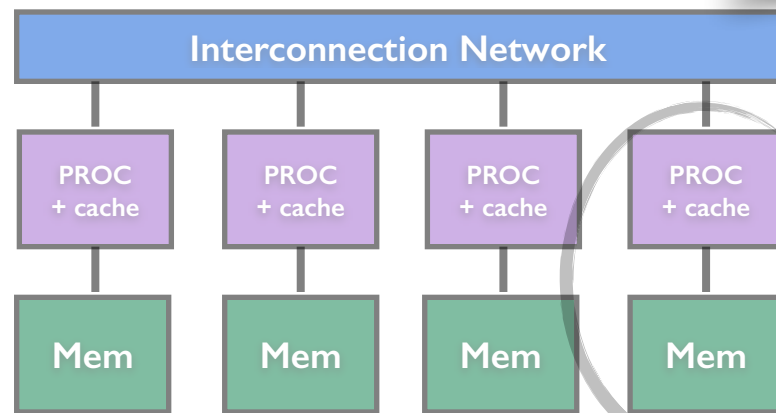


Sockets  
MPI  
Hadoop

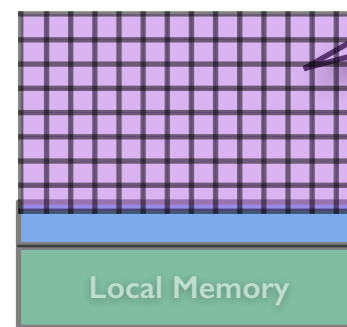
Default is parallel (SPMD): what is my data  
and what do I need from others?

## Distributed Memory



Offload data and tasks.  
We are slow but many!

## Co-Processor



GPU: Graphical Processing Unit  
MIC: Many Integrated Core

CUDA  
OpenCL  
OpenACC  
OpenMP  
Pthreads

fork

Default is serial: which tasks can  
the compiler make parallel?

## Shared Memory

