

## Method 3 - The parallel approach (II)

- distribution of fluid flow data as used by the domain decomposition method for the Navier–Stokes solver; each grid block exists twice – in the memory of the node processor and of the memory manager
- each node processor calculates trajectories from their entry point to the current grid block to the exit point (block boundary or inlet/outlet cross section)
- fluid flow data for the trajectory calculation on the current grid block are either provided from the node processors memory or via communication by the corresponding memory manager
- additional memory manager tasks for :
  - delivery of grid data to the calculating node processors
  - delivery of fluid flow data to the calculating node processors
  - summation of source terms for the managed grid block
- particle state at block boundaries is returned to the host and is again treated as an "initial condition"
- source terms are calculated on the processor nodes during trajectory calculation process and is sent to the memory manager node of the corresponding grid block
- host optimizes the assignment of an initial particle condition to a calculating node processor