

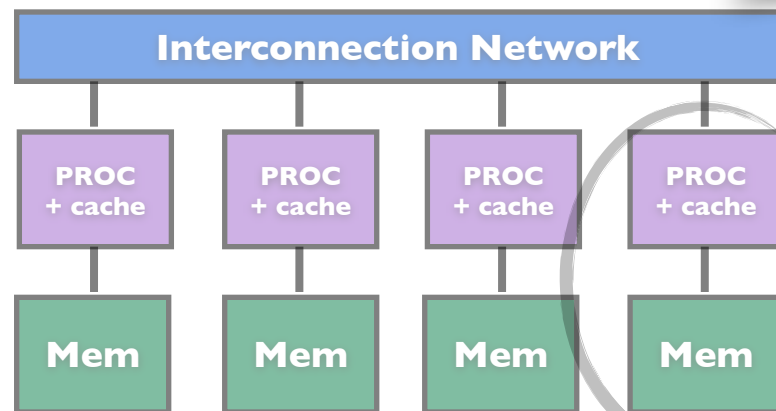
Focus on who owns what data and what communication is needed

Sockets  
MPI  
Hadoop

snow  
Rmpi  
pbdMPI

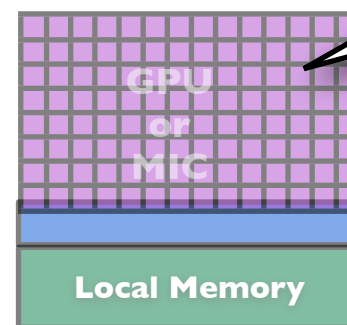
RHadoop

## Distributed Memory



Same Task on Blocks of data

## Co-Processor



GPU: Graphical Processing Unit

MIC: Many Integrated Core

CUDA  
OpenCL  
OpenACC

OpenMP  
OpenACC

Foreign  
Language  
Interfaces:

.C  
.Call  
Rcpp  
OpenCL  
inline

⋮  
⋮  
⋮

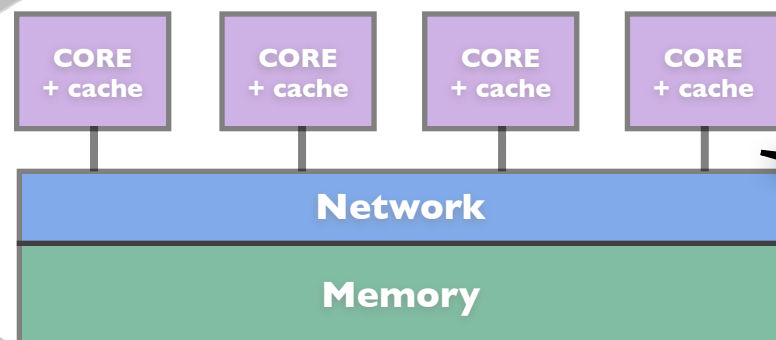


Focus on which tasks can be parallel

OpenMP  
Pthreads  
fork

multicore

## Shared Memory



snow + multicore = parallel

