

GAUSS™ 9.0

Quick-Start Guide



Information in this document is subject to change without notice and does not represent a commitment on the part of Aptech Systems, Inc. The software described in this document is furnished under a license agreement or nondisclosure agreement. The software may be used or copied only in accordance with the terms of this agreement. The purchaser may make one copy of the software for backup purposes. No part of this manual may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying or recording, for any purpose other than the purchaser's personal use without the written permission of Aptech Systems, Inc.

© 1984, 2008 Aptech Systems, Inc.
All rights reserved.

GAUSS and GAUSS Light are trademarks of Aptech Systems, Inc.
PostScript is a trademark of Adobe Systems Inc.
IBM is a trademark of International Business Machines Corporation.
Windows is a registered trademark of Microsoft Corporation.
Other trademarks are the property of their respective owners.

Part Number: 006399
Version 9.0
Revised May 2, 2008

Contents

Introduction	1
Product Overview	1
Getting Started	2
Installation Under UNIX/Linux	2
Installation Under Windows	2
Documentation	4
GAUSS Quick-Start Guide	4
GAUSS User Guide	4
GAUSS Language Reference	5
Ordering Documentation	5
Support Services	6
Contacting Our Support Services	6
Licensing	7
Licensing Under UNIX/Linux 32-bit	7
Licensing Under Windows 32-bit	8
Licensing Under Linux/Windows 64-bit or Mac OS X	10

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 NT 4.0, SP6 IE4.0, 32 MB minimum, 256 MB or more recommended.
 - Windows 2000, 64 MB minimum, 256 MB or more recommended.
 - Windows XP, 128 MB minimum, 256 MB 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

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

After downloading, unzip the software in a temp directory and run `setup.exe`.

Installation from CD

Insert the GAUSS 9.0 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 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.

Working With Arrays
Structures
Run-Time Library Structures
Multi-Threaded Programming
Libraries
Compiler
File I/O
Foreign Language Interface
Data Transformations
The GAUSS Profiler
Publication Quality Graphics
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

- GAUSS User Guide and Language Reference set (Part No. 005499)

For pricing information, please visit our Web site at: www.Aptech.com, or contact us at:

Aptech Systems, Inc.
P.O. Box 250
Black Diamond, WA 98010 USA
Phone: (360) 886-7100
FAX: (360) 886-8922
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 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.
P.O. Box 250
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.dl
```

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 `gauss9.0\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 command prompt window*
- b. `cd gauss9.0\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 gauss9.0\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 gauss9.0\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 `gauss9.0\flexlm` directory using Notepad; Notepad is the only recommended text editor, do not use a word processing program.

***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 9.0 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 9.0. 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 `gauss9.0` directory except for the `flexlm` directory.

Obtain and Install License

To get the `hostid` of each license server, which is displayed during the GAUSS 9.0 install, it is also stored in the `gauss9.0\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 `gauss9.0\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 `gauss9.0\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 9.0 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
 - c. "Path to the lmgrd.exe file"
 - d. "Path to the license file"
 - e. "Path to the debug log file" (specify a filename of your choice)
 - f. On NT, select "Use Services"
 - g. Select "Start Server at Power Up" box
 - h. 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 gauss9.0/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 gauss9.0\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 `gauss9.0\flexlm` directory using Notepad; Notepad is the only recommended text editor, do not use a word processing program.

GAUSS is now ready to run.

Licensing Under Linux/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 `gauss9.0` directory using a text editor such as Notepad, do not use a word processing program. Do not edit this information in any way.

GAUSS is now ready to run.