GUROBI OPTIMIZATION, LLC END-USER LICENSE AGREEMENT ("Agreement")

By installing and enabling the Gurobi Product you are accepting the terms of this Agreement. The Product will be enabled when you install the license key that is supplied to you by Gurobi. The "Effective Date" of this Agreement is the date on which the Product is enabled. The Product is copyrighted and licensed by Gurobi Optimization, LLC, a limited liability company, registered in Delaware. This Agreement consists of 1) the following Terms and Conditions; 2) the Licensed Products addendum ("Exhibit A"); and 3) the Maintenance and Support addendum ("Exhibit B").

TERMS AND CONDITIONS

1. DEFINITIONS

1.1. "Error" means any reported and reproducible failure of the Product to perform substantially in accordance with its published documentation. "Error Correction" means either a modification or addition that, when made or added to the Product, brings the Product into material conformity with its published documentation, or a procedure or routine that, when observed in the regular operation of the Product, avoids the practical adverse effect of such nonconformity. "Material Error" means any reported and verifiable failure of the Product to perform substantially in accordance with its published documentation where this Error prevents use of the Product, or which seriously impacts use of the Product. "Product" is the Gurobi Optimizer Version 8.0.0 or higher in the form of object code libraries, including all Upgrades and published documentation as further described in Exhibit A. "Upgrades" shall mean any Error Corrections, new Releases (as defined in Exhibit B), and software modifications or additions, which are provided pursuant to Exhibit B. "You" or "Your" means the end-user customer organization accepting this Agreement. Additional defined terms have the meaning ascribed to them in the body of this Agreement.

2. SCOPE OF RIGHTS

- **2.1. Grant of License.** Gurobi grants You a non-exclusive license to the Product (including any Error Corrections, standard enhancements or Upgrades provided under Exhibit B) in machine-readable form. The scope of Your license and usage rights are determined by the type of license that You have selected from the Product License options set forth in Exhibit A (Your "**Product License**"). You may make a reasonable number of copies of the Product in machine-readable, object code form, for nonproductive backup purposes only.
- **2.2. Limitations on Use.** You may not use, copy, modify, or distribute the Product, or make any copy, adaptation, transcription, or merge any portion thereof, unless expressly authorized by Gurobi in a separate written agreement. You may not reverse assemble, reverse compile, translate, or reverse engineer the Product. Your Product License may not be sold, transferred, leased, assigned, or sub-licensed without Gurobi's prior written consent. If You copy or modify the Product in any way not expressly authorized by Gurobi, Your Product License is automatically terminated.

3. MAINTENANCE AND SUPPORT

3.1. Maintenance and Support. Gurobi offers a Maintenance and Support program as set forth in Exhibit B. Maintenance and Support is not available for academic licenses.

4. LICENSE FEES

- **4.1. Payment Terms.** Unless otherwise indicated on the invoice, all invoices from Gurobi shall be due and payable within thirty (30) days of the date of each invoice. Except as provided in Section 5.1 (Warranty) and Section 8.2 (Right to Cure), the fees are not refundable. If any fees are not paid when due, Gurobi may, at its option, charge interest at a rate of one and one-half percent (1½%) per month or, if less, the highest rate allowed by applicable law from the date such fee or charge first became due.
- **4.2. Taxes.** You are responsible for sales or use taxes, and state or local property or excise taxes associated with Your licensing, possession, or use of the Product and any associated services.

5. WARRANTIES

5.1. Warranty. Gurobi warrants for a period of sixty (60) days after the Effective Date of this Agreement that the Product will perform substantially in accordance with the documentation. Gurobi does not warrant that the Product will be Error-free in all circumstances. As Your exclusive remedy for any defect or Material Error in the Product, and as Gurobi's entire liability therefor in contract, tort, or otherwise, Gurobi agrees to correct such Material Error or defect at Gurobi's facility by issuing corrected instructions, a restriction, or a work around. If Gurobi is unable to correct such defect or Material Error after a reasonable opportunity, Gurobi shall refund the License fees paid for such Product. This warranty does not apply to the free trial version, the free academic version or otherwise to time-limited evaluation versions of the Product, which are provided to You "as is" at no charge.

- 5.2. Limitation on Warranty. Gurobi shall have no liability for negligence. In addition, Gurobi makes and You receive no warranties, express, implied, or statutory, and Gurobi specifically disclaims any warranty of merchantability or fitness for a particular purpose.
- **5.3. Limitation of Liability; Exclusion of Consequential Damages.** The cumulative liability of Gurobi to You for any and all claims relating to the Product and any services rendered under this Agreement shall not exceed the total amount of all License and Maintenance and Support fees paid to Gurobi for the Product within the prior year. This limitation shall not apply to the indemnification provided in Section 8. In no event shall Gurobi be liable to You for any consequential, indirect, special, or incidental damages, even if Gurobi has been advised of the possibility of such potential loss or damage. The foregoing limitation of liability and exclusion of certain damages shall apply regardless of the success or effectiveness of other remedies, but may not be applicable in some jurisdictions.

6. OWNERSHIP

6.1. Ownership. Gurobi shall have sole right, title, and interest in and to the Product and all documentation relating to the Product (including its development or its operation, testing or use, and all reports and copies created), and all intellectual property rights associated with the Product (including, without limitation, rights to copyrights, patents, trade secrets, and know-how). This Agreement does not provide You with title or ownership of the Product, but only a right of limited use pursuant to the scope of Your Product License.

7. CONFIDENTIAL INFORMATION

- **7.1. Confidential Information.** "Confidential Information" means any data or information, oral or written, treated as confidential that relates to either party's past, present, or future research, development or business activities, including any unannounced products and service(s), and including any information relating to services, developments, product road maps, inventions, processes, plans, financial information, customer lists, forecasts, and projections. Notwithstanding the foregoing, Confidential Information shall not be deemed to include information that:

 1) is publicly available or in the public domain at the time disclosed; 2) is or becomes publicly available or enters the public domain through no fault of the party receiving such information; 3) is rightfully communicated to the recipient by persons not bound by confidentiality obligations with respect thereto; 4) is already in the recipient's possession free of any confidentiality obligations; 5) is independently developed by the recipient; or 6) is approved for release or disclosure by the disclosing party without restriction. The receiving party will use the same degree of care, but no less than a reasonable degree of care, to prevent unauthorized disclosure or publication of the Confidential Information as the receiving party uses to protect its own Confidential Information of a like nature. The receiving party shall refrain from using, disclosing, or otherwise exploiting any such Confidential Information for any purpose not specifically authorized by the disclosing party.
- **7.2 Permissible Use of Certain Confidential Information.** In connection with Gurobi's Maintenance and Support program, You may be asked to provide Gurobi with Confidential Information in the form of MPS, LP and Restart data files (the "**Data Files**") for bug fixing and Error Correction purposes. Gurobi may copy, download and run the Data Files on its own internal libraries solely for the limited purposes of: (a) Product performance testing; (b) determining and/or benchmarking solutions times for the Product; and (c) developing Product improvements. Gurobi may use the results of and/or improvements derived from Gurobi's limited internal use of these Data Files for the benefit of Gurobi and Gurobi's other customers, and such use shall not constitute a breach of this Agreement.

8. INDEMNIFICATION

- **8.1. Indemnification.** If a third party claims that the Product infringes any U.S. patent, copyright, or trade secret, Gurobi will (as long as You are not in default under this Agreement or any other agreement with Gurobi) defend and indemnify You against such claim at Gurobi's expense and pay all damages that a court finally awards, including reasonable attorneys' fees, provided that You promptly notify Gurobi in writing of the claim, allow Gurobi to control the defense of such claim, and cooperate with Gurobi in the defense or any related settlement negotiations. Gurobi shall have sole discretion with regard to matters of settlement of any infringement claim so long as the settlement does not adversely affect You, or require You to affirmatively take or to refrain from taking some action.
- **8.2. Right to Cure.** If such a claim is made or appears possible, Gurobi may, at its option, secure for You the right to continue to use the Product, or modify or replace the Product so that it is non-infringing, or, if neither of the foregoing options is available in Gurobi's judgment, require You to return the Product for a credit equal to the portion of previously paid License fees allocable to the remaining term of Your Product License.
- **8.3. No Obligation.** Gurobi has no obligation for any claim based on a modified version of the Product, or its combination, operation, or use with any product, data, or apparatus not provided by Gurobi, or for the data provided by You. **This paragraph states Gurobi's entire obligation to You with respect to any Claim of Infringement.**

9. TERM AND TERMINATION

- **9.1. Term.** Your Product License commences on the Effective Date and will end on its expiration date (if applicable), unless terminated sooner pursuant to Section 9.2.
- **9.2. Material Breach.** This Agreement may be terminated: 1) by either party upon a material breach by the other party if the breach has not been cured within thirty (30) days after the breaching party has received written notice thereof;

- 2) by Gurobi, upon fifteen (15) days written notice, in the event of any delinquency of Your payment of any amount due hereunder; or 3) by the non-breaching party upon three (3) days written notice in the event of breach of Section 7 (Confidential Information).
- **9.3. Survival.** Notwithstanding the termination of this Agreement for any reason, the rights and duties of the parties under Sections 6 (Ownership), 7 (Confidential Information), and 8 (Indemnification) shall survive such termination and remain in full force and effect.

10. EXPORT CONTROLS

10.1. Export Controls. Neither the Product or its documentation, nor any other information, process, product, or service obtained directly or indirectly from Gurobi, may be shipped, exported, or re-exported to any country or entity that is the subject of any prohibition imposed by the U.S. Export Administration Act of 1979, U.S. Executive Orders, the U.S. Department of Commerce, or the North Atlantic Treaty Organization (NATO), or any other applicable export control laws and regulations of the U.S. or any other country.

11. GENERAL

- 11.1. Assignment. This Agreement shall not be assignable by You without the prior written consent of Gurobi.
- **11.2. Waiver of Construction Against the Drafter**. This Agreement shall be interpreted in accordance with the plain meaning of its terms and not strictly for or against either of the parties to this Agreement.
- 11.3. Severability. In the event that any provision of this Agreement is found invalid or unenforceable pursuant to judicial decree or decision, the remainder of this Agreement shall remain valid and enforceable according to its terms. WITHOUT LIMITING THE FOREGOING, IT IS EXPRESSLY UNDERSTOOD AND AGREED THAT, IN THE EVENT ANY REMEDY HEREUNDER IS DETERMINED TO HAVE FAILED OF ITS ESSENTIAL PURPOSE, ALL OTHER LIMITATIONS OF LIABILITY AND EXCLUSION OF DAMAGES SET FORTH HEREIN SHALL REMAIN IN FULL FORCE AND EFFECT.
- **11.4. Notices.** All notices or other communications required to be given under this Agreement shall be in writing and delivered either personally, by a reputable overnight courier service (e.g., FedEx or UPS), or by U.S. mail, certified, return receipt requested, postage prepaid, and addressed as provided in this Agreement or as otherwise requested by the receiving party. Notices delivered personally shall be effective upon delivery and notices delivered by courier or U.S, mail shall be effective upon their receipt by the party to whom they are addressed.

11.5. Governing Law.

- 11.5.1 This Agreement shall be governed by, and construed and enforced in accordance with the laws of the State of California as they apply to a contract made and performed in such state and as if entered into by the residents of such state.
- **11.5.2** In all cases, the United Nations Convention on the International Sale of Goods shall not apply. The parties also agree that the provisions of the Uniform Computer Information Transactions Act shall not apply.
- **11.6. Modifications and Waivers.** This Agreement may not be modified except by a writing signed by authorized representatives of both parties. A waiver by either party of its rights hereunder shall not be binding unless contained in a writing signed by an authorized representative of the party waiving its rights. The non-enforcement or waiver of any provision on one occasion shall not constitute a waiver of such provision on any other occasion unless expressly agreed in writing. The parties agree that no use of trade or other regular practice or method of dealing between the parties shall be used to modify, interpret, supplement, or alter in any manner the terms of this Agreement.
- **11.7. Force Majeure.** Neither party shall be responsible for any failure to perform due to unforeseen circumstances or to causes beyond the parties' reasonable control, including but not limited to acts of God, war, riot, embargoes, acts of civil or military authorities, fire, floods, accidents, strikes, or shortages of transportation, facilities, fuel, energy, labor, or materials. In the event of any such delay, either party may defer any delivery dates for a period equal to the time of such delay. Notwithstanding the foregoing, if either party is in default under this Section for more than forty-five (45) days, the non-defaulting party may terminate this Agreement.
- **11.8. No Set Off.** Notwithstanding anything to the contrary in this Agreement, You waive Your right to suspend or set off any payment obligation to Gurobi on any basis whatsoever.
- 11.9. Arbitration. Any controversy or claim arising out of or relating to this Agreement, or the breach thereof that fails to settle by mediation, shall be settled by binding arbitration administered by JAMS in accordance with its then current Commercial Arbitration Rules, and judgment on the award rendered by the arbitrator may be entered in any court having jurisdiction thereof. The arbitrator may award monetary damages, injunctive relief, rescission, restitution, costs and attorneys' fees. The arbitration award shall be final and binding regardless of whether one of the parties fails or refuses to participate in the arbitration. The arbitrator shall not have the power to amend this Agreement in any respect. Notwithstanding the foregoing, the parties agree that this Section does not apply to the breach of provisions set forth in Section 6 (Ownership), and Section 7 (Confidential Information), and that either party may petition a court of law for injunctive relief and such other rights and remedies as it may have at law or equity against breaches of these sections.
- **11.10. Attorneys' Fees**. In the event of any dispute with respect to this Agreement, the prevailing party shall be entitled to reasonable attorneys' fees and other costs and expenses incurred in resolving such dispute.

EXHIBIT A LICENSED PRODUCTS

Gurobi commercial licenses can be used for development or deployment (sometimes called "run-time"), or both. It is permissible to use a Gurobi commercial license for the development of an application and then use that same license to deploy the application, subject only to the specific machine and usage-level limitations and restrictions of the particular Product License You have purchased. There is no limit on the number of specific applications You may use with a given Gurobi commercial license.

General License Restrictions Applicable to All Product Licenses: In all cases, licensed Users and Uses are restricted to You and Your employees. In particular, making the Product available over the Internet or similar networking technology to others who are not Your employees ("Hosting") is forbidden except Hosting that otherwise respects the limitations of the Product License is permitted if the Product is embedded in and only accessible through an application developed by You that adds significant additional functionality and does not allow Your end user to formulate and solve arbitrary linear, quadratic, or quadratically-constrained programming models, in either their continuous or mixed-integer forms.

- 1. Perpetual or Subscription Commercial Product License Options:
 - a. Named-User Unlimited-Use, Single-Machine License: This license is for a single specific person such as a software developer or analyst. Sharing, transferring, assigning or use of this license by anyone other than the named user is expressly prohibited, nor can the license be used for a shared process or any kind of batch process or background service.
 - b. Unlimited-User Unlimited-Use, Single-Machine License: This license is locked to a particular physical machine. The number of simultaneous users and uses is unlimited. The license depends on the number of CPU cores in the physical machine.
 - c. Compute Server Unlimited-User, Unlimited-Use, Unlimited-Client, Single-Machine License: This license is locked to a particular physical machine, which acts as a server for an unlimited number of client machines. The number of instances and uses on the clients is also unlimited. The license depends on the number of CPU cores in the physical machine.
 - d. **Single-Use Single-Machine License:** This license is locked to a particular physical machine and its use is restricted to a single simultaneous use.
 - e. **Floating-Use License:** This license runs on a single, specified local-area network of machines. One particular physical machine in this collection acts as the license server. The Gurobi Product can be installed and run on any machine on the network with an operating environment that is among the supported platforms. This license has a specified limit on the number of simultaneous Gurobi processes that can be run on the machines of this network.
 - f. **Virtual-Machine Licensing:** Any of the above licenses may be used on a virtual machine, provided that only one instance of that virtual machine is active at a time.
 - g. **Virtual Host Machine License**. This license allows an unlimited number of virtual machines to share a single physical host machine, with each virtual machine having its own Unlimited-User, Unlimited-Use, Single-Machine License or its own Compute Server License.

Container Licensing: None of the above licenses may be used within a container (e.g., a Docker Container). To use Gurobi within a container, You must either (i) use the Gurobi Product as a client to a compute server 1.c or a floating-use server 1.e, or (ii) obtain a special license that allows use from within a container.

Time-limited Evaluation License: These licenses can be of any of the above types 1.a-g, but will have a specified time limit determined at the time the license key is issued (typically two (2) weeks from the date of issue).

Distributed Optimization Add-On License: This license option can be added onto types 1.a, 1.b, 1.c, or 1.f above, and enables the use of distributed algorithms (distributed tuning, distributed concurrent optimization, and distributed MIP).

- 2. Size-Limited (free) Trial Licenses: Six-month time-limited, free license for problems with at most 2000 variables and 2000 constraints. The use of this license is restricted to a single person identified during the installation process. This license is for research, development, and evaluation purposes only. It may not be used in commercial applications.
- 3. Academic Licenses: These licenses are restricted to academic use and all use for commercial purposes is forbidden. You and any users of the Product must be faculty, staff, or students at a degree-granting academic institution.

- a. Free Time-limited Named-User Unlimited-Use, Single-Machine License: The scope of this license is the same as set forth in Section 1.a, with the following additional restrictions: (i) the license will have a one-year time limit from the date of installation, and (ii) it must be "validated" while connected to the Internet from a recognized academic domain (e.g., ".edu").
- b. **Perpetual Unlimited-Simultaneous-Use Floating-Use License:** The scope of this license is the same as set forth in 1.e. It has a limit (the physical limit of the licensor) of 1024 simultaneous Gurobi processes that can be run on the machines of this network.
- c. Note: Maintenance and support contracts (Exhibit B) are not offered with academic licenses; however, academic licenses are entitled to receive Minor Releases and Technical Releases corresponding to their currently licensed Major Release.

GUROBI OPTIMIZER FUNCTIONALITY AND PLATFORMS

BASE FUNCTIONALITY:

The Gurobi Optimizer includes state-of-the-art linear programming (LP), quadratic programming (QP), quadratically constrained programming (QCP), and second order cone programming (SOCP) solvers, including mixed-integer programming (MIP) extensions of each. The MIP solvers include shared memory parallelism, capable of simultaneously exploiting any number of processors and cores per processor. The Gurobi Optimizer also includes an Irreducible Infeasible Subsystem (IIS) tool for diagnosing model infeasibility and a performance-tuning tool for automatically identifying beneficial parameter changes, The Gurobi Optimizer is written in C and is accessible from several languages. We provide an interactive Python interface, matrix-oriented interfaces for C, MATLAB, and R, and object-oriented interfaces for C++, Java, .NET, and Python.

OPTIONAL FUNCTIONALITY:

Certain add-on features may be activated in the Gurobi Optimizer, including: (i) a Compute Server capability which provides client-server features, including job queuing, load balancing, and failover, and (ii) distributed parallel algorithms, including distributed MIP, distributed concurrent LP and MIP, and distributed tuning

PLATFORMS:

The Platforms supported are 64-bit Windows (including but not limited to Windows 7, Windows 10, Windows Server 2008 R2, Windows Server 2012 R2, and Windows Server 2016), 64-bit Linux (including but not limited to RedHat, SUSE, and Ubuntu distributions), 64-bit MAC OS X (10.11, 10.12, and 10.13), and 64-bit AIX (7.1).

DOCUMENTATION:

The Gurobi Documentation includes the Release Notes, the Quick Start Guide, the Gurobi Reference Manual, the Gurobi Remote Services Reference Manual, and the Gurobi Example Tour, all of which are delivered in HTML and PDF format.

EXHIBIT B MAINTENANCE AND SUPPORT

Maintenance Term. Maintenance and Support, as described below, is included with subscription-based licenses. Otherwise, the Maintenance term for the Product shall commence on the Effective Date and shall be for a period of one (1) year ("**Maintenance Term**"). For non-subscription-based licenses, the fees for annual Maintenance and Support are not included in the list price of the Product and will be 20% of the then current standard list price for the Product covered by the Agreement.

Reactivating Maintenance. In the event You do not purchase Maintenance and Support services for some period of time and choose to subscribe to Maintenance and Support at a later date, You will be charged the then prevailing annual Maintenance and Support fees for the periods for which Maintenance and Support was not purchased.

Gurobi Product Releases are numbered 'a.b.c', where 'a' is a positive integer, and 'b', and 'c' are non-negative integers. 'a' is the number of the Major Release, 'b' the number of the Minor Release, and 'c' the number of the Technical Release.

Maintenance and Support includes the following:

(1) Gurobi shall make reasonable commercial efforts to correct, or devise workarounds for any Errors reported by You, and to provide such corrections or workarounds to You in a timely manner in accordance with the Service

Levels set forth below. Some Errors will be corrected in the next release of the Product only. Upon discovery of an Error, You agree, if requested by Gurobi, to submit to Gurobi a listing of output and any other data that Gurobi may require in order to reproduce the Error and the operating conditions under which the Error occurred or was discovered.

- (2) Support will be provided remotely by electronic communication.
- (3) During the Maintenance Term, You are entitled to all Upgrades of the licensed Product where that release occurs during this period.
- (4) During each annual Maintenance Term Your license may be transferred to a new machine or operating system up to three times free of charge. Additional transfers will be accompanied by a nominal charge of \$250. Licenses not covered by Maintenance and Support will incur a charge of \$1000 for a transfer or change in environment that requires the issuance of a new license.

Maintenance Exceptions. Maintenance and Support does not cover the following:

- (1) Any problem caused by modifications to any version of the Product not made or authorized by Gurobi
- (2) Errors in any versions of the Product other than the most recent two Major Releases (see Use and Restrictions below)
- (3) Use with a compiler not listed in the Platform Table, as indicated in the Release Notes
- (4) Use with an operating system not listed in the Platform Table, including alternate Linux distributions
- (5) Use of undocumented private APIs
- (6) Custom code beyond calls to the Gurobi APIs
- (7) Hardware modifications such as overclocking
- (8) General system administration tasks, such as managing file permissions and environment variables
- (9) Use of third party tools such as databases, application servers, integrated development environments, etc. In these situations, Gurobi will try to help when possible, but assistance cannot be guaranteed.

Gurobi will not be responsible for delays caused by events or circumstances beyond its reasonable control.

Use and Restrictions. Your rights and obligations concerning the use of any Error Corrections or new Product Releases (or any other programming provided by Gurobi, regardless of its form or purpose) shall be governed by the License Agreement. Gurobi shall have sole and exclusive ownership of all right, title, and interest in and to such works (including ownership of all copyrights, patent rights, trade secret rights and other intellectual property rights pertaining thereto), subject only to the License Agreement. Unless otherwise agreed, You are entitled to use the Product only as authorized under the License Agreement. Gurobi Product Releases will no longer be supported after the release of the second subsequent Major Release. For example, Product Release 7.b.c will no longer be supported subsequent to Product Release 9.0.0.

Service Levels. The following table of "Service Levels" indicates response times after notification by You of a reproducible issue. To qualify for minimum response times, You must report the issue using the email or phone number listed in http://www.gurobi.com/support/. For each support request, a Gurobi representative will assign a service priority, according to this table.

| Priority | Description | Examples | Initial Response Target |
|---------------|--|---|--|
| 1 - Urgent | Production system completely blocked with no apparent workaround: one or more models cannot be solved in a production system. | License key failure for production system Segmentation fault for production system | Within 2 business hours |
| 2 - High | Non-blocking issue for a production system: a malfunction of one or more Gurobi features on a production system, though a workaround is available. | Unexpected slow performance for a production system Failure with specific parameter values for production system | Within 8 business hours |
| 3 - Important | Any issue with a non-production system: any malfunction of Gurobi features for a non-production system, or any requests for performance evaluation and tuning. | Any failure in a non-production environment Benchmark requests | By the end of the next business day |
| 4 - Normal | All other questions. | "How-to" questions | Within 3 business days |

| | Product suggestions | |
|--|--|--|
| | Questions involving topics in Exceptions to the Service Levels | |

Service Level Exceptions. Due to their complexity, questions on the following topics are considered Normal priority, regardless of whether they are blocking or whether they involve a production system:

- (1) Use of undocumented Gurobi parameters
- (2) Use of callback functions that modify the behavior of Gurobi algorithms
- (3) Models with severe numerical issues such as poor scaling or single-precision fractional coefficients

Response Times. As soon as Gurobi staff receives sufficient detail to isolate or reproduce the Error, Gurobi will assign it a case number and a priority level, and Gurobi staff will start an initial assessment. A response for the initial assessment will be given according to the Initial Response Target for that priority level. When the initial estimate is complete, Gurobi will give an estimated timeframe for resolution.

Business Hours: 06:00 - 17:00 Pacific Time (USA), Monday to Friday, closed on US public holidays.