Rhpc: A package for High-Performance Computing

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Packages snow and Rmpi are usually used for realizing high performance computing in R. Package snow provides parallel processing functions by using several low level parallel computing mechanisms including MPI, which is mainly used for high performance computing in supercomputers. Although snow and Rmpi are useful and reliable packages, we need some additional functionalities for using recent supercomputer hardware sufficiently.

Package Rhpc is implemented for improving snow with Rmpi in some sense. It provides clusterExport, clusterCall and clusterAapply like functions implemented in C to use MPI functions directly and efficiently. It also provides CPU affinity setting functions to be used with OpenMP functions and optimized BLAS libraries such as GotoBLAS. These functions can reduce the latency of parallel computing in R.

References
