
GemStone®

GemStone/S 64 Bit™

Release Notes

Version 3.2.8

August 2015



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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.

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Preface

About This Documentation

These release notes describe changes in the GemStone/S 64 Bit™ version 3.2.8 release. Read these release notes carefully before you begin installation, conversion testing, or development with this release.

No separate Installation Guide is provided with this release. For instructions on installing GemStone/S 64 Bit version 3.2.8, or upgrading or converting from previous products or versions, see the Installation Guide for version 3.2.6.

These documents are available on the GemTalk website, as described below.

Terminology Conventions

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

Technical Support

Support Website

gemtalksystems.com

GemTalk’s website provides a variety of resources to help you use GemTalk products:

- ▶ **Documentation** for the current and for previous released versions of all GemTalk products, in PDF form.
- ▶ **Product download** for the current and selected recent versions of GemTalk software.
- ▶ **Bugnotes**, identifying performance issues or error conditions that you may encounter when using a GemTalk product.

- ▶ **TechTips**, providing information and instructions that are not in the documentation.
- ▶ **Compatibility matrices**, listing supported platforms for GemTalk 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 assistance may be submitted online, 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: support.gemtalksystems.com

Email: techsupport@gemtalksystems.com

Telephone: (800) 243-4772 or (503) 766-4702

When submitting a request, please include the following information:

- ▶ Your name and company name.
- ▶ The versions of GemStone/S 64 Bit and of all related GemTalk 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 GemTalk holidays.

24x7 Emergency Technical Support

GemTalk 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 GemTalk Support Renewals.

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GemTalk Professional Services provide consulting to help you succeed with GemStone products. Training for GemStone/S is available at your location, and training courses are offered periodically at our offices in Beaverton, Oregon. Contact GemTalk Professional Services for more details or to obtain consulting services.



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GemStone/S 64 Bit

3.2.8 Release Notes

Overview

GemStone/S 64 Bit 3.2.8 is a new version of the GemStone/S 64 Bit object server. This release fixes a number of bugs, some potentially serious; we recommend everyone using or planning to use GemStone/S 64 Bit v3.2.x upgrade to this new version.

These release notes provide changes between the previous version of GemStone/S 64 Bit, version 3.2.7, and version 3.2.8. If you are upgrading from a version prior to 3.2.7, review the release notes for each intermediate release to see the full set of changes.

The Installation Guide has not been updated for this release. For installation, upgrade and conversion instructions, use the Installation Guide for version 3.2.6.

Supported Platforms

Platforms for Version 3.2.8

GemStone/S 64 Bit version 3.2.8 is supported on the following platforms:

- ▶ Solaris 10 and 11 on SPARC
- ▶ Solaris 10 on x86
- ▶ AIX 6.1, TL1, SP1, and AIX 7.1
- ▶ Red Hat Linux ES 6.5, Ubuntu 12.04, and SUSE Linux Enterprise 12, on x86
- ▶ Mac OSX 10.6.8 (Snow Leopard), with Darwin 10.8.0 kernel, on x86

For more information and detailed requirements for each supported platforms, please refer to the GemStone/S 64 Bit v3.2.6 Installation Guide for that platform.

GBS Versions

The following versions of GBS are supported with GemStone/S 64 Bit version 3.2.8. You must use GBS version 7.6.1 or later for VisualWorks, or 5.4.2 or later for VA Smalltalk, with GemStone/S 64 Bit v3.2.8.

GBS version 7.6.1

VisualWorks 7.10.1 32-bit	VisualWorks 7.10.1 64-bit	VisualWorks 7.9.1 32-bit
<ul style="list-style-type: none"> ▶ Windows 8, Windows 2008 R2 and Windows 7 ▶ Solaris 10 on SPARC ▶ Ubuntu 12.04 and RedHat Linux ES 6.5 	<ul style="list-style-type: none"> ▶ Windows 8, Windows 2008 R2 and Windows 7 ▶ Solaris 10 on SPARC ▶ Ubuntu 12.04 and RedHat Linux ES 6.5 	<ul style="list-style-type: none"> ▶ Windows 2008 R2 and Windows 7 ▶ Solaris 10 on SPARC

GBS version 5.4.2

VA Smalltalk 8.6	VA Smalltalk 8.5.2
<ul style="list-style-type: none"> ▶ Windows 8, Professional or above ▶ Windows 2008 R2 ▶ Windows 7, Professional or above 	<ul style="list-style-type: none"> ▶ Windows 2008 R2 ▶ Windows 7

For more details on supported GBS and client Smalltalk platforms and requirements, see the *GemBuilder for Smalltalk Installation Guide* for that version of GBS.

VSD Version

The GemStone/S 64 Bit v3.2.8 distribution includes VSD version 5.0, which is the same version release with the previous version of GemStone/S 64 Bit, v3.2.7.

Changes and Bugs Fixed

The following are changes between v3.2.7 and v3.2.8:

Updates to SUSE support

SUSE 11, SP3 relies on an earlier version of glibc than the one for which GemStone/S 64 Bit v3.2.5 and later are compiled. While the only issues appear to be related to LDAP, and otherwise testing completes successfully, due to the glibc mismatch SUSE 11, SP3 cannot be officially certified.

Support for SUSE Enterprise Linux 12 has been added in this release.

Updated SSL libraries

The version of OpenSSL used by GemStone/S 64 Bit v3.2.8 has been updated to 1.0.2d.

Topaz ALLSTACKS command added

Topaz now includes the command **allstacks**. This command performs the equivalent of **stk** on all instances of GsProcess associated with the ProcessScheduler and stacks saved by previous **stack save** commands.

Voting while commit in progress may miss objects

After an MFC, Gems must vote on possibleDead objects, so that objects that they still reference are not marked dead. The timing of this vote, during a commit but before commit completed, resulted in a window in which otherwise unreferenced objects that were referenced by newly committed objects were not checked, and not correctly voted down. This may result in repository corruption. This scenario appears to be rare, and was found in internal testing; it requires a specific set of conditions of new object creation, reference, and voting to occur. (#45557)

Multithreaded operations may miss objects

The multithreaded scan operation used by object audit, list references, and similar functions may, under certain circumstances, have incomplete results in the returned values. Missing results are possible if the system is under heavy load (with intense shadowing, or after an MFC or epoch), so that an internal rescan needs to be done; and non-empty possibleDead/dead may also cause results to be understated. (#45570)

markForCollection, reclaim, and similar GC functions are not affected by this bug.

Risk of premature termination of a GsProcess by the ProcessScheduler

In scenarios with multiple GsProcess instances, when one process is being terminated, the scheduler may incorrectly apply that terminate to the wrong GsProcess, causing that process to terminate prematurely. (#45579).

Remote login failures when NetLDI running as root

When logging in remotely, the NetLDI on the Stone's machine starts a pageserver to service the remote session. With the NetLDI running as root, logins would fail, since the hostusername and hostpassword in the login parameter's NRS were not used to compose the NRS used to start the page server. (#45496)

More information on deadlock in image

If a deadlock condition is detected (Error 2366), the system will now print all current Smalltalk stacks to the Gem log, to help in diagnosis. (#45509)

Improved error messages

In restore from backup, a write failure reports "RepWritePage failed", without providing details. (#45426)

In restore of a transaction log, when a duplicate filename is found, it reports an error message "unable to re-originate log", which is not informative. (#45447)

encodeUsing: with nil argument resulted in SEGV

Sending encodeUsing: with an argument of nil resulted in a SEGV. (#45518)

TotalOtherPages statistic now excludes free frames

The cache statistic TotalOtherPages previously included free frames, since these frames were indicated by being set to an invalid page kind. Now, free frames are not included in the counts of "OtherPages". (#45448)

GBJ on AIX, using GbjCacheStats results in SEGV

GBJ only; AIX only

Due to the way environment variables are handled on AIX, GBJ application that call java GbjCacheStats.attach(), can SEGV during a later call. While this issue only affects GBJ version 3.1.x, the actual bug and fix are in GemStone/S 64 Bit server code. (#45413)