

---

GemStone®

# *GemStone/S 64 Bit Release Notes*

Version 2.4.4.2

August 2010

GEMSTONE<sup>™</sup> S<sub>64</sub>

---

## INTELLECTUAL PROPERTY OWNERSHIP

This documentation is furnished for informational use only and is subject to change without notice. GemStone Systems, 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 GemStone Systems, 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 GemStone Systems, 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 GemStone Systems, Inc.

This software is provided by GemStone Systems, 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 GemStone Systems, 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 © 1986-2010 GemStone Systems, Inc. All rights reserved by GemStone Systems, Inc.

## PATENTS

GemStone is covered by U.S. Patent Number 6,256,637 "Transactional virtual machine architecture", Patent Number 6,360,219 "Object queues with concurrent updating", and Patent Number 6,567,905 "Generational Garbage Collector". GemStone may also be covered by one or more pending United States patent applications.

## TRADEMARKS

**GemStone**, **GemBuilder**, **GemConnect**, and the GemStone logos are trademarks or registered trademarks 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**, **Solaris**, and **SunOS** are trademarks or registered trademarks of Sun Microsystems, Inc. All **SPARC** trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. **SPARCstation** is licensed exclusively to Sun Microsystems, Inc. Products bearing SPARC trademarks are based upon an architecture developed by Sun Microsystems, Inc.

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

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

**Microsoft**, **MS**, **Windows**, **Windows XP**, **Windows 2000**, **Windows 2003**, 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.

**AIX** and **POWER4**, **POWER5**, and **POWER6** are trademarks or registered trademarks of International Business Machines Corporation.

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, GemStone 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.

**GemStone Systems, Inc.**  
1260 NW Waterhouse Avenue, Suite 200  
Beaverton, OR 97006

# GemStone/S 64 Bit

## 2.4.4.2 Release Notes

### Overview

GemStone/S 64 Bit 2.4.4.2 is a new version of the GemStone/S 64 Bit object server. This limited distribution release provides several feature enhancements and fixes several bugs.

These release notes provide changes between the previous version of GemStone/S 64 Bit, version 2.4.4, and version 2.4.4.2. version 2.4.4.1 was a Seaside-specific release and had no changes that impact non-GLASS customers. All Seaside-related changes are also in this release. If you are upgrading from a version prior to 2.4.4, please also review the release notes for each intermediate release to see the full set of changes.

GBS versions 7.2 through 7.3 on VisualWorks must be patched or upgrade to run correctly with GemStone/S 64 Bit 2.4.4 and above, including with version 2.4.4.2. See the bugnote:

[http://support.gemstone.com/gemstone\\_s/learning\\_center/bug\\_notes/GBS/40751.htm](http://support.gemstone.com/gemstone_s/learning_center/bug_notes/GBS/40751.htm)

No separate Installation Guide is provided with this release. For installation instructions, use the Installation Guide for version 2.4.

### Supported Platforms and GBS Versions

#### Platforms

GemStone/S 64 Bit version 2.4.4.2 is supported on the following platforms:

- ▶ Solaris 9 and 10 on SPARC
- ▶ Solaris 10 on x86
- ▶ HP-UX 11.11 and 11.31 on PA-RISC
- ▶ HP-UX 11.23 and 11.31 on Itanium
- ▶ AIX 5.3, TL5, SP3 and AIX 6.1, TL1, SP1
- ▶ SuSE Linux ES 10 SP1 and Red Hat Linux ES 5.0

For more information and detailed requirements for each supported platforms, please refer to the GemStone/S 64 Bit v2.4 Installation Guide for that platform.

## GBS versions

The following versions of GBS are supported with GemStone/S 64 Bit version 2.4.4.2, with the following client Smalltalk and platform versions.

If you are upgrading from version 2.4.3 or earlier, you must update the client libraries used with GBS clients. Protocol compatibility levels changed in version 2.4.4 and older client libraries are not compatible.

GBS versions 7.2 through 7.3 on VisualWorks may encounter serious errors when running with GemStone/S 64 Bit 2.4.4 and above, including with version 2.4.4.2. GBS users should upgrade to version 7.3.1 or later, or patch GBS. The patch is available here:

[http://support.gemstone.com/gemstone\\_s/downloads/patches/patch40751/index.htm](http://support.gemstone.com/gemstone_s/downloads/patches/patch40751/index.htm)

### GBS version 7.3.1

| <b>VW 7.7 32-bit</b><br>with 32-bit 7.7 OE   | <b>VW 7.7 64-bit</b><br>with 64-bit 7.7 OE   | <b>VW 7.6 32-bit</b><br>with 32-bit 7.6c OE  |
|--|--|--|
| <ul style="list-style-type: none"> <li>▶ Windows XP, Windows 2003 Server, Windows Vista, and Windows 7</li> <li>▶ Solaris 9 and 10 on SPARC</li> <li>▶ HP-UX 11.11 on PA-RISC</li> <li>▶ SuSE Linux ES 10 and RedHat Linux ES 5.0</li> </ul> | <ul style="list-style-type: none"> <li>▶ Solaris 10 on SPARC</li> <li>▶ SuSE Linux ES 10 and Red Hat Linux ES 5.0</li> </ul> | <ul style="list-style-type: none"> <li>▶ Windows XP and Windows 2003 Server</li> <li>▶ Solaris 9 and 10 on SPARC</li> <li>▶ HP-UX 11.11 on PA-RISC</li> <li>▶ SUSE Linux ES 10 and Red Hat Linux ES 5.0</li> </ul> |

### GBS version 7.1.2patch2

| <b>VW 7.5</b><br>with 7.5 OE  | <b>VW 7.4.1</b><br>with 7.4d OE   | <b>VW 5i.1 Envy</b><br>with 5i.4c OE                           |
|---|---|--|
| <ul style="list-style-type: none"> <li>▶ Windows XP and Windows 2003 Server</li> <li>▶ Solaris 9 and 10 on SPARC</li> <li>▶ HP-UX 11.11 on PA-RISC</li> <li>▶ SuSE Linux ES 10</li> </ul> | <ul style="list-style-type: none"> <li>▶ Windows XP</li> <li>▶ Solaris 9 and 10 on SPARC</li> <li>▶ HP-UX 11.11 on PA-RISC</li> <li>▶ SuSE Linux ES 10</li> </ul> | <ul style="list-style-type: none"> <li>▶ Windows XP</li> </ul> |

For more information on supported platforms and requirements, see the release notes for that version of GBS.

## Changes in this release

### Allow disableCommits feature to work with password aging configured

When password aging features are configured in the repository, each login performs a commit to record the lastLoginTime. This commit failed when commits were disabled for a particular user using the `UserProfile>>disableCommits` feature. Now, a commit is enabled from the C code only at this point during the login, to allow the lastLoginTime to be recorded. (#40410)

### Index related changes

#### EqualityIndexes on Dates had slow query performance

Btrees, the internal structures used to implement equality indexes, include the compressed contents for certain data types, so the actual object does not always need to be faulted in. The code that stored the contents of Date instances incorrectly stored incomplete data, which meant that Date instances always had to be faulted. This did not cause any functional errors, but performance under certain conditions was considerably slower. (#40792)

#### Improved performance in removing certain equality indexes

An optimization has been made to improve performance of index removal for certain cases. This optimization is on btree removal, which means only the final term of an Equality index is impacted.

If there are no other indexes on the collection, single-term equality indexes removal exhibits this improvement. With other indexes present, the performance gain is in removal for both single and multi-term equality indexed paths.

### Exception related changes

#### ExceptionSets may have failed to catch signalled Errors

Passing a list of Errors as the first argument to `on:do:` creates an ExceptionSet to handle any of the listed Errors. In some cases, particularly ZeroDivide, the ExceptionSet may have failed to catch one of the Errors. (#40715, #40815)

#### Pause caught by handler on Error

An exception handler on Error incorrectly caught pause. (#40779)

