CPLEX - MIQQ SOLVER

TOMLAB /CPLEX efficiently integrates the solver package CPLEX with MATLAB and TOMLAB. Included is also an advanced solutions for large-scale mixed-integer linear and quadratic programming. The package also includes simplex and barrier solvers for linear and quadratic programming.

Features and Capabilities

✓ CPLEX handles large-scale mixed-integer quadratic programming (MIQP) problems with linear and quadratic constraints (MIQQ), e.g. suitable for financial portfolio problems.

✓ Sparse barrier linear and quadratic programming (LP, QP) solver.

✓ A special solver for network problems is included, cplexnet.

✓ Infeasibility and sensitivity analysis.

✓ Primal, dual and network simplex solver.

✓ Fully sparsified code, capable of handling large, sparse problems.

✓ Full control in MATLAB of all CPLEX parameters and status variables.

✓ All types of diagnostic callback options are callbacks to MATLAB with user control.

✓ Integrated the TOMLAB modeling environment. CPLEX may be used as subproblem solver in the TOMLAB environment.

✓ **Toolbox Options:** For commercial use, there are two different solver and license options:

> **TOMLAB /CPLEX:** solves mixed-integer linear and quadratic programming (MILP,MIQP), and linear and quadratic programming (LP, QP), with simplex or barrier solvers. Quadratic constraints are also supported. Parallel execution for up to 64 cores or CPUs.

> **TOMLAB /CPLEX MEX:** The TOMLAB /CPLEX MEX interface without any CPLEX license. The solver capacity is dependent on a user's existing CPLEX license.

✓ **Academic use:** The full (and parallel) **TOMLAB /CPLEX** and the **TOMLAB /CPLEX MEX** are available.

✓ CPLEX is available for MATLAB R2007b or later on Windows 32/64-bit and Linux/OSX 64-bit.