

Shared memory parallel algorithms in Scotch 6

François Pellegrini

ENSEIRB/ LaBRI, France

Abstract

The Scotch software package comprises two libraries: the Scotch sequential library, and the PT-Scotch parallel library. The latter is based on a distributed memory paradigm, and uses MPI to exchange data between processes. The advent of many-core, shared memory, machines imposes to reconsider this approach. The complexity of graph partitioning algorithms is low compared to factorization. A first solution is to reduce communication overhead by running graph partitioning only on a limited number of nodes. A second solution is to make graph partitioning algorithms more efficient, by reducing communication overhead and resorting to shared memory parallelism. This talk will present our first experiments in this direction.