

snow
Rmpi
pbdMPI

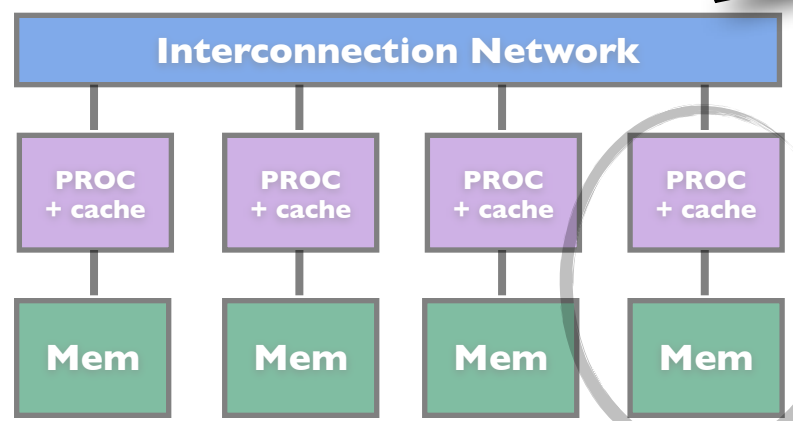
R

Focus on who owns what data and what communication is needed

Sockets
MPI
Hadoop

LAPACK
BLAS

Distributed Memory



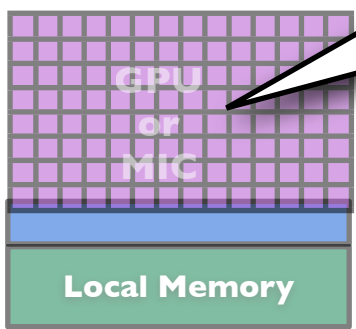
RHIVE

ScaLAPACK
PBLAS
BLACS

PETSc

Trilinos

Co-Processor



Same Task on Blocks of data

GPU: Graphical Processing Unit
MIC: Many Integrated Core

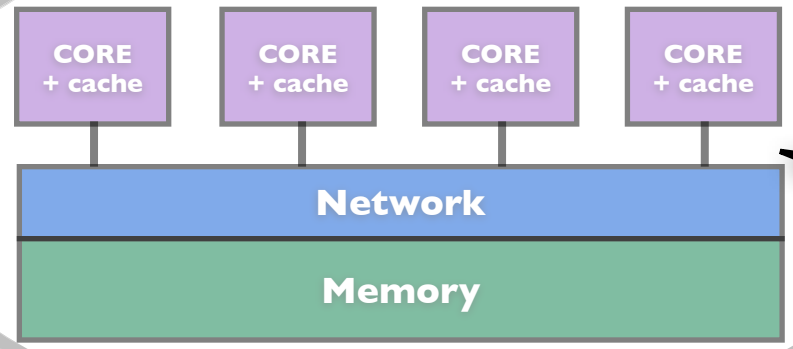
CUDA
OpenCL
OpenACC

CUBLAS

MAGMA

MKL
ACML
LibSci

Shared Memory



.C
.Call
Rcpp
OpenCL
inline

OpenMP
OpenACC

OpenMP
Threads
fork

DPLASMA

Focus on which tasks can be parallel

R

snow + multicore = parallel

multicore
(fork) R

PLASMA