

---

GemStone®

# *GemBuilder® for Smalltalk Release Notes*

Version 5.4

December 2011

vmware®

GEMSTONE S™  
.....

---

## INTELLECTUAL PROPERTY OWNERSHIP

This documentation is furnished for informational use only and is subject to change without notice. VMware, Inc., assumes no responsibility or liability for any errors or inaccuracies that may appear in this documentation.

This documentation, or any part of it, may not be reproduced, displayed, photocopied, transmitted, or otherwise copied in any form or by any means now known or later developed, such as electronic, optical, or mechanical means, without express written authorization from VMware, Inc.

Warning: This computer program and its documentation are protected by copyright law and international treaties. Any unauthorized copying or distribution of this program, its documentation, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted under the maximum extent possible under the law.

The software installed in accordance with this documentation is copyrighted and licensed by VMware, Inc. under separate license agreement. This software may only be used pursuant to the terms and conditions of such license agreement. Any other use may be a violation of law.

Use, duplication, or disclosure by the Government is subject to restrictions set forth in the Commercial Software - Restricted Rights clause at 52.227-19 of the Federal Acquisitions Regulations (48 CFR 52.227-19) except that the government agency shall not have the right to disclose this software to support service contractors or their subcontractors without the prior written consent of VMware, Inc.

This software is provided by VMware, Inc. and contributors "as is" and any expressed or implied warranties, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose are disclaimed. In no event shall VMware, Inc. or any contributors be liable for any direct, indirect, incidental, special, exemplary, or consequential damages (including, but not limited to, procurement of substitute goods or services; loss of use, data, or profits; or business interruption) however caused and on any theory of liability, whether in contract, strict liability, or tort (including negligence or otherwise) arising in any way out of the use of this software, even if advised of the possibility of such damage.

## COPYRIGHTS

This software product, its documentation, and its user interface © 1986-2011 VMware, Inc., and GemStone Systems, Inc. All rights reserved by VMware, Inc.

## PATENTS

GemStone software is covered by U.S. Patent Number 6,256,637 "Transactional virtual machine architecture", Patent Number 6,360,219 "Object queues with concurrent updating", Patent Number 6,567,905 "Generational garbage collector with persistent object cache", and Patent Number 6,681,226 "Selective pessimistic locking for a concurrently updateable database". GemStone software may also be covered by one or more pending United States patent applications.

## TRADEMARKS

**VMware** is a registered trademark or trademark of VMware, Inc. in the United States and/or other jurisdictions.

**GemStone**, **GemBuilder**, **GemConnect**, and the GemStone logos are trademarks or registered trademarks of VMware, Inc., previously of GemStone Systems, Inc., in the United States and other countries.

**UNIX** is a registered trademark of The Open Group in the United States and other countries.

**Sun**, **Sun Microsystems**, and **Solaris** are trademarks or registered trademarks of Oracle and/or its affiliates. **SPARC** is a registered trademark of SPARC International, Inc.

**HP**, **HP Integrity**, and **HP-UX** are registered trademarks of Hewlett Packard Company.

**Intel**, **Pentium**, and **Itanium** are registered trademarks of Intel Corporation in the United States and other countries.

**Microsoft**, **MS**, **Windows**, **Windows XP**, **Windows 2003**, **Windows 7** and **Windows Vista** are registered trademarks of Microsoft Corporation in the United States and other countries.

**Linux** is a registered trademark of Linus Torvalds and others.

**Red Hat** and all Red Hat-based trademarks and logos are trademarks or registered trademarks of Red Hat, Inc. in the United States and other countries.

**SUSE** is a registered trademark of Novell, Inc. in the United States and other countries.

**AIX**, **POWER5**, and **POWER6** are trademarks or registered trademarks of International Business Machines Corporation.

**Apple**, **Mac**, **Mac OS**, **Macintosh**, and **Snow Leopard** are trademarks of Apple Inc., in the United States and other countries.

Other company or product names mentioned herein may be trademarks or registered trademarks of their respective owners. Trademark specifications are subject to change without notice. All terms mentioned in this documentation that are known to be trademarks or service marks have been appropriately capitalized to the best of our knowledge; however, VMware cannot attest to the accuracy of all trademark information. Use of a term in this documentation should not be regarded as affecting the validity of any trademark or service mark.

**VMware, Inc.**  
15220 NW Greenbrier Parkway  
Suite 150  
Beaverton, OR 97006

## About This Documentation

These release notes describe the changes in the GemBuilder® for Smalltalk version 5.4 release. This documentation is also available on the GemStone Technical Support website.

For information on installing or upgrading to this version of GemBuilder for Smalltalk, please refer to the *GemBuilder for Smalltalk Installation Guide* for version 5.4.

## Terminology Conventions

The term “GemStone” is used to refer to the server products GemStone/S 64 Bit and GemStone/S; and may also be used to refer to the company, previously GemStone Systems, Inc., now a division of VMware, Inc.

## Technical Support

### GemStone Website

<http://support.gemstone.com>

GemStone’s Technical Support website provides a variety of resources to help you use GemStone products:

- ▶ Documentation for released versions of all GemStone products, in PDF form.
- ▶ Downloads and Patches, including past and current versions of GemBuilder for Smalltalk.
- ▶ Bugnotes, identifying performance issues or error conditions you should be aware of.
- ▶ 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. Technical Support is available to customers with current support contracts.

Requests for technical support may be submitted online, or by email or by telephone. We recommend you use telephone contact only for serious requests that require immediate attention, such as a production system down. The support website is the preferred way to contact Technical Support.

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

**Email:** [techsupport@gemstone.com](mailto:techsupport@gemstone.com)

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

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. Please also open a ticket on the website, and include error and log information. 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.

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

## 24x7 Emergency Technical Support

GemStone Technical Support 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.

## Training and Consulting

Consulting is available to help you succeed with GemStone products. Training for GemStone software is available at your location, and training courses are offered periodically at our offices in Beaverton, Oregon. Contact your GemStone account representative for more details or to obtain consulting services.

---

*Contents*

***Chapter 1. DRAFT Release Notes for GemBuilder for Smalltalk 5.4***

Supported Platforms and Versions. . . . .	8
Changes and New Features. . . . .	8
Updated User's Guide . . . . .	8
traversalCompression replaced by fullCompression. . . . .	8
Change in Session Parameters Dialog . . . . .	8
Support for GemStone/S 64 Bit 3.0 . . . . .	9
New mapping for server ScaledDecimals . . . . .	9
Redesigned User dialog . . . . .	9
Segment name change to GsObjectSecurityPolicy . . . . .	9
PositionableStream mapping . . . . .	9
Objects allowed to drop from Gem memory. . . . .	10
Other Behavior Changes . . . . .	10
Class comment handling. . . . .	10



# *Release Notes for GemBuilder for Smalltalk 5.4*

GemBuilder for Smalltalk (GBS) version 5.4 is a new version of the GemBuilder for Smalltalk product, providing support for GemStone/S 64 Bit version 3.x. Please take time to read through these release notes before installing or upgrading, to acquaint yourself with the changes.

These release notes provide changes between the previous version of GBS, version 5.3.2, and version 5.4. If you are upgrading from a version prior to 5.3.2, please also review the release notes for each intermediate release to see the full set of changes.

GemStone/S 64 Bit version 3.0 was a substantial redesign from earlier server versions; GBS 5.4 includes many internal changes to support 3.0, as well as changes in tools for compatibility. As a result, this release cannot be used with versions of GemStone/S 64 Bit before 3.0; nor can it be used with 32-bit GemStone/S. Support for these servers is provided in separate releases.

This release does not support VisualWorks; VisualWorks is supported by separate set of releases of the GBS product.

For details on supported client platforms, see 'Supported Platforms and Versions' below.

To install GemBuilder for Smalltalk 5.4, follow the instructions in the *GemBuilder for Smalltalk Installation Guide* for version 5.4.

## Supported Platforms and Versions

The following tables describe the client Smalltalk versions and platforms supported by GBS 5.4, and the GemStone/S 64 Bit 3.x server product shared library versions that can be used with each.

GemBuilder for Smalltalk v5.4 supports GemStone/S 64 Bit 3.x only, and cannot be used with 32-bit GemStone/S or with GemStone/S 64 Bit v.2.x or earlier.

Only RPC logins are supported with VA Smalltalk.

**Table 1 Supported GemStone/S 64 Bit Server versions - RPC logins only**

	VA Smalltalk 8.5	VA Smalltalk 8.0.3	VA Smalltalk 8.0.2
<b>64-bit Windows Server 2008</b>	3.0.1, 3.0	3.0.1, 3.0	3.0.1, 3.0
<b>32-bit Windows 7</b>	3.0.1, 3.0	3.0.1, 3.0	3.0.1, 3.0
<b>64-bit Windows 7</b>	3.0.1, 3.0	3.0.1, 3.0	3.0.1, 3.0
<b>32-bit Windows XP, SP 1 or later</b>	3.0.1, 3.0	3.0.1, 3.0	3.0.1, 3.0

## Changes and New Features

### Updated User's Guide

This release includes an updated *GemBuilder for Smalltalk Users Guide*.

### traversalCompression replaced by fullCompression

The configuration parameter `traversalCompression`, which specified compression of certain data, has been removed. Now, the new configuration parameter `fullCompression` specifies compression of all data transferred between client and server.

### Change in Session Parameters Dialog

The session parameters dialog now includes only the "Login Rpc" button; the "Login Lnk" button has been removed.

Linked logins require both gem and client Smalltalk to be in the same process. GemStone/S 64 Bit has 64-bit gems, which cannot bind to 32-bit client VMs. VA Smalltalk does not provide 64-bit VMs.



## Support for GemStone/S 64 Bit 3.0

GemStone/S 64 Bit 3.0 is a major update of the 64-bit server product, with many new and redesigned features. GBS 5.4 has been updated to support GemStone/S 64 Bit v3.0 and above.

Specific changes to accommodate the GS64 3.0 server are:

### New mapping for server ScaledDecimals

GemStone/S 64 Bit introduces a new implementation of ScaledDecimal, and the previous ScaledDecimal is renamed FixedPoint. Refer to the *GemStone/S 64 Bit Release Notes* for v3.0 for more details.

The server FixedPoint class (which was ScaledDecimal in earlier server releases) maps to VA Smalltalk's ScaledDecimal class.

A new client class, GbsScaledDecimal, has been added; the new server ScaledDecimal maps to GbsScaledDecimal.

### Redesigned User dialog

The User dialog has been redesigned to allow specification of Unix or LDAP authentication. The handling for groups has also been improved.

See the updated *GemBuilder for Smalltalk User Guide v5.4* for details on the new User dialog.

### Segment name change to GsObjectSecurityPolicy

The server class Segment has been renamed to GsObjectSecurityPolicy. The user interface uses the term "security policy" in a number of places.

### PositionableStream mapping

GS64 v3.0 includes a new, ANSI-compliant and portable implementation of the PositionableStream classes (PositionableStream, ReadStream and WriteStream), in addition to the previously existing PositionableStream classes. The class names are the same, so either one or the other set of classes may be installed. For more on the changes in PositionableStream and details on how to install the legacy or portable implementations, see the *GemStone/S 64 Bit Release Notes* for v3.0.

The only classes you can replicate to GBS are the PositionableStream classes with the legacy implementation. Instances of the PositionableStream classes that have names ending in 'Portable' or 'Legacy' cannot be replicated, but become forwarders on the client. Attempting to replicate instances of the PositionableStream classes with the same name and the portable implementation to GBS v7.4 will result in errors.

To determine if your 3.0 repository is using the legacy PositionableStreams, use the following message:

```
Stream isLegacyStreamImplementation
```

To install the Legacy PositionableStream implementation, execute:

```
Stream installLegacyStreamImplementation
```

## Objects allowed to drop from Gem memory

GS64 3.0 includes a new runtime configuration parameter, `#GemDropCommittedExportedObjs`. GBS takes advantage of this, so clean committed objects that are replicated to the client will not be locked into the Gem's memory, but will be allowed to leave memory if there is memory pressure on the Gem.

## Other Behavior Changes

There are many changes in behavior in GS64 v3.0. These changes may impact GBS client behavior when performing operations that depend on the server. For details on the changes in the v.3.0 server, see the *GemStone/S 64 Bit Release Notes* for v3.0.

## Class comment handling

GemStone/S 64 Bit 3.0 servers now define a class method `#comment` to provide the comment for the class, rather than using an instance of `GsClassDocumentation` stored and retrieved using the `#description` methods for a Class.

To display or update class comments in the GBS Browsers, first the browser determines if the Class understands `#comment`. Since this is implemented for Object class in version 3.x, this method is inherited, and it will display the results of executing the `comment` method in the browser

Note that the GemStone/S 64 Bit 3.0 upgrade process results in the loss of any data stored in the Class `#description`. Prior to upgrading from an earlier version of GemStone/S 64 Bit to v3.0, if you have defined application class comments, you should move these to a separate location, or define Class `#comment` methods including the contents.