
GemStone®

GemStone/S 64 BitTM

Release Notes

Version 3.2.10

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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 3.2.10 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 3.2.10, 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

3.2.10 Release Notes

Overview

GemStone/S 64 Bit 3.2.10 is a new version of the GemStone/S 64 Bit object server. This release fixes a number of bugs, and adds a new configuration parameter; 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 3.2.9, and version 3.2.10. If you are upgrading from a version prior to 3.2.9, review the release notes for each intermediate release to see the full set of changes.

For installation, upgrade and conversion instructions, use the *Installation Guide* for version 3.2.6.

Supported Platforms

Platforms for Version 3.2.10

GemStone/S 64 Bit version 3.2.10 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 6.4 and 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 supported platforms, please refer to the *GemStone/S 64 Bit Installation Guide* for that platform.

GBS Versions

The following versions of GBS are supported with GemStone/S 64 Bit version 3.2.10. 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 v3.2.10.

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, RedHat Linux ES 6.4 and 6.5, and SUSE Linux ES 12 | <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 6.4 and 6.5, and SUSE Linux ES 12 | <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 v3.2.10 distribution includes VSD version 5.0.1, which is the same version as provided with the version 3.2.9 of GemStone/S 64 Bit, v3.2.9.

Changes in this Release

New configuration parameter

The following configuration parameter has been added. This allows errors such as out-of-range values to prevent the process from running rather than to use the default value.

CONFIG_WARNINGS_FATAL

If TRUE then any warning about invalid or out of range entries in a configuration file is treated as a fatal error terminating the process (Gem or Stone) that is reading the file. The last occurrence of this parameter in the configuration file controls the handling of errors. If the last occurrence is TRUE, then any warnings from parsing preceding configuration parameters are treated as fatal.

Default: FALSE

Bugs Fixed

The following bugs have been fixed in v3.2.10:

Risk of SEGV during automatic index update

When an application modifies an instance variable of an object that participates in an index, the index is automatically updated. If this value is a committed object that is not currently in temporary object memory, it is possible for this to SEGV. (#45742)

In-memory indexes disappeared on abort under certain memory conditions

When a modified index is represented in memory in certain ways, and the session aborts, it was incorrectly treated as if it were an uncommitted index, and removed from the VM. This did not affect the committed state of the index. (#45689)

Slow reclaim performance

Under some circumstances, an internal value used by the ReclaimGem may become stale, resulting in the Reclaim Gem threads using CPU but without making progress for 5-minute intervals. (#45720)

Further fixes for AlmostOutOfMemory during recursion to Smalltalk

If an AlmostOutOfMemory was signalled while the process had recursed from C back into Smalltalk, it was not correctly deferred or handled. This resulted in an error that prevented commit, with an uninformative message "ErrorC during index Recursion to Smalltalk".

Version 3.2.9 included fixes for this that did not entirely address the problems; there are further fixes in v3.2.10. (#45633)

Socket leak in NetLDI after failed fork

During the process of the NetLDI forking a child process, if there is a failure in certain paths of the fork sequence, the socket that had been created was not cleaned up. This socket leak eventually resulted in the NetLDI running hot. (#45738)

GbsAuthErrSegRead when GEM_READ_AUTH_ERR_STUBS = TRUE

When GEM_READ_AUTH_ERR_STUBS is set to TRUE, read authorization errors on the client should appear as UnauthorizedObjectStub object, and not trigger an error. However, in a case where a readable object is replicated on the client, and another session changes the authorization so the client no longer has read access, the client saw an GbsAuthErrSegRead error on their next commit/abort. (#45695)

Linux cache statistics PercentCpu* stats may go out of range

System cache statistics such as PercentCpuActive, PercentCpuIdle, etc., could be reported as greater than 100 or less than 0. (#45729)

Additional fixes for potentially serious errors

Code paths have been found and fixed in which an error may occur during commit, potentially resulting in SEGV (#45676); and a buffer underflow that could potentially cause packet errors. (#45717)