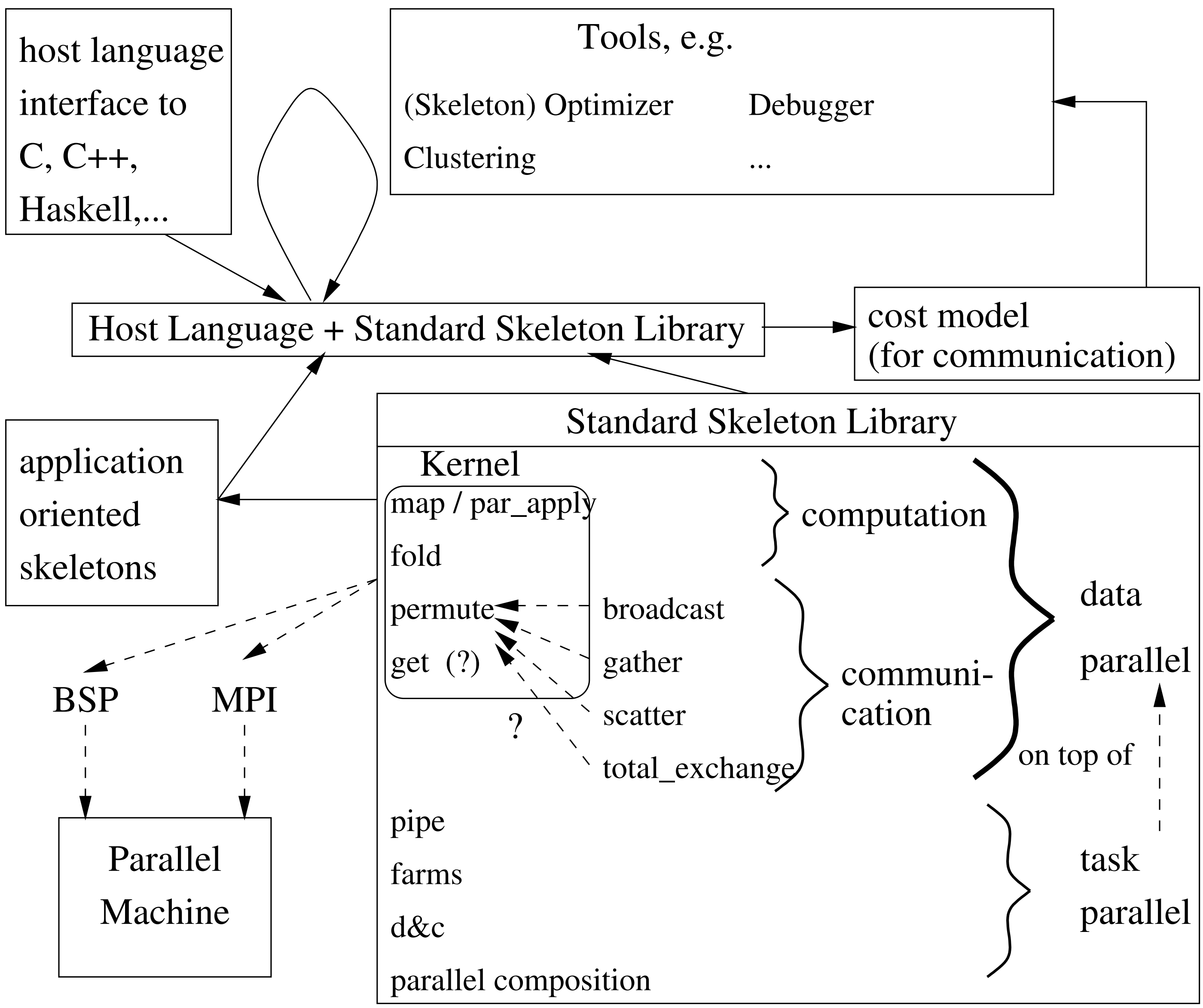
Proposal for an EC Funded Project

A Standard Skeleton Library

main ideas and aspects:

- platform independence
- efficiency
- data parallel
  (task parallelism reduced to data parallelism)
- explicit distribution of computations and data
- SPMD (sequential computations replicated)
- cost model
- MPI-like type system


host language
interface to
C, C++,
Haskell,...
Tools, e.g.
(Skeleton) Optimizer
Debugger
Clustering
...
Host Language + Standard Skeleton Library
cost model
(for communication)
Standard Skeleton Library
Kernel
map / par_apply
fold
permute
get (?)
broadcast
gather
scatter
total_exchange
?
computation
communi-
cation
data
parallel
on top of
task
parallel
pipe
farms
d&c
parallel composition
application
oriented
skeletons
BSP
MPI
Parallel
Machine

Administrative Aspects

- coordinator?
- money for
  - travelling, workshops
  - hardware (?)
  - video conference (?)
  - research positions (?)
- deadline ?

Who wants to join the application?

What could you contribute?