GemStone®

GemBuilder for Smalltalk Release Notes

March 2005

GemStone/S

GemBuilder for Smalltalk Version 6.1

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Patents

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

Preface

These release notes describe the new features and bugs fixed in the GemBuilder for Smalltalk® version 6.1 release.

We recommend that everyone using GemBuilder for Smalltalk read these release notes before installing or upgrading. These release notes are also available on the GemStone customer website, as described in the next section.

For information on installing or upgrading to this version of GemBuilder for Smalltalk, please refer to the *GemBuilder for Smalltalk Installation Guide.*

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 Smalltalk is provided in PDF format. This is the same documentation that is included with your GemBuilder for Smalltalk 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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Chapter

1 Release Notes for GemBuilder for Smalltalk 6.1

GemBuilder for Smalltalk (GBS) version 6.1 is a new release of the GemBuilder for Smalltalk product. These release notes provide details of the new features and bugs fixed in this release. Please take time to read through them before installing the product, to acquaint yourself with the changes

This release supports VisualWorks 7.x only. Corresponding VisualWorks 5.x and VisualAge changes appear in a separate release.

This release includes updated product documentation: *GemBuilder for Smaltalk v6.1 User's Guide*, and *GemBuilder for Smaltalk v6.1 Tutorial*.

To install GemBuilder for Smalltalk 6.1, follow the instructions in the *GemBuilder for Smalltalk v6.1 Installation Guide*.

If you have any questions regarding this release, please contact your GemStone account manager or GemStone Technical Support.

1.1 Supported Platforms and Versions

The following table describes the client Smalltalk versions and platforms supported by GBS 6.1 and the GemStone/S server product shared library versions that can be used with each.

With version 6.1, GemBuilder for Smalltalk now supports all three GemStone/S server products: GemStone/S, the original GemStone object server; GemStone/S 2G, a specialized server product, and GemStone/S 64, the newly redesigned 64-bit GemStone/S-based object server. In the table below, "GS" signifies the original GemStone/S, "GS2G" stands for GemStone/S 2G, and "GS64" means GemStone/S 64.

Table 1.1 GemStone/S shared library versions compatible with GBS 6.1 on each platform and client Smalltalk

	Windows 2000, Service pack 1 or later	Windows XP, Service pack 1	Red Hat Linux Advanced Server 2.1	Red Hat Linux AS 3.0	Solaris 2.8	Solaris 2.9	HPUX 11.11
VisualWorks 7.3 with 7.3 OE	GS 6.1, 6.1.4 GS64 1.0 (rpc logins only) GS2G 1.0, 1.1(rpc logins only)	GS 6.1, 6.1.4 GS64 1.0 (rpc logins only) GS2G 1.0, 1.1(rpc logins only)	GS 6.1, 6.1.4	GS 6.1.4	GS 6.1, 6.1.4	GS 6.1.4	GS 6.1, 6.1.4 (rpc logins only)
VisualWorks 7.2.1 with 7.3 OE	GS 6.1, 6.1.4 GS64 1.0 (rpc logins only) GS2G 1.0, 1.1(rpc logins only)	GS 6.1, 6.1.4 GS64 1.0 (rpc logins only) GS2G 1.0, 1.1(rpc logins only)	GS 6.1, 6.1.4	GS 6.1.4	GS 6.1, 6.1.4	GS 6.1.4	GS 6.1, 6.1.4 (rpc logins only)
VisualWorks 7.2 with 7.3 OE	GS 6.1, 6.1.4 GS64 1.0 (rpc logins only) GS2G 1.0, 1.1(rpc logins only)	GS 6.1, 6.1.4 GS64 1.0 (rpc logins only) GS2G 1.0, 1.1(rpc logins only)	GS 6.1, 6.1.4	GS 6.1.4	GS 6.1, 6.1.4	GS 6.1.4	GS 6.1, 6.1.4 (rpc logins only)

1.2 New Features

The following new features and modifications have been made in GemBuilder for Smalltalk 6.1.

Added support for new GemStone/S server products

This release adds support for the new GemStone/S 64 Bit and GemStone/S 2G Object Server products.

Library name setting and loginLinkedIfAvailable

The means of specifying which GemStone client library to load has changed. The file gbsSharedLibraryVersion.cfg is no longer used. Instead, there is a new GbsConfiguration setting, “libraryName”. For details on how to use this setting, see the help text in the Settings tool.

The GbsConfiguration setting “loginLinkedIfAvailable” has been removed. This setting also controlled which client library was loaded. This choice is now completely controlled by the “libraryName” setting.

ANSI Smalltalk Exceptions

This release introduces client side exception classes representing GBS and GemStone server exceptions. These classes can be found in the new package GbsExceptions. These error classes are defined in the new namespace GemStone.Gbs.

Here is an example that shows how to use the new exception classes to handle a server exception on the client:

```
[ GBSM currentSession evaluate: '5 / 0' ]
    on: GbsNumErrIntDivisionByZero
    do: [ :ex | ex proceedWith: 'oops' ]
```

The old style of using GbsError signalFor: #someErrorName is still supported with the on:do: form of exception handling, though signalFor: now returns an exception class, rather than a Signal. So using the above example, for instance, the following will still work:

```
[ GBSM currentSession evaluate: '5 / 0' ]
    on: (GbsError signalFor: #numErrIntDivisionByZero)
    do: [ :ex | ex proceedWith: 'oops' ]
```

VisualWorks-GemStone Integration

VisualWorks browsers now have “Create in GS” and “Compile in GS” menu items where appropriate.

There is no longer an independent GemStone workspace; VisualWorks workspaces have all the GemStone workspace functionality.

Most menus containing “Do it”, “Print it”, “Inspect it”, and “Debug it” now also contain “GS-Do it”, “GS-Print it”, “GS-Inspect it”, and “GS-Debug it”.

GBS Settings now part of VisualWorks Settings

There is no longer a GemStone specific GBS Settings Tool. GBS settings have been integrated with VisualWorks settings, under the GemStone header.

Segment Tool changes

The Segment Tool (**GemStone > Admin > Segments**) no longer uses @ and # to indicate current and default segments. Columns have been added to show this information.

Transcript messages now include timestamp

Messages that are written to the transcript now include the timestamp.

1.3 Bugs Fixed

The following bugs have been fixed since GemBuilder for Smalltalk 6.0.

Possible deadlock if a Process logged out when another Process is mid-operation on that session

If one client Process is in the middle of an operation against a GbsSession, and another client Process logs out that same session, there is a small possibility that deadlock will occur (#31013)

Possible deadlock when two sessions with two threads logged out simultaneously

If two sessions with two threads each log out one session at the same time, it could result in a deadlock (#31465)

GciErrOpInProgress error due to session terminated while in non-blocking call

When a session was executing a non-blocking call, and another process sent a #terminate message, it would terminate the process without properly finalizing the call sequence. Subsequent attempts to perform calls on that session resulted in GciErrOpInProgress errors. (#20194, #32063)

Infinite recursion opening debugger on terminated session

Attempting to open a debugger on a session that was in a server call, but had been terminated, resulted in infinite recursion as computing the stack required contacting the server, which resulted in another error, and so on. (#31393)

Improved handling of syntax errors in code compiled using “compile In ST”

When GemStone server code is recompiled in client Smalltalk using the GemStone browser menu item “compile in ST”, there may be syntax errors resulting from code that is legal in GemStone but not in the client Smalltalk. The user interface that allows you to view and correct the syntax error was non intuitive. (#31493)

GbsSession>>sessionSignalAction: target required privilege

If a session used GbsSession>>sessionSignalAction: to set up a handler for gem-to-gem signals, the receiving session needed to have session access privilege. #(30958)

Generating class with class instance variables incorrect

Generating a class with class instance variables using “create in ST” or “compile in ST”, created a class with an incorrectly structured and unusable VisualWorks class instance variable. (#31335)

User List required excessive server round trips

The User List tool in GBS required an excessive number of round trips to the server to generate the sorted list of GemStone user names. This has been greatly improved. #(30841)

Client forwarders did not return nil correctly

A client-forwarded method that resulted in nil on the client appeared as “System” on Gemstone. (#31316, #31447)

Some built-in TimeZones had incorrect DST info

The built-in TimeZone for #Germany had the incorrect dayOfYearForStandard; it it is now 304. The built-in TimeZone for #Greenwich had a dayOfYearForStandard, which was inapplicable to Greenwich Mean Time and was the incorrect value for Great Britain; a new TimeZone, #GreatBritain, has been added, with a dayOfYearForStandard of 304. (#31226)

Symbols could be marked dirty

If Symbols were inadvertently send the message #markDirty, they were marked dirty, resulting in errors such as #objErrInvariant or #authErrSegWrite. Symbols now ignore this message. (#30467)

Debugger menus were missing GemStone context senders and implementors

The debugger “Method” menu now shows the senders and implementors for all selectors sent by the chosen method, not just the senders and implementors of the method itself, for GemStone server contexts. Formerly, this information was only provided for client contexts (#30735)

Removed deprecated setting “useSharedCacheIfAvailable”

This setting has been deprecated since the GemStone server no longer supports configurations without a shared cache. The setting has now been removed from GbsConfiguration and the Settings Tool. (#29439)