GemStone®

GemConnect Release Notes

Version 2.2.2

July 2010

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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Preface

About the Documentation

These release notes describe the changes in the GemConnect version 2.2.2 release. recommend that everyone using GemConnect read these release notes before beginning installation or development. These release notes are also available on the GemStone customer support website, as described in the next section.

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

Technical Support

GemStone's Technical Support website provides a variety of resources to help you use GemStone products.

GemStone Web Site: http://support.gemstone.com

Use of this site requires an account, but registration is free of charge and provides immediate access.

All GemStone product documentation is provided in PDF form on this website. Documentation is also available at:

http://www.gemstone.com/documentation

In addition to documentation, the support.gemstone.com website provides:

- Bugnotes, identifying performance issues or error conditions that you may encounter when using a GemStone product.
- TechTips, providing information and instructions that are not otherwise included in the documentation.
- Compatibility matrices, listing supported platforms for GemStone 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.

Requests for technical assistance may be submitted online, or 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.gemstone.com

Email: support@gemstone.com

Telephone: (800) 243-4772 or (503) 533-3503

Your GemStone support agreement may identify specific designated contacts who are responsible for submitting all support requests to GemStone. If so, please submit your information through those individuals.

If you are reporting an emergency by telephone, select the option to transfer your call to the Technical Support administrator, who will take down your customer information and immediately contact an engineer. Non-emergency requests received by telephone will be placed in the normal support queue for evaluation and response.

When submitting a request, please include the following information:

- Your name, company name, and GemStone server license number.
- The versions of all related GemStone products, and of any other related products, such as Oracle.
- 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 GemStone holidays.

24x7 Emergency Technical Support

GemStone 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 your GemStone account manager.

Training and Consulting

Consulting and training for all GemStone products are available through GemStone's Professional Services organization. GemStone periodically offers training courses at our offices in Beaverton, Oregon, or training can be arranged at your location. Contact your GemStone account representative for more details or to obtain consulting services.

Contents

Chapter 1. GemConnect 2.2.2 Release Notes

Supported Platforms . . . 1
Distribution archive change . . . 2
Bugs Fixed . . . 2
- Possible data errors in read / writes to Oracle TIMESTAMP fields . . . 2
  - Repairing incorrect Oracle TIMESTAMP values . . . 2
- CLOBS with UTF8 conversion . . . 2
  - Reading large CLOBS with UTF8 conversion could have overflowed buffer . . . 2
  - Reading / writing UTF8 CLOBS larger than #textlimit resulted in errors. 3
  - UTF8 CLOBS on Intel platforms not swizzled correctly . . . 3
- After a failed BLOB / CLOB read, subsequent operation may error. . . . 3
- SIGSEGV on login with nil GsOracleParameter fields . . . 3
- Oracle Library initialization problems not reported clearly . . . 3

Chapter 1

GemConnect 2.2.2 Release Notes

GemConnect version 2.2.2 is a new release of the GemConnect product, adding support for HP-UX with the GemStone/S 64 Bit server, and providing fixes for several critical bugs. This version of GemConnect supports both GemStone/S 6.x and GemStone/S 64 Bit version 2.x.

These release notes provide details of the changes between the previous version of GemConnect, version 2.2, and version 2.2.2. (2.2.1 was a limited release; all changes in 2.2.1 are included in these release notes.) If you are upgrading from a version prior to 2.2, please also review the release notes for each intermediate release to see the full set of changes.

For instructions on installing and upgrading, see the *GemConnect Installation Guide* for version 2.2.2.

Supported Platforms

GemConnect version 2.2.2 is tested and supported on the following GemStone server product versions and platforms:

GemStone/S 6.5.7	GemStone/S 64 Bit 2.3.1.6	GemStone/S 64 Bit 2.4.4
▸ Solaris 2.8, 2.9, and 2.10 ▸ AIX version 5.2, 5.3, and 6.1 ▸ Linux Red Hat ES 5.0 ▸ Windows XP ▸ Windows 2003 ▸ Windows Vista ▸ Windows 7	▸ Solaris 2.9 and 2.10 ▸ AIX version 5.3 and 6.1 ▸ HP-UX 11.11 and 11.31 on PA-RISC ▸ Linux SuSE ES 10	▸ Solaris 2.9 and 2.10 on SPARC ▸ Solaris 2.10 on x86 ▸ AIX version 5.3 and 6.1 ▸ HP-UX 11.11 and 11.31 on PA-RISC ▸ HP-UX 11.31 on Itanium ▸ SuSE Linux ES 10

For further details, refer to the *GemConnect Installation Guide*.

Distribution archive change

The distribution .zip file is changed in this release. The zip archive no longer contains a high level directory containing the GemConnect files. You should create a directory for GemConnect v2.2.2 and cd to this directory prior to unzipping the distribution archive. Review the *GemConnect Installation Guide* for detailed instructions.

Bugs Fixed

The following bugs have been fixed since release 2.2:

Possible data errors in read/writes to Oracle TIMESTAMP fields

Reads and writes from GemConnect to Oracle TIMESTAMP fields did not correctly handle fractional second components. As a result, the fractional components could have overflowed into the seconds, minutes, hours, or days fields, resulting in incorrect DateTime values stored in Oracle.

In some cases with 32-bit GemStone/S, this caused an error. In other cases in GemStone/S, or with GemStone/S 64 Bit, the incorrect data was silently stored. (#39944)

The possible variance from the correct time depended on the fractional seconds precision specified for that TIMESTAMP field. With maximum precision, there is no discrepancy, while in the worst case, with a fractional second scale of 1 (0.1-second accuracy), the Oracle TIMESTAMP may be off by weeks. Oracle's default fractional seconds precision is 6, permitting a maximum discrepancy of 10 seconds.

After GemStone is used to store a DateTime into the Oracle TIMESTAMP, subsequent reads back into a GemStone DateTime resulted in the equivalent to the original DateTime, although reads from outside GemStone displayed the incorrect date and time actually stored in Oracle.

TIMESTAMP values stored in Oracle using GemConnect 2.2, but read back into GemStone DateTimes using GemConnect 2.2.1 or later, will be incorrect (will correctly represent the Oracle value, which is incorrect).

Repairing incorrect Oracle TIMESTAMP values

It is possible to repair incorrect TIMESTAMP fields in Oracle which were written by GemConnect 2.2. This requires that TIMESTAMPs only have been updated from GemConnect; if other processes write TIMESTAMP data to Oracle, it is not possible to distinguish correct and invalid TIMESTAMPS.

This repair requires special executables. Connect GemStone Technical Support if you are exposed to this bug and need to repair possibly invalid Oracle TIMESTAMPs.

CLOBS with UTF8 conversion

Reading large CLOBS with UTF8 conversion could have overflowed buffer

When reading large CLOBS from Oracle and performing UTF8 conversion, the internal buffer used to hold the data could have overflowed, causing memory corruption, usually indicated by SIGSEGV or SIGBUS errors. (#39964)

Reading/writing UTF8 CLOBS larger than #textlimit resulted in errors

Attempts to read or write large CLOBS using UTF8 conversion, when the converted size was larger than the setting of the associated GsOracleParameter #textLimit field, may have resulted in #typeConversionError or in incorrect data. (#40717)

UTF8 CLOBS on Intel platforms not swizzled correctly

Linux and Solaris on Intel only

Reading or writing DoubleByteStrings into UTF8-based CLOBS on Linux and Solaris on Intel platforms did not correctly byte-swizzle the characters. This could result in #typeConversionErrors.

If only GemConnect is used to read and write the data to and from Oracle, no problem may be visible from GemConnect, although the data is stored incorrectly in Oracle. Problems arise when GemConnect reads data written outside of GemConnect, or external applications read data stored by GemConnect. (#40755)

Note: this bug still exists on the Windows platform.

After a failed BLOB/CLOB read, subsequent operation may error

Very large CLOBS / BLOBS are read in batches from Oracle, and Oracle requires the entire CLOB / BLOB be read, even if an error occurs during an early batch read operation. GemConnect was not performing further batch reads following an error; subsequent GemConnect operations that called Oracle would receive the Oracle error “ORA-03127: no new operations allowed until the active operation ends.” (#40711)

SIGSEGV on login with nil GsOracleParameter fields

If the server, username, or password instance variables of GsOracleParameter were left set to nil, attempting to login to Oracle resulted in a SIGSEGV. (#40633)

Oracle Library initialization problems not reported clearly

Problems with Oracle Library initialization were not handled correctly internally. This resulted in later operations failing with an error that did not properly indicate that the actual source of the problem was with loading Oracle Library components. (#40290)