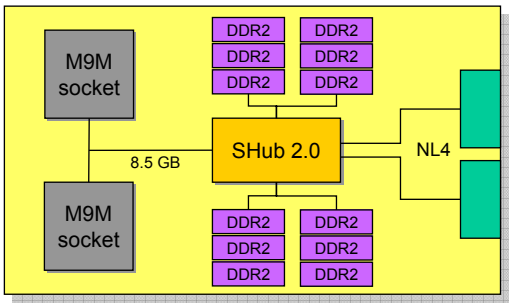
Altix 4700: blade, IRU and Rack





Altix 4700: C2 blade

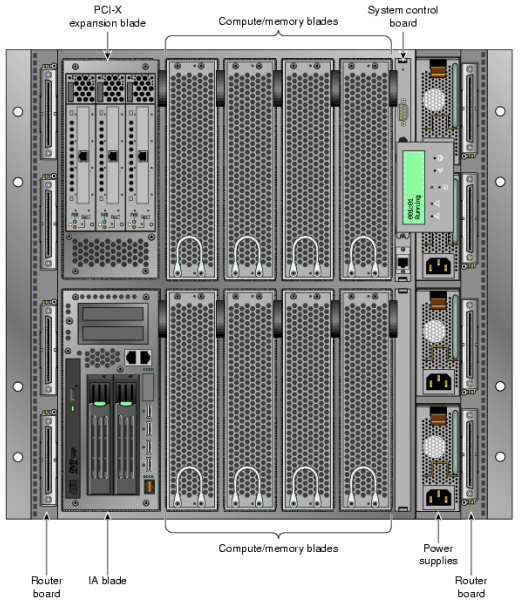
- Each blade contains 2 sockets for Itanium2 Montecito dual-core



- SHub 2.0 with FSB at 533 MHz (*), 12 DDR2 memory sockets and 2 NumaLink4 channels (6.4 GB/s each)

(*)16 bytesx533 MHz=8.5 GB/s

Altix 4700: Individual Rack Unit (physical)



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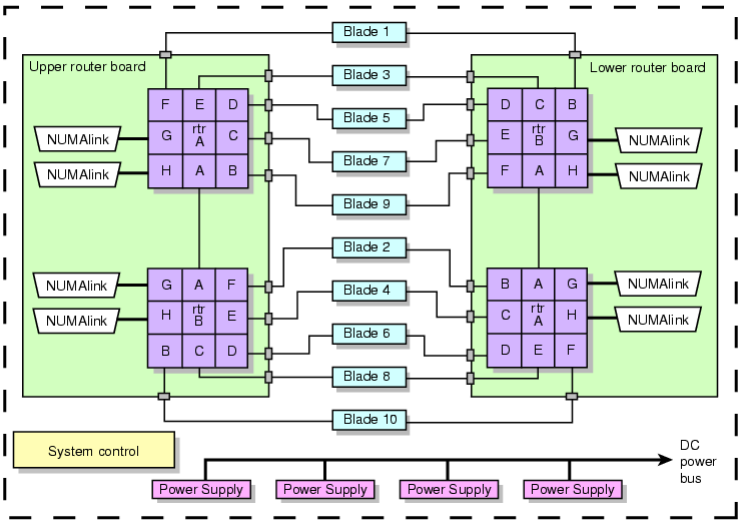
Altix 4700: Individual Rack Unit (logic)



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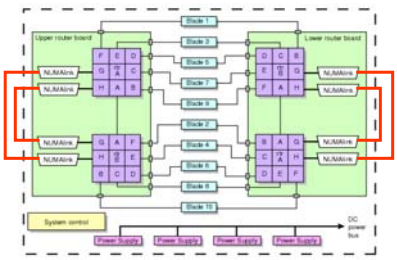
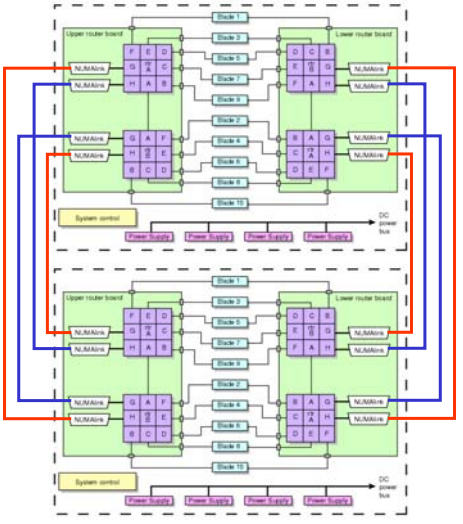
Altix 4700: 32 and 64 processor system



6 x 6.4 = 38.4 GB/s = 3.84 GB/s/blade



8 x 6.4 = 51.2 GB/s = 2.56 GB/s/blade

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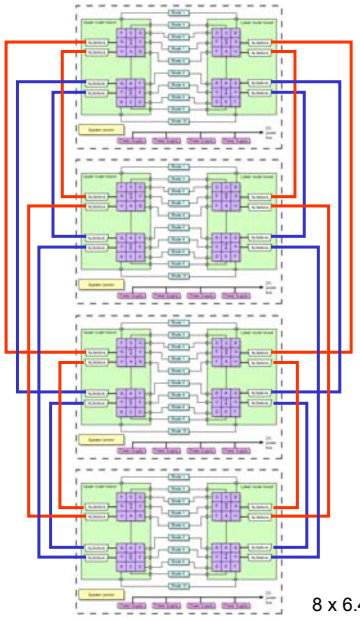
Altix 4700: 128 processor system



- Systems larger than 32 blades require the use of additional dense router modules, with 4 8x8 crossbar ASIC → up to 256 compute blades
- Systems larger than 256 compute blades require additional Shubs that create 1D or 2D meshes (up to 4096 compute blades)

8 x 6.4 = 51.2 GB/s = 1.28 GB/s/blade

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Altix 4700: up to 256 compute blades

64 x 6.4 = 409.6 GB/s = 1.28 GB/s/blade