

LocalSolver – some New Customers (1Q, 2013)

A) EDF (フランス多国籍エネルギー会社):

EDF solves a large-scale quadratic assignment problem to maximize the total utilization and speed of the robot which replaces the elementary units of fuel assembly in nuclear plants. The problem cannot be solved using any of the state-of-the-art MIP solvers (Cplex, Xpress, Gurobi). LocalSolver provides first feasible solutions in seconds, and near-optimal solutions in minutes. People at EDF have tried to beat LocalSolver by writing a specific heuristic algorithm based on local search for this problem. Despite spending some time to write this specific algorithm, they were not able to beat LocalSolver!

B) AIR LIQUIDE (フランス多国籍メディカル・ガス会社):

R&D engineers from Air Liquide has solved a tactical planning problem: optimize the clustering of clients for the delivery of gaz cylinders. The problem is large and highly combinatorial. They tried to use Cplex to solve it, but it fails totally (no solution found). LocalSolver finds some good-quality solutions in seconds. Now Air Liquide R&D has bought LocalSolver for different studies. For example, we are currently working with them on optimizing the scheduling and routing of their maintenance technicians. Once again, Cplex gives no solution on this problem, while LocalSolver outputs the first solution in seconds.

C) FRENCH ARMY (フランス陸軍):

The OR office from the French Army is working on optimizing the maintenance logistics for their vehicles. They failed to solve the problem using MIP solvers, so now they try to solve it with LocalSolver. The engineer in charge of the project has already built a first LSP model and obtained good solutions in seconds. We are currently helping them to optimize their model and obtains the best performance from LocalSolver.

D) SNCF (フランス鉄道会社):

The OR department from SNCF is currently revising all their large-scale optimization problems using LocalSolver as solver. They used to solve their problems through Cplex, but they were forced to decompose their problems and to

write additional specific complex heuristics to obtain good solutions. They are tackling 3 problems: railways maintenance planning, assignment of trains to trips, and workforce scheduling. They have finished to tackle the first problem: they obtained very good solutions in short running times for the first problem. We are currently discussing with them for an operational deployment of the solution. The work is ongoing on the two other problems.