

GAUSSTM 10

Quick Start Guide



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Introduction 1

Product Overview

GAUSS is a complete analysis environment suitable for performing quick calculations, complex analysis of millions of data points, or anything in between. Whether you are new to computerized analysis or a seasoned programmer, the GAUSS family of products combine to offer you an easy to learn environment that is powerful and versatile enough for virtually any numerical task.

Since its introduction in 1984, GAUSS has been a standard for serious number crunching and complex modeling of large-scale data. Worldwide acceptance and use in government, industry, and the academic community is a firm testament to its power and versatility.

Getting Started 2

Installation Under UNIX/Linux/Mac OS X

1. Make a directory to install GAUSS in.
2. cd to that directory.
3. Unzip the .gz or .zip file if there is one.
4. Untar the .tar file.
5. Put the installation directory in the executable path.
6. Put the installation directory in the shared library search path.
7. Install the license; please refer to Chapter 5: Licensing for instructions.

For last minute information, see README.term.

Installation Under Windows

Machine Requirements

- A Pentium computer or higher.
- Operating System and Memory (RAM) requirements
 - Windows 2000, 64 MB minimum, 256 MB or more recommended.
 - Windows XP, 128 MB minimum, 256 MB or more recommended.
 - Windows Vista 32-bit, 512 MB minimum, 1 GB or more recommended.
 - Windows Vista 64-bit, 1 GB minimum, 2 GB or more recommended,
 - Windows 2008 Server, 512 MB minimum, 2 GB or more recommended.

Windows 7 32-bit, 1 GB minimum, 2 GB or more recommended.

Windows 7 64-bit, 2 GB minimum, 3 GB or more recommended.

- Free hard disk space requirements:

Minimum of 100 MB free hard disk space, more may be needed depending on the size of matrices and the complexity of the program.

- Monthly defragmenting is recommended.

Installation from Download (32-bit and 64-bit)

Downloading

If you have current Premier Support, you can download the latest shipping release of the version of GAUSS you own from your Premier Support site. If you do not have current Premier Support, contact Aptech Systems, Inc., for the ftp download instructions.

Installation (32-bit)

After downloading, unzip the software in a temp directory and run `setup.exe` by browsing to the folder where you saved the file and double-clicking on it to launch the installation process or by clicking on `Start`, then `Run`, browse to the folder where you saved the file, and click on `setup.exe`.

Installation (64-bit)

GAUSS 10 for Windows 64-bit includes both the 64-bit version and a special 32-bit Companion Edition. Install the 64-bit version first, then the 32-bit Companion Edition.

To install the 64-bit version, after downloading, unzip the software in a temp directory and run `GAUSS_10_Win_64.msi` by browsing to the folder where you saved the file and double-clicking on it to launch the installation process. You can also start the installation process by clicking on `Start`, then `Run`; browse to the folder where you saved the file, and click on `GAUSS_10_Win_64.msi`.

To install the 32-bit Companion Edition, after downloading, unzip the software in a temp directory and run `setup.exe` by browsing to the folder where you saved the file and double-clicking on it to launch the installation process. You can also start the installation process by clicking on `Start`, then `Run`; browse to the folder where you saved the file, and click on `setup.exe`.

Important: Do NOT install both the 64-bit and 32-bit versions of GAUSS for Windows into the same directory; they must be installed in separate folders.

Installation from CD (32-bit)

Insert the GAUSS 10 compact disc into the CD-ROM drive, and setup should start automatically. If setup does not start automatically, click on `Start`, then click `Run`, and type `D:\setup.exe` in the dialog box (where `D:` is the drive letter of the CD-ROM drive).

You can also browse to your CD-ROM drive and double-click on `setup.exe` to start the installation process. Either procedure may be used for the initial installation of GAUSS and for additions or modifications to GAUSS components.

To install the license, please refer to Chapter 5: Licensing for instructions.

Installation from CD (64-bit)

Insert the GAUSS 10 compact disc into the CD-ROM drive, and the setup menu should start automatically. If setup does not start automatically, browse to the drive where you have inserted the disc and double-click to launch the setup menu.

The setup menu will give you the option to install GAUSS 10 for Windows 64-bit, install GAUSS 10 for Windows 32-bit Companion Edition, or open various documents. You can use this procedure for the initial installation of GAUSS and for additions or modifications to GAUSS components.

To install the license, please refer to Chapter 5: Licensing for instructions.

Documentation 3

GAUSS Quick-Start Guide

- Introduction
- Getting Started
- Documentation
- Support Services
- Licensing

GAUSS User Guide

- Introduction
- Getting Started
- Using the Command Line Interface
- Introduction to the Windows Interface
- Using the Windows Interface
- Matrix Editor
- Library Tool
- GAUSS Source Browser
- GAUSS Help
- Language Fundamentals
- Operators
- Procedures and Keywords
- Sparse Matrices
- N-Dimensional Arrays
- Working With Arrays
- Structures
- Run-Time Library Structures

Multi-Threaded Programming in GAUSS
Libraries
Compiler
File I/O
Foreign Language Interface
Data Transformations
The GAUSS Profiler
Publication Quality Graphics
Graphics Editor
Time and Date
ATOG
Error Messages
Maximizing Performance
Fonts Appendix
Reserved Words Appendix
Singularity Tolerance Appendix

GAUSS Language Reference

Introduction
Commands by Category
Command Reference
Obsolete Commands Appendix
Colors Appendix

Ordering Documentation

Documentation in PDF format is available from our website at www.Aptech.com.

- GAUSS User Guide and Language Reference set (Part No. 006904)

For pricing information on printed documentation, please visit our website at: www.Aptech.com, or contact us at:

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Black Diamond, WA 98010 USA
Street Address:
30741 Third Avenue, #160
Black Diamond, WA 98010 USA
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Documentation

E-mail for Corporate Sales: corpsw@Aptech.com OR info@Aptech.com

E-mail for Academic Sales: acsw@Aptech.com OR info@Aptech.com

E-mail for Government Sales: govsw@Aptech.com OR info@Aptech.com

Support Services 4

Contacting Our Support Services

To contact our support technicians under your Premier Support contract, please e-mail us at: support@Aptech.com and include the following information:

- Brief description of problem
- Operating system version (Windows Vista, Windows XP, Linux, Mac OS X, etc.)
- GAUSS version and revision number
- License ID of GAUSS
- Your phone number and/or email address
- Your name

Our contact information:

Aptech Systems, Inc.

Mailing Address:

PO Box 250

Black Diamond, WA 98010 USA

Street Address:

30741 Third Avenue, #160

Black Diamond, WA 98010 USA

Phone: (360) 886-7100

FAX: (360) 886-8922

E-mail: info@Aptech.com

Our Web address is: www.Aptech.com.

Licensing 5

Licensing Under UNIX/Linux 32-bit

After you install GAUSS or the GAUSS Engine, go to the FLEXlm subdirectory and run the following command:

```
% ./lmutil lmhostid
```

Send the output to license@aptech.com, and you will be sent a license code. Create a file called `gauss.lic` in the FLEXlm subdirectory, and copy the license code into it.

If you have purchased a Single User or Server Locked license, the program is now ready for use. If you have purchased a floating network license, you have to start the `lmgrd` license server daemon first. Go to the FLEXlm subdirectory and run the following command:

```
% ./lmgrd -c gauss.lic -l lmgrd.dll
```

For network licensing, see your system administrator to have the license daemon started automatically in the operating system start-up scripts.

For last minute information, see `README.term`.

Licensing Under Windows 32-bit

Single User License

1. E-mail or FAX your completed registration form containing your contact information, serial number and the hostid that was displayed during installation to Aptech Systems. NOTE: The information displayed is stored in the `hostid.txt` file in your

gauss10\flexlm directory as well. Be sure to include your phone number, e-mail address and/or FAX number. E-mail is the preferred method for returning licenses.

If you need to obtain the hostid after installation:

- a. Open a command prompt window*
- b. `cd gauss10\flexlm`
- c. Type the command `notepad hostid.txt`
- d. Send the contents of this `hostid.txt` file along with your serial number by email to `license@aptech.com`.

If your machine is a laptop or your only connection is via modem you will need to verify your hostid after installation is complete by:

- a. Reboot machine
- b. Open a command prompt window*
- c. `cd gauss10\flexlm`
- d. Type the command `lmhost > hostid.txt`
- e. Type the command `notepad hostid.txt`

If the hostids are the same, please send us the results.

If they are not, please:

- a. Open a command prompt window*
- b. `cd gauss10\flexlm`
- c. Type the command `lmhost -pin > hostid.txt`
- d. Send the contents of the `hostid.txt` file to Aptech.

E-mail to `license@Aptech.com` or FAX to (360) 886-8922

*To open a command prompt window, click on the Start button in Windows, then click on Run, and type `cmd` in the dialog box.

2. Aptech will send you a license. Save it in a file called `gauss.lic` in the `gauss10\flexlm` directory using Notepad. Notepad is the only recommended text editor; do not use a word processing program as this will invalidate the license file.

Caution: *Notepad may automatically add a .txt extension to files when you save them. Check to be sure that you have actually created a file named `gauss.lic`. Also, be aware that it is Windows default to hide file extensions.*

Floating Network License

Every installation of GAUSS 10 can act as a Floating Network License server. You can have a single license server or 3 redundant servers.

Install License Server(s)

Install GAUSS 10. For initial testing and trouble shooting you will need to have the GAUSS.exe file installed. However, if you are short on hard drive space, after you have confirmed that the FLEXlm License Manager is running correctly, you can delete the shortcuts off the desktop and remove all files in the gauss10 directory except for the flexlm directory.

Obtain and Install License

To get the hostid of each license server, which is displayed during the GAUSS 10 install, it is also stored in the gauss10\flexlm\hostid.txt file.

1. E-mail or FAX your completed registration form containing your contact information, serial number and the hostid that was displayed during installation to Aptech Systems. NOTE: The information displayed, is stored in the hostid.txt file in your gauss10\flexlm directory as well. Be sure to include your phone number, e-mail address and/or FAX number. E-mail is the preferred method for returning licenses.

E-mail to license@Aptech.com or
FAX to (360) 886-8922

Caution: Notepad may automatically add a .txt extension to files when you save them. Check to be sure that you have actually created a file named gauss.lic. Also, be aware that it is Windows default to hide file extensions.

2. Aptech will send you a license. Save it in a file called gauss.lic in the gauss10\flexlm directory using Notepad. Notepad is the only recommended text editor, do not use a word processing program.
3. Aptech will send you one or more licenses, depending on the number of increments you purchased. Save all of them in a file called gauss.lic. Copy the gauss.lic file to the license server installation directory on each server.

Configure License Server(s)

1. Launch LMTOOLS from the GAUSS 10 program group
2. Select the “Configuration using Services” radio button
3. Select “Configure Services” tab
 - a. Specify Service Name, we suggest “GAUSS License Server”
 - b. Complete the next 3 fields:
 - 1) “Path to the lmgrd.exe file”
 - 2) “Path to the license file”

-
- 3) "Path to the debug log file" (specify a filename of your choice)
 - c. Where available, select "Use Services"
 - d. Select "Start Server at Power Up" box
 - e. Click "Save Service" button
 4. Select "Start/Stop/Reread" tab
 - a. From the "Flexlm license Services installed on the computer" field, choose the name of the server to start.
 - b. Click on the "Start Server" button
 5. Close LMTOOLS
 6. Test by starting GAUSS on Server.

Configure Clients

Copy the `gauss.lic` license file to the `gauss10/flexlm` directory on each client workstation where GAUSS is installed.

GAUSS is now ready to run.

Server Locked License

1. Email or FAX your completed registration form containing your contact information, serial number and the `hostid` that was displayed during installation to Aptech Systems. Be sure to include your e-mail address and/or FAX number. E-mail is the preferred method for returning licenses.

E-mail to `license@Aptech.com`

or

FAX to (360) 886-8922

If you need to obtain the `hostid` after the installation:

- a. Open a command prompt window
- b. `cd gauss10\flexlm`
- c. Run `lmhost.exe`

Caution: Notepad may automatically add a `.txt` extension to files when you save them. Check to be sure that you have actually created a file named `gauss.lic`. Also, be aware that it is Windows default to hide file extensions.

2. Aptech will send you a license. Save it in a file called `gauss.lic` in the `gauss10\flexlm` directory using Notepad. Notepad is the only recommended

text editor, do not use a word processing program as it may invalidate the license file.

GAUSS is now ready to run.

Licensing Under Linux 64-bit, Windows 64-bit, or Mac OS X

All Licenses

1. E-mail or FAX your completed registration form containing your contact information, serial number and platform type to Aptech Systems. Be sure to include your phone number, e-mail address and/or FAX number. E-mail is the preferred method for returning licenses.

E-mail to license@Aptech.com

or

FAX to (360) 886-8922

2. Aptech will send you a license. Save it in a file called `g.gkf` in the `gauss10` directory using a text editor such as Notepad; do not use a word processing program as this may invalidate the license file. Do not edit this information in any way.

GAUSS is now ready to run.