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GemStone®

# *GemStone/S 64 Bit™*

## *Release Notes*

Version 3.1.0.6

April 2014



**GEMTALK™**  
SYSTEMS

**GEMSTONE™** **S** **64**



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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 3.1.0.6 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 3.1.0.6, or upgrading or converting from previous products or versions, see the Installation Guide for version 3.1.

These documents are also available on the Gemtalk customer 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**

**<http://gemtalksystems.com/techsupport>**

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

- ▶ **Documentation** for released versions of all GemTalk products, in PDF form.
- ▶ **Downloads**, including current and recent versions of GemTalk products.

- ▶ **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:** <http://techsupport.gemtalksystems.com>

**Email:** [techsupport@gemtalksystems.com](mailto: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.

***Chapter 1. GemStone/S 64 Bit 3.1.0.6 Release Notes***

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## Overview

GemStone/S 64 Bit 3.1.0.6 is a new version of the GemStone/S 64 Bit object server, with fixes for a number of significant bugs. 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 GemStone/S 64 Bit, version 3.1.0.5, and version 3.1.0.6. If you are upgrading from a version prior to 3.1.0.5, review the release notes for each intermediate release to see the full set of changes.

## Installation and Upgrade

No separate Installation Guide is provided with this release. For installation instructions, use the Installation Guide for version 3.1.

### Upgrading from earlier 3.1.0.x versions

To upgrade from an earlier 3.1.0.x version to version 3.1.0.6, follow the instructions in the Installation Guide chapter "Upgrading from previous GemStone/S 64 Bit 3.x versions", replacing 3.0.1 with your previous version and replacing 3.1.0.6 for 3.1 in the instructions.

You do not need to upgrade comments if you have previously performed this step.

## Supported Platforms and GBS Versions

### Platforms

GemStone/S 64 Bit version 3.1.0.6 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
- ▶ SuSE Linux ES 10 SP1 and ES11 on x86; Red Hat Linux ES 5.5 and 6.1 on x86
- ▶ Mac OSX 10.6.4 (Snow Leopard), with Darwin 10.4.0 kernel, on x86

For more information and detailed requirements for each supported platforms, please refer to the GemStone/S 64 Bit v3.1 Installation Guide for that platform.

### GBS version summary

The following versions of GBS are supported with GemStone/S 64 Bit version 3.1.0.6.

Note that Windows XP is no longer officially supported, as it has reached end of life with Microsoft.

#### GBS version 7.6.1

<b>VW 7.10 32-bit</b>	<b>VW 7.10 64-bit</b>	<b>VW 7.9.1 32-bit</b>
<ul style="list-style-type: none"> <li>▶ Windows 2008 R2 and Windows 7</li> <li>▶ Solaris 10 on SPARC</li> <li>▶ RedHat Linux ES 5.5 and 6.1</li> </ul>	<ul style="list-style-type: none"> <li>▶ Solaris 10 on SPARC</li> <li>▶ RedHat Linux ES 5.5 and 6.1</li> </ul>	<ul style="list-style-type: none"> <li>▶ Windows 2008 R2 and Windows 7</li> <li>▶ Solaris 10 on SPARC</li> <li>▶ RedHat Linux ES 5.5 and 6.1</li> </ul>

#### GBS version 7.6

<b>VW 7.9.1 32-bit</b>	<b>VW 7.9.1 64-bit</b>	<b>VW 7.9 32-bit</b>
<ul style="list-style-type: none"> <li>▶ Windows 2008 R2 and Windows 7</li> <li>▶ Solaris 10 on SPARC</li> <li>▶ SuSE Linux ES 10 and 11, and RedHat Linux ES 5.5 and 6.1</li> </ul>	<ul style="list-style-type: none"> <li>▶ Solaris 10 on SPARC</li> <li>▶ SuSE Linux ES 10 and 11, and RedHat Linux ES 5.5 and 6.1</li> </ul>	<ul style="list-style-type: none"> <li>▶ Windows 2008 R2 and Windows 7</li> <li>▶ Solaris 10 on SPARC</li> <li>▶ SuSE Linux ES 10 and 11, and RedHat Linux ES 5.5 and 6.1</li> </ul>

### GBS version 7.5

<b>VW 7.9.1 32-bit</b>	<b>VW 7.9.1 64-bit</b>	<b>VW 7.9 32-bit</b>
<ul style="list-style-type: none"> <li>▶ Windows 2008 R2 and Windows 7</li> <li>▶ Solaris 10 on SPARC</li> <li>▶ SuSE Linux ES 10 and 11, and RedHat Linux ES 5.5 and 6.1</li> </ul>	<ul style="list-style-type: none"> <li>▶ Solaris 10 on SPARC</li> <li>▶ SuSE Linux ES 10 and 11, and RedHat Linux ES 5.5 and 6.1</li> </ul>	<ul style="list-style-type: none"> <li>▶ Windows 2008 R2 and Windows 7</li> <li>▶ Solaris 10 on SPARC</li> <li>▶ SuSE Linux ES 10 and 11, and RedHat Linux ES 5.5 and 6.1</li> </ul>

### GBS version 5.4.2

<b>VA Smalltalk 8.6</b>	<b>VA Smalltalk 8.5.2</b>
<ul style="list-style-type: none"> <li>▶ Windows 2008 R2 and Windows 7</li> </ul>	<ul style="list-style-type: none"> <li>▶ Windows 2008 R2 and Windows 7</li> </ul>

### GBS version 5.4.1

<b>VA Smalltalk 8.5.2</b>	<b>VA Smalltalk 8.5</b>	<b>VA Smalltalk 8.0.3</b>
<ul style="list-style-type: none"> <li>▶ Windows 2008 R2 and Windows 7</li> </ul>	<ul style="list-style-type: none"> <li>▶ Windows 2008 R2 and Windows 7</li> </ul>	<ul style="list-style-type: none"> <li>▶ Windows 2008 R2 and Windows 7</li> </ul>

For more details on supported GBS and client Smalltalk platforms and requirements, see the *GemBuilder for Smalltalk Release Notes* for the appropriate GBS version.

## Changes in this Release

The following bugs are fixed in this release.

### Unable to read tranlog with record-level compression

The slave stone encountered errors while restoring tranlogs in a hotstandby system, in cases where the tranlogs contained many records for byte objects containing compressed data. The tranlogs written by the logreceiver, or by copydbf -c, use record-level compression; this bug affects reading of the record-level compressed format from the tranlogs. (#44131)

### Large IdentityDictionaries may be corrupted during rebuild

Instances of IdentityDictionary must be rebuilt periodically as elements are added. There was a code path in rebuild that could cause values in key-value pairs to be set to Associations containing the key and value. This occurred in large IdentityDictionaries, and the specific conditions depend on how elements hash into the dictionary. (#43515)

### "Heartbleed" OpenSSL security bug

The OpenSSL Heartbleed bug (<http://heartbleed.com/>) was present in versions of the shared libraries that are used in version 3.1 and later. Version 3.1.0.6 includes an updated version of the openSSL libraries with the fix for this bug. (#44080)

### Image upgrade resets #sleepTimeBetweenReclaimMs to 0

On image upgrade, the configured value for the GcUser configuration parameter #sleepTimeBetweenReclaimMs (in the GcUser's UserGlobals) is reset to 0. (#43521)

### Risk of hang in Stone shutdown if AIO page servers lost

If the AIO page servers are killed for some reason during shutdown, it is possible for the Stone to have hang waiting for tranlog writes to complete. (#42451)