
GemStone®

GemStone/S *Release Notes*

Version 6.5.7.2.1

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GEMSTONE ™

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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 6.5.7.2.1

Release Notes

Overview

GemStone/S 6.5.7.2.1 is a new version of the GemStone Smalltalk object server. This special build release includes a new feature to write backups with extra validation, and a workaround for a GcGem crash.

These release notes provide changes between the previous version of GemStone/S, version 6.5.7.2, and version 6.5.7.2.1. If you are upgrading from a version prior to 6.5.7.2, 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 6.5.7.

Supported Platforms

GemStone/S version 6.5.7.2.1 is supported on the following platforms:

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

For more information and detailed requirements for each supported platforms, please refer to the GemStone/S v6.5.7 Installation Guide for that platform.

Changes in this release

Backups with validation of each object written

GemStone/S 6.5.7.2.1 includes a new feature to write backups in safe mode - each object is checked that it is valid, before it is written to the backup file. In regular backups, only objects that are on pages on the shadowed pages list are checked.

The following methods have been added to perform safe backups; they are otherwise equivalent to the corresponding regular backup methods. See method comments in the image for details.

```
Repository >> safeFullBackupTo: fileOrDevice MBytes: mByteLimit
```

```
Repository >> safeFullBackupTo: fileOrDevice
```

```
Repository >> safeFullBackupCompressedTo: fileOrDevice
```

```
Repository >> safeFullBackupCompressedTo: fileOrDevice MBytes:  
mByteLimit
```

On completion, the safe full backup methods print out the following message, to indicate how many invalid objects were not included in the backup:

```
[Info]: Safe full backup statistics: 0 invalid objects on 0  
pages were omitted from the backup.
```

These values are also reported in session cache statistics for the backup session:

```
SessionStat19 - invalid oop count
```

```
SessionStat20 - invalid page count
```

GcGem coredump reclaiming missing dead object

There is an unknown set of conditions under which the system can get into a state in which a dead object, waiting to be reclaimed, is not on the data page indicated by the object table. The dead object is unreachable and no further information is available.

If this corruption exists, the GcGem crashed when it attempted to reclaim the missing dead object. Now, the GcGem will remove the OOP from the object table and from the dead set, but not allow it to be reused. This orphans the OOP, but allows reclaim to continue. Subsequent FDC/MGC runs will not collect this OOP. (#41114)