
GemStone®

GemBuilder for Java™
Release Notes

Version 2.2

October 2006

GEMSTONE ™
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PATENTS

GemStone is covered by U.S. Patent Number 6,256,637 "Transactional virtual machine architecture", Patent Number 6,360,219 "Object queues with concurrent updating", and Patent Number 6,567,905 "Generational Garbage Collector". GemStone may also be covered by one or more pending United States patent applications.

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GemStone Systems, Inc.

1260 NW Waterhouse Avenue, Suite 200
Beaverton, OR 97006

Preface

About This Documentation

These release notes describe new features and the bugs fixed in the GemBuilder® for Java™ Version 2.2 release. We recommend that everyone using GemBuilder for Java read these release notes before beginning installation or development.

For installation instructions, see the *GemBuilder for Java Installation Guide*.

These release notes are also available in PDF format with your GemBuilder for Java distribution and on the GemStone customer website.

GemBuilder for Java tools may be used against any GemStone/S server product, including GemStone/S, the 32-bit server product, or GemStone/S 64 Bit versions 1.x or 2.x. The term “GemStone” may be used to refer to any GemStone server product, as well as to the company, GemStone Systems, Inc.

Other Useful Documents

- ▶ *GemBuilder for Java Tools* describes the independent set of tools that let you explore and modify Smalltalk code in the server.
- ▶ *GemBuilder for Java Programming Guide* describes how to develop java based applications that interface with a GemStone server.
- ▶ The *Programming Guide* for GemStone/S or GemStone/S 64 Bit describes the GemStone System and the GemStone Smalltalk language.
- ▶ If you will be acting as a system administrator, or developing software for someone else who must play this role, you should read the *System Administration Guide* for GemStone/S or GemStone/S 64 Bit.

Technical Support

GemStone provides several sources for product information and support. The product-specific manuals and online help provide extensive documentation, and should always be your first source of information. GemStone Technical Support engineers will refer you to these documents when applicable.

GemStone Web Site: <http://support.gemstone.com>

GemStone's Technical Support website provides a variety of resources to help you use GemStone products. Use of this site requires an account, but registration is free of charge. To get an account, just complete the Registration Form, found in the same location. You'll be able to access the site as soon as you submit the web form.

The following types of information are provided at this web site:

Help Request allows designated support contacts to submit new requests for technical assistance and to review or update previous requests.

Documentation for GemBuilder for Java is provided in PDF format. This is the same documentation that is included with your GemBuilder for Java product.

Release Notes and **Install Guides** for your product software are provided in PDF format in the Documentation section.

Downloads and **Patches** provide code fixes and enhancements that have been developed after product release. Most code fixes and enhancements listed on the GemStone Web site are available for direct downloading.

Bugnotes, in the Learning Center section, identify performance issues or error conditions that you may encounter when using a GemStone product. A bugnote describes the cause of the condition, and, when possible, provides an alternative means of accomplishing the task. In addition, bugnotes identify whether or not a fix is available, either by upgrading to another version of the product, or by applying a patch. Bugnotes are updated regularly.

TechTips, also in the Learning Center section, provide information and instructions for topics that usually relate to more effective or efficient use of GemStone products. Some Tips may contain code that can be downloaded for use at your site.

Community Links provide customer forums for discussion of GemStone product issues.

Technical information on the GemStone Web site is reviewed and updated regularly. We recommend that you check this site on a regular basis to obtain the latest technical information for GemStone products. We also welcome suggestions and ideas for improving and expanding our site to better serve you.

You may need to contact Technical Support directly for the following reasons:

- ▶ Your technical question is not answered in the documentation.
- ▶ You receive an error message that directs you to contact GemStone Technical Support.
- ▶ You want to report a bug.
- ▶ You want to submit a feature request.

Questions concerning product availability, pricing, keyfiles, or future features should be directed to your GemStone account manager.

When contacting GemStone Technical Support, please be prepared to provide the following information:

- ▶ Your name, company name, and GemStone/S license number
- ▶ The GemStone product and version you are using
- ▶ The hardware platform and operating system you are using
- ▶ A description of the problem or request
- ▶ Exact error message(s) received, if any

Your GemStone support agreement may identify specific individuals who are responsible for submitting all support requests to GemStone. If so, please submit your information through those individuals. All responses will be sent to authorized contacts only.

For non-emergency requests, the support website is the preferred way to contact Technical Support. Only designated support contacts may submit help requests via the support website. If you are a designated support contact for your company, or the designated contacts have changed, please contact us to update the appropriate user accounts.

Email: support@gemstone.com

Telephone: (800) 243-4772 or (503) 533-3503

Requests for technical assistance may also be submitted by email or by telephone. We recommend you use telephone contact only for more serious requests that require immediate evaluation, such as a production system that is non-operational. In these cases, please also submit your request via the web or email, including pertinent details such error messages and relevant log files.

If you are reporting an emergency by telephone, select the option to transfer your call to the technical support administrator, who will take down your customer information and immediately contact an engineer.

Non-emergency requests received by telephone will be placed in the normal support queue for evaluation and response.

24x7 Emergency Technical Support

GemStone offers, at an additional charge, 24x7 emergency technical support. This support entitles customers to contact us 24 hours a day, 7 days a week, 365 days a year, if they encounter problems that cause their production application to go down, or that have the potential to bring their production application down. For more details, contact your GemStone account manager.

Training and Consulting

Consulting and training for all GemStone products are available through GemStone's Professional Services organization.

- ▶ Training courses are offered periodically at GemStone's offices in Beaverton, Oregon, or you can arrange for onsite training at your desired location.

- ▶ Customized consulting services can help you make the best use of GemStone products in your business environment.

Contact your GemStone account representative for more details or to obtain consulting services.

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GemBuilder for Java

2.2 Release Notes

GemBuilder for Java (GBJ) version 2.2 is a new release of the GemBuilder for Java product, adding support for GemStone/S 64 Bit, the 64-Bit server product. This version of GemBuilder for Java supports all GemStone Smalltalk server product lines, including GemStone/S 6.x and GemStone/S 64 Bit versions 1.x and 2.1.

These release notes provide details of the changes in this release. Please take time to read through them before installing the product, to acquaint yourself with the changes. This release also provides updated documentation.

To install GemBuilder for Java version 2.2, follow the instructions in the GemBuilder for Java Installation Guide.

Changes and New Features

Support for 64 bit OOPs

To support the 64-bit oops used in the GemStone/S 64 Bit 2.x product line, all fields, method arguments, and method return values representing OOP values have been changed from `ints` to `longs`. In addition, the following methods have been deprecated:

`GbjObject getOopAsLong()` - use `getOop()` instead.

`GbjObject setOopFromLong()` - use `setOop()` instead.

Specifying the server product version

Several new `public static int` constants are defined in class `GbjParameters` to allow programs to specify which server product is in use. These constants are:

`FORMAT32` - Products using 32 bit OOPs:

- ▶ `GemStone/S 6.x`

FORMAT64.1 - Products using 2G-format 32 bit OOPs:

- ▶ GemStone/2G (not officially supported)
- ▶ GemStone 64-bit version 1.x

FORMAT64.2 - Products using 64 bit OOPs:

- ▶ GemStone 64-bit version 2.x

These constants are used in the new field `format` defined in the `GbjSession` and `GbjParameters` classes. By default, GBJ is configured with `format` set to `FORMAT32` (ready for use on 32-bit GemStone/S servers). For GemStone/2G and GemStone/S 64 Bit version 1.x, add the following line to code that sets up `GbjParameters`:

```
aGbjParameters.format = GbjParameters.FORMAT64.1;
```

For GemStone/S 64 Bit version 2.x, add the line:

```
aGbjParameters.format = GbjParameters.FORMAT64.2;
```

When using the `GbjLauncher Login Dialog`, new radio buttons have been added to allow the user to specify the format as per above.

Also, we no longer provide a default `gemStoneName` in the `gbj.ini` file. You must manually edit the file to specify the name of the Stone you wish to connect to.

New code to start and stop the broker

The original `startgbj/stopgbj` executables for starting/stopping the GBJ broker have been replaced by platform-independent java classes `GbjStartBroker` and `GbjStopBroker`.

Scripts in the `$GBJ/bin` directory can be used for triggering this code. Script usage information:

startgbj

```
startgbj [<iniFile>][-h][-a <gbjAdministratorPassword>]
        [-d <brokerLogDirectory>][-p <password>]
        [-P <hostPassword>][-T <gbjBrokerConnectToken>]
```

`<iniFile>` the path to a valid GBJ initialization file. Defaults to "gbj.ini" in the current working directory.

`-h` display this message and exit.

`-a <gbjAdministratorPassword>` the GemStone password for the `GbjAdministrator` account.

`-d <brokerLogDirectory>` the directory for holding the broker log.

`-p <password>` the GemStone password for spawning gems.

`-P <hostPassword>` the host password for launching gems.

`-T <gbjBrokerConnectToken>` the GemStone username for connecting to a running broker.

stopgbj

```
stopgbj [<iniFile>][-h][-a <password>][-i|-t <timeout>]
        [-T <gbjBrokerConnectToken>]
```

<iniFile> the path to a valid GBJ initialization file. Defaults to "gbj.ini" in the current working directory.

-h display this message and exit.

-i immediate shutdown, even if clients are logged in.

-t <timeout> wait <timeout> seconds for users to logoff before attempting to shutdown the broker.

-a <password> the GemStone password for the GbjAdministrator account.

-P <hostPassword> the host password for launching gems.

-T <gbjBrokerConnectToken> the GemStone username for connecting to a running broker.

Bugs Fixed

The following bugs have been fixed since GemBuilder for Java 2.1.2, or 2.1.2.1 on Linux:

Gem hangs in processing error

Under some conditions it was possible for processing of an GbjError to encounter a secondary error, causing the gem to hang. (#34696)

GbjSession instances were not reusable

After closing an instance of GbjSession, later attempts to send connect() to it resulted in an error. (#27761)

Broker scripts incompatible with GemStone/S 6.1.5 on HP-UX

On HP-UX with the GemStone/S 6.1.5 release, the GBJ startgbj and stopgbj executables failed to load, due to changes in the GemStone server build environment. (#33903)

