GUROBI
OPTIMIZATION

GUROBI 12.0

Every Solution, Globally Optimized

Experience unmatched performance, innovative nonlinear capabilities, and smarter resource management.

Gurobi 12.0

Gurobi 12.0 delivers powerful new features and speed enhancements that make it easier than ever for users to address their most complex optimization problems.

Leverage enhanced nonlinear solving capabilities, easily monitor memory consumption, and solve more efficiently with distributed computing.

Performance Improvements

As always, Gurobi continues to push the boundaries of solver speed and efficiency. Preliminary testing shows that Gurobi 12.0 users can expect notable speed-ups compared to version 11.0, particularly in MIP and nonconvex MIQCP solving.

ALGORITHM	SPEED-UP: OVERALL (>1 SEC)	SPEED-UP: ON HARD MODELS (>100 SEC)
LP (barrier)	2.2%	4.8%
LP (dual)	4.4%	3.6%
LP (primal)	2.6%	2.0%
MIP	13.1%	18.9%
MIQP	13.0%	38.3%
Nonconvex MIQCP	27.7%	68.5%

In addition, our revamped documentation, with its modern, user-friendly interface, is continuously updated and redeployed with the latest additions and corrections.

We've also enhanced several open-source projects on GitHub—including the Model Analyzer and OPF OptiMod—and introduced new tools based on GenAI technology.

This includes GuroBot, our new chatbot that can quickly answer the technical optimization questions of experienced users, and Gurobi AI Modeling, our tutorial on leveraging AI to translate practical problems to mathematical models. Gurobi AI Modeling features sample prompts, advice on model formulation and testing, and a custom GPT that converts problem descriptions into mathematical models and Python code inside ChatGPT.

Gurobi Optimizer

- **Global MINLP Optimality**: Directly state nonlinear constraints using Gurobi's APIs and solve mixed-integer nonlinear programming (MINLP) problems to global optimality.

- **Nonlinear Expressions in gurobipy**: Easily model your MINLP problems in our Python API.

- **Memory Consumption Queries**: Monitor memory consumption to assess memory requirements during the solving process and prevent issues when running Gurobi on a shared server.

- **Reduced Memory Footprint for Solution Storage**: Memory consumption has been significantly reduced, making it easier to store large solution pools.

Gurobi Cluster Manager & Compute Server

- **Thread-based Load Balancing**: Leverage a finer granularity of control to maximize Compute Server utilization.

- **Support for SetSolution in Callbacks**: Now available for Compute Server runs, this feature allows you to provide feasible solution vectors during solving.

- **Job Interruption**: You can now interrupt running jobs from the management interface with full control of termination handling.

Experience the Power of Gurobi for Yourself

Try Gurobi free for 30 days, including:

- ✓ Free benchmarking services

- ✓ Free model tuning services

- ✓ Free access to our world-class technical guidance and support

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