Scotch is a graph partitioner. It helps optimise the division of a problem, by means of a graph, into a set of independent sub-problems of equivalent sizes. These sub-problems can also be solved at the same time.

Technological barrier: Scotch calculates partitions on a sequential machine and PT-Scotch on a parallel machine. PT-Scotch can handle very large graphs (2 billion vertices or more) on several tens of thousands of processors.

The quality of solutions provided by PT-Scotch does not depend on the number of processors on which it runs.

Possible fields of application: distributing a scientific problem's computing load across the processors of a parallel machine, placement of VLSI circuits, combinatorial optimisation, etc...

Language: C

Keywords: high-performance calculation, graph algorithmics, domain decomposition, mesh partitioning, sparse matrix ordering

Licence: CECILL C