
GemStone®

GemBuilder for Smalltalk Release Notes

For Instantiations VA Smalltalk Environment

Version 5.2.6

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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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Preface

These release notes describe the changes in the GemBuilder for Smalltalk® version 5.2.6 release. We recommend that everyone using GemBuilder for Smalltalk read these release notes before installing or upgrading.

These documents are also available on the GemStone customer website, as described below.

Technical Support

GemStone's Technical Support website provides a variety of resources to help you use GemStone products.

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

Use of this site requires an account, but registration is free of charge and provides immediate access.

All GemStone product documentation is provided in PDF form on this website. Documentation is also available at

<http://www.gemstone.com/documentation>

In addition to documentation, the support.gemstone.com website provides:

- ▶ Downloads and Patches, including past and current versions of GemBuilder for Smalltalk.
- ▶ Bugnotes, identifying performance issues or error conditions that you may encounter when using a GemStone product.
- ▶ TechTips, providing information and instructions that are not otherwise included in the documentation.
- ▶ Compatibility matrices, listing supported platforms for GemStone product versions.

This material is updated regularly; we recommend checking this site on a regular basis.

Help Requests

You may need to contact Technical Support directly, if your questions are not answered in the documentation or by other material on the Technical Support site.

Requests for technical assistance may be submitted online, or 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 down. The support website is the preferred way to contact Technical Support.

Website: <http://techsupport.gemstone.com>

Email: support@gemstone.com

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

Your GemStone support agreement may identify specific designated contacts who are responsible for submitting all support requests to GemStone. If so, please submit your information through those individuals.

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.

When submitting a request, please include the following information:

- ▶ Your name, company name, and GemStone server license number.
- ▶ The versions of all related GemStone products, and of any other related products, such as client Smalltalk products.
- ▶ The operating system and version you are using.
- ▶ A description of the problem or request.
- ▶ Exact error message(s) received, if any, including log files if appropriate.

Technical Support is available from 8am to 5pm Pacific Time, Monday through Friday, excluding GemStone holidays.

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, for issues impacting a production system. For more details, contact your GemStone account manager.

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Release Notes for GemBuilder for Smalltalk 5.2.6

GemBuilder for Smalltalk (GBS) version 5.2.6 is a new release of the GemBuilder for Smalltalk product. This release adds support for VA Smalltalk version 8.0.1, includes full support for multiple time zone rules, and fixes a number of bugs. These release notes provide details of the changes and bugs fixed in this release.

These release notes provide changes between the previous version of GBS, version 5.2.5, and version 5.2.6. If you are upgrading from a version prior to 5.2.5, please also review the release notes for each intermediate release to see the full set of changes.

This release does not support VisualWorks; VisualWorks is supported by separate set of releases of the GBS product. GBS version 5.2.6 supports 32-bit GemStone/S only; GemStone/S 64 Bit support is provided in a separate release, GBS version 5.3.1.

Supported Platforms and Versions

The following table describes the client Smalltalk versions and platforms supported by GBS 5.2.6, and the GemStone/S shared library versions that can be used with each.

GemBuilder for Smalltalk version 5.2.6 supports 32-bit GemStone/S only.

Table 1 GemStone/S shared library versions compatible with GBS 5.2.6 on each platform and client Smalltalk version

	Windows 7	Windows Vista	Windows 2003	Windows XP, Service pack 1 or later
VA Smalltalk 8.0.1	GemStone/S 6.5.7	GemStone/S 6.5.7	GemStone/S 6.5.7	GemStone/S 6.5.7
VA Smalltalk 7.5.2			GemStone/S 6.5.7	GemStone/S 6.5.7

Changes and New Features

Time Zones - added full support for multiple daylight savings time rules

The changes in the rules governing the start and end of daylight savings time (DST) in the US and Canada exposed a limitation in replication of `DateTime` instances. The patches to correct this problem that were previously available for load into GBS for VA Smalltalk, were suitable only for the US and Canada.

Version 5.2.6 includes a complete fix for this issue. The older `TimeZone` patches should not be loaded.

By default, a copy of the gem's current `TimeZone` is replicated to the client at login. This is used for the client's `GbsTimeZone` for replication.

If the customer application changes the gem's current `TimeZone` after a session has logged in, GBS cannot detect this. In this case, the client application needs to send the new message

```
GbsSession >> setClientTimeZoneFromServer
```

to re-replicate a copy of the timezone.

If the customer application has clients who are in different timezones from their gems, and wants the time zones to be different in the gem and the client, they should create the desired `TimeZone` on the server, and replicate it to the client, using the method

```
GbsSession >> clientTimeZone:
```

For example:

```
myGbsSession clientTimeZone:  
  (myGbsSession evaluate: 'TimeZone  
    fromGemPath: ''/foo/bar/America/New_York''').
```

Bugs Fixed

The following bugs have been fixed since GemBuilder for Smalltalk version 5.2.5:

Risk of data loss with unmapped class and split replication

If an object whose class is not yet mapped was replicated, and the object happened to be split into two or more traversal buffers, only the data in the first traversal buffer was used. This resulted in lost data in the replicated object. (#36637)

Large integers had wrong value after re-fault to client

If a server large integer was faulted to the client, and the identical large integer was faulted a second time in the same session, while the first still existed, the value of the client large integer was corrupted, leaving the value not matching the original server value. (#35789)

Reopening saved image with open GemStone browser caused walkback

If an image was saved with a session logged in and a GemStone browser open, restarting the image resulted in a walkback. (#39465)

Hashed collection replication involving class generation corrupted collection

This bug applied when replicating a hashed collection (such as Bag, Set, or Dictionary), when the hash computation accesses the instance variables of the collection elements, and when the class of the elements in the collection and the class of the elements used in the hash computation were not previously mapped between GemStone and the client. The replication process is interrupted by the class mapping, and the subsequent completion of replication was not done in the correct order, leaving the resulting collection missing elements and with many elements in the wrong location. (#34905)

Debugger shows GbsForwarder as receiver, rather than server object

Stepping through server code using the debugger, the middle right panes show the receiver. However, it was showing the GbsForwarder to the receiver, not the server object of interest. (#36397)

Error on add to server Array that was replicated

If an Array is replicated, and the server Array has additional elements added, it resulted in an error, since client Arrays do not dynamically resize. (#36977)

Logout via Session Browser blocked by another session's GemStone operation

With multiple logged-in sessions, when one of them was executing long-running GemStone server code, if another session attempted to log out using the session browser, the logout blocked until the first sessions' execution completed. (#34356)

Classes >> Find Class did not find class with versions

The SystemBrowser Classes menu item "Find Class..." did not select classes that have more than one version, although it located and selected the SymbolDictionary that the class is in. (#35485)

Categories >> File Out failed for category name with embedded space

In a GemStone browser, selecting a category whose name has an embedded space and attempting to file it out resulted in a walkback. (#16773)

SymbolDictionary file out fails for SymbolDictionary name with hyphen (\$-)

If a SymbolDictionary name includes a hyphen (\$-), filing out using the menu option Symbols >> File Out >> One Name..., or Symbols >> File Out Methods Only >> One Name... failed with a walkback. (#35784)

Misleading behavior on class modification without migration

In a Classes Browser or other browser, when a class is modified and you select the save menu item, GBS opens a dialog asking if you want to commit the change and migrate instances. If you answered "no", meaning do not commit or migrate, the changes are still saved and exist in the transaction, though they are not committed. However, the GUI pane containing the changes to the class is still incorrectly "dirty". Selecting something else brought up a dialog saying "Text has been modified - save changes?" which falsely implies the changes to the class were not made. (#35484)

Class connector allowed to non-class objects

GBS incorrectly allowed creation of a class connector from a non-class object to a class. (#10913)

System Browser missing menu option to view class comment

The System Browser option to view comments for a class was missing from the menu. (#28988)

TimeZone related bugs

The following TimeZone-related bugs are either fixed, or no longer apply since the new TimeZone subsystem is available. See “Bugs Fixed” on page 8 for details.

Could not correctly replicate DateTimes in both 2006 and 2007

VisualWorks and GBS previously only supported a single client local TimeZone instance. If the rules governing the start and end of Daylight Savings Time changed from year to year, only one rule could be active. (#36432, #36563)

Replicated DateTimes incorrect for one hour at end of DST

The calculation to adjust server DateTime GMT values to client local time incorrectly applied the end Daylight Savings Time (DST) at the time of the change (usually 2am) in local standard time, one hour off from the correct time to apply the change. (#36400)

DST change applied at GMT, not local time

The calculation for the start and end of Daylight Savings Time incorrectly calculated the time the DST change should take effect as the GMT time, not the local time. Start and end times for DST were incorrect by the number of hours of difference between local time and GMT. (#36390)

Replicated DateTimes may adjust for DST a week early

The calculation of the start of Daylight Savings Time, based on OS information, included an error that was exposed by the 2007 changes in DST start time. This resulted in applying the DST change a week early. (#36360)

Daylight Savings Time starts and ends a second late

Daylight Savings Time officially occurs at specified time such as 2:00:00 AM; meaning that there should be no time 2:00:00 AM, the local time at the instant following 1:59:59 will be 3:00:00 AM. GBS replication did not begin applying the DST change until the second following, which becomes 3:00:01. (#36433)

The equivalent bug exists in older versions of the GemStone server products; see GemStone/S bug #36374 and GemStone/S 64 Bit bug #37080.

GbxTimeZone class >> fromLinux method removed

The method GbxTimeZone class >> fromLinux was inadvertently ported to GBS, and included inappropriate and non-functional code. This method has been removed. (#40319)