
GemStone®

GemStone/S *Release Notes*

Version 6.5.3.5

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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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GemStone/S 6.5.3.5

Release Notes

Overview

GemStone/S 6.5.3.5 is a new version of the GemStone Smalltalk object server. This is a special build release providing new features and bug fixes to address several critical issues.

These release notes provide changes between the previous version of GemStone/S, version 6.5.3.4, and version 6.5.3.5. If you are upgrading from a version prior to 6.5.3.4, please also review the release notes for each intermediate release to see the full set of changes.

No separate Installation Guide is provided with this release. For installation instructions, use the Installation Guide for version 6.5.

Supported Platforms

Platforms

GemStone/S version 6.5.3.5 is supported on the following platforms:

- ▶ Solaris 8, 9 and 10 on SPARC
- ▶ Red Hat Linux ES 3.0 and 5.0

For more information and detailed requirements for each supported platforms, please refer to the GemStone/S v6.5 Installation Guide for that platform.

Changes and New Features

Page audit now audits data pages by default

The utility `pageaudit` previously only audited non-data pages - object table pages, bitmap pages, etc. Data pages were audited separately by `objectAudit`.

Now, `pageaudit` also checks data pages, reading them into memory and confirming that they are data pages. Data page audit is the default. To disable audit of data pages and revert to the `pageaudit` behavior of previous releases, use the new `pageaudit -d` option.

```
Usage: pageaudit [-d] [-h] [-f] [-e execfg] [-z syscfg] [name]
  -d    disables auditing of data pages.
  -e    specifies executable specific configuration file.
  -f    keeps running beyond first error if possible
  -h    prints usage information and exits.
  -z    specifies system configuration file.
  name  the name of the stone (default is gemserver65-audit).
```

Tranlog debug level changeable at runtime

The configuration parameter `#StnTranLogDebugLevel` has been added, to allow `STN_TRAN_LOG_DEBUG_LEVEL` to be modified at runtime. Previously, the tranlog debug level could only be modified when restarting the Stone.

With a higher `STN_TRAN_LOG_DEBUG_LEVEL`, more detailed debug and analysis information is written to the transaction logs. This parameter should only be used under the direction of GemStone Technical Support. Note that the transaction logs may be much larger with higher debug levels.

The value of `#StnTranLogDebugLevel` can only be changed by `SystemUser`. It takes effect for each gem on its transaction boundary (commit or abort). The change in value is logged in the Stone log and in the transaction logs.

To set to a higher value, so that much more data is written to the transaction logs, execute:

```
System configurationAt: #StnTranLogDebugLevel put: N
```

where N is 1 or above; most commonly 3. To reset to normal, execute:

```
System configurationAt: #StnTranLogDebugLevel put: 0
```

Note: this code requires that the `upgradeImage` step be run, which rebuilds the `ConfigurationParametersDictionary`. If `upgradeImage` is not run, to manually rebuild the structure, execute the following as `SystemUser`:

```
run
  Globals at: #ConfigurationParameterDict put:
    System _configFileParameterDict.
  ^System commitTransaction
%
```

Temporary page information written to transaction logs

Explicit write via new method

A method has been added to write temporary page information to the transaction log:

```
System >> writePageDebugDataToTranlog
```

This method can only be run by SystemUser. The list of temporary pages allocated to each gem on the system is written to the transaction log. On a busy system, execution of this method may cause the Stone to become unresponsive for several seconds.

This method should only be run if requested by GemStone Technical Support.

Automatic write on page cache fault

When a page cache fault error is encountered, the list of all temporary pages assigned to each gem is written to the transaction logs. To avoid performance impact when a series of page cache faults occurs, this is done on for the first page cache fault; subsequent page cache faults do not trigger this.

GcGem log files not deleted by default

Admin and Reclaim GcGem logs previously were deleted by default when the process exited. Now, these logs are not deleted.

Additional timestamps for messages in PageManager log

Some messages were written to the Page Manager log without timestamps; this has been corrected.