
GemStone®

GemConnectTM **Release Notes**

Version 2.4

March 2020



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PATENTS

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 the changes in the GemConnect® version 2.4 release. We recommend that everyone using GemConnect read these release notes before beginning installation or development.

For information on installing or upgrading to this version of GemConnect, please refer to the *GemConnect Installation Guide* for version 2.4.

These documents are available on the GemTalk support 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>

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

- ▶ **Documentation** for the current and for previous released versions of all GemTalk products, in PDF form.
- ▶ **Product download** for the current and selected recent versions of GemTalk software.

- ▶ **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

Telephone: (800) 243-4772 or (503) 766-4702

When submitting a request, please include the following information:

- ▶ Your name and company name.
- ▶ The version of GemConnect, the GemStone/S product and version, and Oracle version.
- ▶ 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.



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GemConnect 2.4 Release Notes

GemConnect version 2.4 is a new release of the GemConnect product. This release provides a number of bug fixes and feature enhancements, as well as providing shared libraries for GemStone/S 64 Bit version 3.5.x.

These release notes provide changes between the previous version of GemConnect, version 2.3, and version 2.4. If you are upgrading from a version prior to 2.3, please review the release notes for each intermediate release to see the full set of changes.

To install GemConnect v2.4, follow the instructions in the *GemConnect Installation Guide* for v2.4.

This version of GemConnect supports only GemStone/S 64 Bit v3.3.1 and later.

Server keyfiles and GemConnect

With versions of GemStone/S 64 Bit after v3.2 and GemConnect v2.3, authorization for using GemConnect is provided by the GS/64 keyfile. You will need to have a keyfile that provides authorization for use with GemConnect in order to use GemConnect. If you require a keyfile, write to keyfiles@gemtalksystems.com, or contact GemTalk Technical Support.

Minimum Oracle version is now 12c

GemConnect now built using Oracle version 12.2.0.1.0. All earlier Oracle versions are not supported.

Supported Platforms

GemConnect version 2.4 is certified on the following GemStone server product versions and platforms:

GemStone/S 64 Bit 3.5.x
<ul style="list-style-type: none"> ▶ Solaris 10 and 11.4 on x86 ▶ AIX 6.1, AIX 7.1, and AIX 7.2 ▶ Ubuntu 16.04 and 18.04 ▶ SUSE 12 on x86 ▶ Red Hat Linux ES 6.9 and 7.4 on x86 ▶ Mac OSX 10.14.3 with Darwin 18.2.0 kernel, on x86

Testing has also been done on earlier versions of GemStone/S 64 Bit. Contact GemTalk Technical Support for certification of specific version/platform.

Changes and Bug Fixes in this release

New Oracle Data Types Supported

The following Oracle Data Types are now supported:

```
Binary_Float
Binary_Double
```

Oracle fields of these types can now be efficiently used without having to "cast" them as Floats in the Oracle SQL statement.

Improved debug message control

In slow and debug executables, there is now more fine-grained control over specific diagnostic messages, and ways to enable or disable printing using environment variables. These cannot be used in normal fast executables, and are intended for use by GemTalk Technical Support in diagnosing specific problems.

Improved handling for NCLOBs

Two new instance variables have been added to class GsOracleConnection:

```
clobSet
nclobSet
```

These work analogously to charSet/ncharSet, but are used to identify the character representation for CLOBs/NCLOBs.

This change addresses a number of issues related to reading NCLOB data. (#48434)

- ▶ When reading a NCLOB using "aClob readAll: recommendedClass", results would sometimes not be reduced properly (for example, a NCLOB containing only ASCII characters could be returned as a QuadByteString instead of a String).

- ▶ The "Insufficient room in target buffer for conversion" error could be triggered when there was still available room in the buffer.
- ▶ An "Unexpected Oracle error" error could be triggered, masking another more specific Oracle error and making diagnosis difficult.

Error on reading large CLOBS

Reading a CLOBS larger than 65536 bytes could fail with the error "insufficient room in target buffer". (#47649)"

Read/Write Error reading LOB Objects (BLOBS/CLOBS)

When a GsOracleConnection is configured to return GsOracleBLOB/CLOB objects, the LOB must either be opened in read-only mode; or, even if the application won't be writing the LOB, the Oracle open call SQL SELECT statement must include the suffix "FOR UPDATE", even if the application won't be writing the BLOB/CLOB. (#47644)

Error descriptions did not include useful detail

The description from an GsRdbError did not include useful information; error message generation has been improved. (#48431)

Improper Operation errors after building liboraapi library on AIX

On AIX, building extended versions of the liboraapi library using the Makefile643 script resulted in problems with the resulting library triggering ImproperOperation errors, when executing any of the library's user actions. (#47213)

Oracle Informational messages treated as Errors

Oracle internal informational messages (such as warning of password expiration) are being treated as errors. (#46992)

Error on migrating GemConnect across GemStone/S 64 Bit versions

Migrating GemConnect across new releases of GemStone/S 64 Bit could have triggered a "method needs recompile" error at the end of GemConnect installation on the new release. (#46977)

SIGSEGV or C-level malloc()/free() errors

Cases existing that could have caused SIGSEGV or C-level malloc()/free() errors. (#47843)

Improvements in handling timeouts in multithreaded environment

When using GemConnect in a multi-threaded environment where one or more of the other threads are performing socket operations, there were rare failures of threads performing GemConnect user actions with an UncontinuableError. Some code changes have been made to reduce callbacks, further reducing the risk (#48479)