
GemStone®

GemStone/S 64 Bit™

Release Notes

Version 3.2.12

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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 3.2.12 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 3.2.12, 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.

Training and Consulting

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

3.2.12 Release Notes

Overview

GemStone/S 64 Bit 3.2.12 is a new version of the GemStone/S 64 Bit object server. This release includes a number of bug fixes and other improvements; 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 3.2.11, and version 3.2.12. If you are upgrading from a version prior to 3.2.11, 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 3.2.12

GemStone/S 64 Bit version 3.2.12 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 3.2.12. 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 v3.2.12.

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 v3.2.12 distribution includes VSD version 5.1. The previous version of GemStone/S 64 Bit, v3.2.11, included VSD v5.0.1.

Changes between v5.0.1 and v5.1 include:

- ▶ Ability to select multiple files to load, and to load these files either independently or appended.
- ▶ Title bar now includes VSD version.
- ▶ Record the last used file directory over VSD restart
- ▶ load very large (10GB) data files on Windows
- ▶ Several other minor fixes and changes.

For more details, see the *Release Notes* for VSD v5.1.

Changes and Bug Fixes

Updated SSL libraries

The version of OpenSSL used by GemStone/S 64 Bit v3.2.7 has been updated to 1.0.2e.

Improved performance for listInstancesInPageOrder

The methods:

```
listInstancesInPageOrder:toFile:  
listInstancesInPageOrder:toFile:withMaxThreads:maxCpuUsage:  
fastListInstancesInPageOrder:toFile:
```

performed poorly in v3.x compared to 2.x, as a result of the way multi-threaded scans work. This has been corrected; now, the list of instances is generated into hidden set 1, which is then written out in page order after the multi-threaded list instances completes.

In addition to the changes in the listInstancesInPageOrder* methods, supporting methods to perform the substeps have been enhanced or added.

The following methods, which previously took a single Class, can now be passed either a Class or an array of Classes:

```
Repository>>listInstancesHiddenSet:withMaxThreads:maxCpuUsage:  
Repository>>listInstancesToHiddenSet:  
Repository>>fastListInstancesToHiddenSet:
```

The following methods have been added:

```
System>>writeHiddenSet:toPageOrderFile:maxBufferSizeMb:  
System>>compareHiddenSet:to:
```

For details, see method comments in the image.

System configurationAt: methods unnecessarily expensive on Linux

The C code supporting System _configurationAt:isStone:kind: made expensive calls to fetch host information using get_nprocs(). This affected performance of configurationAt:, stone and gemConfigurationAt:, stone and gemVersionAt:, as well as any other senders of _configurationAt:isStone:kind:

This information is normally static; it is now cached after the first read. (#45826)

Index remove errored with autoCommit true in manual transaction mode

The IndexManager performs special handling when autoCommit is true and the system is in manual transaction mode. There were cases where the handling of transaction state resulted in an unnecessary attempt to commit when not in transaction. (#45896)

Netldi may have lingering defunct child processes

There are conditions, observed on Linux, in which the Netldi child processes (such as Gems) are not reaped properly. (#45888)

Veritas VxFS on AIX not recognized as local file system

GemStone operations that requires a local file system disk could fail if the file was on a veritas file system on AIX; this was not recognized as a local filesystem. (#45869)

Shadow pages may remain after reclaimAll

After a reclaimAll, there should be no shadowed pages; a small number were remaining. (#45819)

Added cache statistics

The following cache statistics have been added:

ObjectsReadDuringTraversal

The portion of ObjectsRead that occurred during fetch and store traversals.

OtDataPageReadsDuringTraversal

The portion of DataPageReads+ObjectTablePageReads that occurred during fetch and store traversals.