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Multi-method Solver CONOPT3

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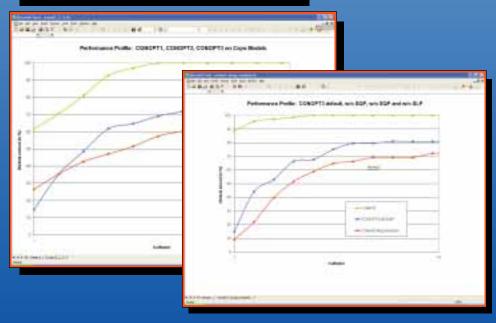
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JO X year Agreeted Tools 1945 DE G Gleun Grante Grant 3 15.3 PAtts: (Former game.com/salvers/solvers hen#CDNOFT GAMS/CONOPT3 GAMS can now compute exact second derivatives and this is used in our new CONOPT3 solver. Second derivatives can have a significant effect on highly nonlinear models and especially on models with many superbasic variables. Many previously unsolvable models can now be solved. CONOPT3 is a multi-method solver with the following submethods (in addition to those of CONOPT2 mentioned below): · Steepest Descend Quasi-Newton · Sequential Linear Programming (SLP - added in CONOPT2) · Sequential Quadratic Programming using the new second order information (SQP - added in CONOPTS). · The SQP sub-method uses Reduced Hessians (when there are few superbasics) or Conjugate Gradients (when there are many superhasics). The sub-methods are selected dynamically based on model statistics and performance measurements.

High performance and reliability of solvers are the result of technological and theoretical advances in both, solution technology and modeling systems.

GAMS/CONOPT has exploited this synergy by incorporating robust and efficient higher order evaluation techniques combined with dynamic and automatic choice of fundamental solution methods.



The graphs show how CONOPT's capabilities have improved over the last 15 years and illustrate the power of the novel multi-method approach.