
GemStone®

GemStone/S 64 Bit Release Notes

Version 2.3.1.7

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GEMSTONE[™] S 64

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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.

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Overview

GemStone/S 64 Bit 2.3.1.7 is a new version of the GemStone/S 64 Bit object server. This release provides a new feature and fixes several bugs.

These release notes provide details of the changes between the previous version of GemStone/S 64 Bit, version 2.3.1.6, and version 2.3.1.7. If you are upgrading from a version prior to 2.3.1.6, please also review the release notes for each intermediate release to see the full set of changes.

Note that changes in internal indexing structures between 2.2.x and 2.3 mean that indexes cannot be upgraded. If you are upgrading from a version earlier than 2.3 to version 2.3 or later, you must drop and rebuild all indexes in your system.

This version is available for Solaris on Sparc, Solaris on x86, AIX, HP on PA-RISC and HP on Itanium, and Linux.

No separate Installation Guide is provided with this release. For installation instructions, use the Installation Guide for version 2.3.

Technical Support

GemStone Technical Support has a new Help Request system. Customers with support agreements are invited to submit Help Requests to

<http://techsupport.gemstone.com>

Changes and Bug Fixes

Scavenge of pom gen space now configurable

The POM generation area of temporary object space holds unmodified faulted-in objects, and is scavenged at regular intervals. Now, the frequency of this scavenge can be tuned using a new configuration parameter.

GEM_TEMPOBJ_POMGEN_SCAVENGE_INTERVAL

`GEM_TEMPOBJ_POMGEN_SCAVENGE_INTERVAL` is the interval in seconds in which the oldest pom gen subspace will be discarded. Lower values may reduce gem memory usage but may also cause objects to be re-read. Larger values may result in higher gem memory usage and may reduce disk I/O. Setting this value to zero disables scheduled pom gen scavenges. In this case, pom gen will only be scavenged when all subspaces become full.

In versions prior to 2.3.1.7, this value was set to 240 seconds.

Runtime equivalent: `#GemTempObjPomgenScavengeInterval`
Default: 1800
Min: 0
Max: 86400
Units: seconds

MFC could have ignored sigAborts during initial stage

SigAbort signals that arrived for the MFC gem during a (normally brief) initial stage of MFC could be ignored. The Stone does not send followup sigAborts. If other sessions are committing, this may result in a commit record backlog. (#40122)

Object does not exist errors on `_getAndClearGciDirtySet:into:`

When enumerating the dirty or tracked objects set using `System class >> _getAndClearGciDirtySet:into:`, chunks of 2034 objects are returned. If there are more than 2034 objects and objects to be garbage collected between iterations, it was possible to get object does not exist errors. (#40276)

To address this problem, objects in the dirty or tracked objects sets which no longer exist are silently ignored. Objects in the dirty set which still exist but are no longer in the export set are also silently ignored, since an object may be garbage collected and reused at any time after its removal from the export set.

Default for `GS_DEBUG_VMGC_MKSW_MEMORY_USED_SOFT_BREAK`

In the `gemnetdebug` script, the environment variable `GS_DEBUG_VMGC_MKSW_MEMORY_USED_SOFT_BREAK` was enabled by default, which inconveniently introduced soft breaks in unrelated debugging scenarios. Now, if you are specifically debugging out of memory issues and need this environment variable, edit the `gemnetdebug` script to remove the comments and set this variable. (#40282)