

PORTABILITY

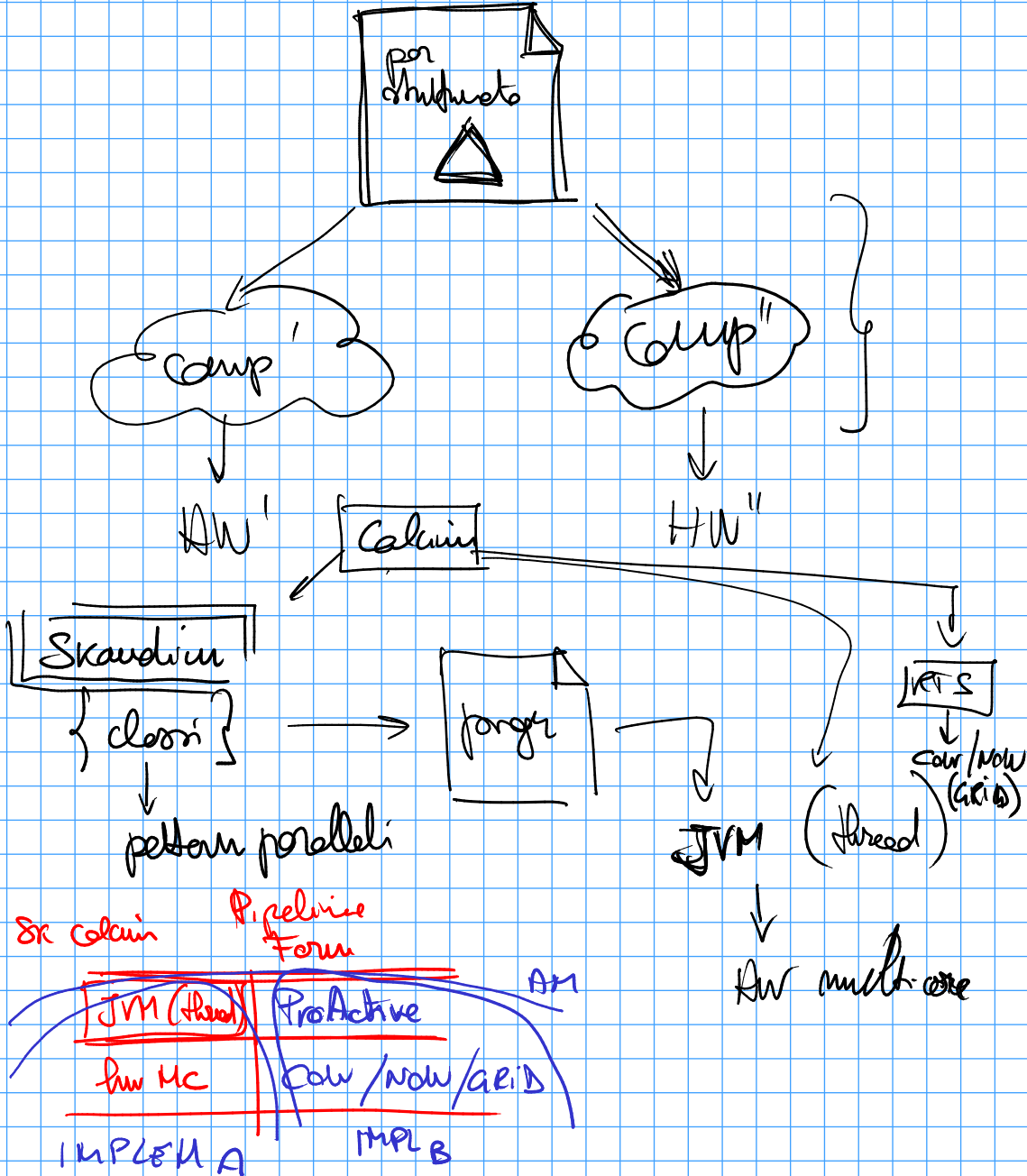
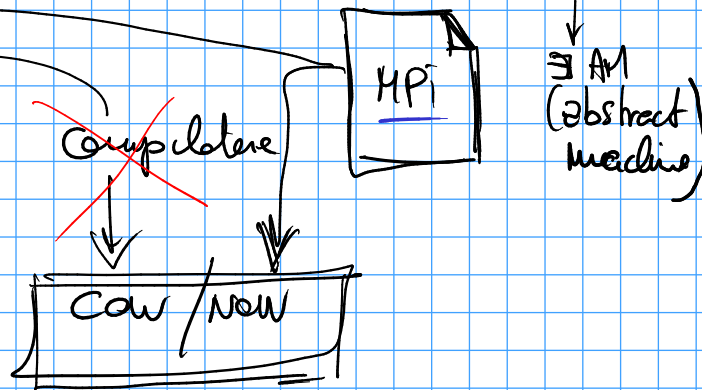
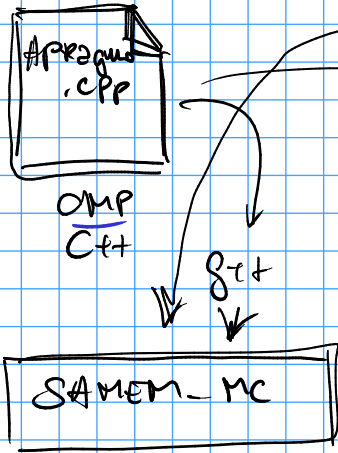
FUNCTIONAL PORTABILITY

PERFORMANCE PORTABILITY

via RECOMPILE

via RE-RUNNING

("Binary" compatibility)



MPI Message passing interface (C, C++, Fortran)

```
main(...) {
  ...
  MPI_Init(...);
  int pid = MPI_GetPid();
}
```

0 2 3 15

```
if (pid == 0)
  MPI_Send(...)
```

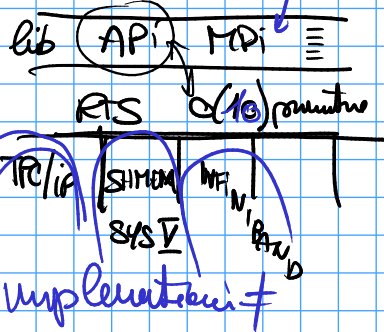
pid 1

```
if (pid == 1)
  MPI_Recv(...)
```

pid 0

$P_1 \dots P_n$
mpirun -np 16 a.out

collective 1-N N-1
send (synchron, asynchronous)



Ri-Configurazioni → MACRO DATA FLOW

TEMPLATE

portabilità
funzionale

portabilità
performance

direttivo: min Tc
max throughput

⇒ ∃ template x hw target

⊕ considero se ∃
forme equivalenti (svelate)
con prestazioni
migliori

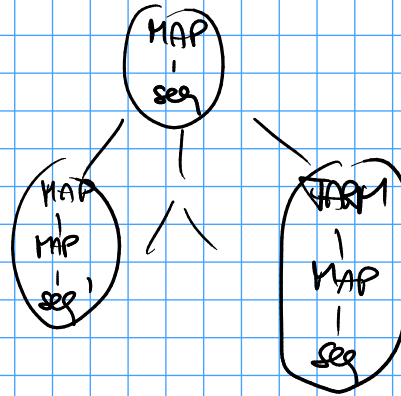
MAP
|
seq

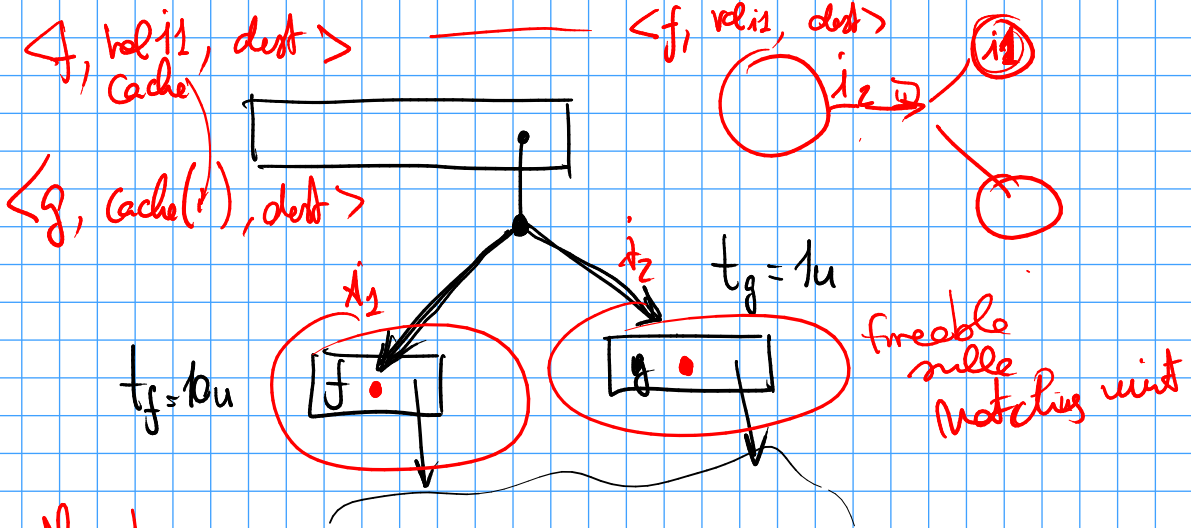
lib template

MAP	HW	template	modello di costi
MAP ₁	HW ₁		
MAP ₂	HW ₂		
⋮	⋮		

"min"

⇒ ∃! template x hw target
nella mia libreria





affinity scheduling

