GemStone®

GemBuilder® for Smalltalk Installation Guide

For Cincom Smalltalk VisualWorks Environment

Version 7.4.1

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vmware®

GEMSTONE S™

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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

This document explains how to install GemBuilder® for Smalltalk version 7.4.1. This documentation is also available on the GemStone Technical Support website.

For information regarding new features and changes in this release of GemBuilder for Smalltalk, please refer to the *GemBuilder for Smalltalk Release Notes* for version 7.4.1.

Terminology Conventions

The term "GemStone" is used to refer to the server products GemStone/S 64 Bit and GemStone/S; and may also be used to refer to the company, previously GemStone Systems, Inc., now a division of VMware, Inc.

Technical Support

GemStone Website

http://support.gemstone.com

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

- Documentation for released versions of all GemStone products, in PDF form.
- Downloads and Patches, including past and current versions of GemBuilder for Smalltalk.
- Bugnotes, identifying performance issues or error conditions you should be aware of.
- 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. Technical Support is available to customers with current support contracts.

Requests for technical support may be submitted online, or by email or by telephone. We recommend you use telephone contact only for serious requests that require immediate attention, such as a production system down. The support website is the preferred way to contact Technical Support.

Website: http://techsupport.gemstone.com

Email: techsupport@gemstone.com

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

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. Please also open a ticket on the website, and include error and log information. 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 client Smalltalk products.
- 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.

GemStone Technical Support is available from 8am to 5pm Pacific Time, Monday through Friday, excluding VMware/GemStone holidays.

24x7 Emergency Technical Support

GemStone Technical Support 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 is available to help you succeed with GemStone products. Training for GemStone software is available at your location, and training courses are offered periodically at our offices in Beaverton, Oregon. Contact your GemStone account representative for more details or to obtain consulting services.

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Chapter 1

Installation

Version 7.4.1 of GemBuilder for Smalltalk (GBS) supports VisualWorks 7.x only. VA Smalltalk support is provided in a separate release.

This version of GemBuilder for Smalltalk is compatible with both GemStone/S 64 Bit and 32-bit GemStone/S. Applications using GBS version 7.4.1 can log in to either GemStone/S 64 Bit or GemStone/S repositories (but not simultaneously), provided that the appropriate client libraries for each are used. For details, see "Shared Library Files" on page 10.

For details on changes in this version of GemBuilder for Smalltalk, see the *GemBuilder for Smalltalk Release Notes*.

Installing GemBuilder for Smalltalk is a five-step process:

1. Ensure that your system in running the appropriate GemStone object server, operating system, and VisualWorks versions.
2. Copy the GemBuilder for Smalltalk files to the desired directory.
3. Ensure that the shared library files can be found in your path.
4. Load the GemBuilder for Smalltalk code into your Smalltalk image.
5. Test the installation.

System Requirements

Operating system

Operating systems are listed in Table 1, Table 2, and Table 3.

GemStone Server product

A supported GemStone/S object server version, installed on a network-accessible host. GemBuilder for Smalltalk supports both GemStone/S, the original 32-bit GemStone object server, and GemStone/S 64 Bit, the 64-bit GemStone/S-based object server.

Supported GemStone/S and GemStone/S 64 Bit platforms are listed in Table 1, Table 2, and Table 3.

Client Smalltalk

A supported client Smalltalk, correctly installed and configured. This version of GBS is supported with the Cincom VisualWorks Smalltalk environment.

The 32-bit VisualWorks environment is compatible with linked and RPC sessions with 32-bit GemStone/S. The supported configurations with 32-Bit VisualWorks clients and GemStone/S are listed in Table 1.

The 32-bit VisualWorks environment is also used, for RPC sessions only, with GemStone/S 64 Bit, using the 32-bit shared libraries provided with the GemStone/S 64 Bit server distribution. The supported configurations with 32-Bit VisualWorks clients and GemStone/S 64 Bit, RPC sessions only, are listed in Table 2.

To run linked sessions with GemStone/S 64 Bit, you must run with the 64-bit VisualWorks environment, and use the 64-bit shared libraries provided with the GemStone/S 64 Bit server distribution. When running 64-bit VisualWorks using the 64-bit GemStone/S 64 Bit shared libraries, you may start both linked and RPC sessions. Supported configurations using 64-bit VisualWorks clients with linked (or RPC) sessions against GemStone/S 64 Bit are listed in Table 3.

Table 1 Supported 32-bit GemStone/S Server versions

	VW 7.8.1 32-bit prerelease	**VW 7.8** 32-bit	**VW 7.7.1** 32-bit
64-bit Windows 2008 R2	6.6.1	6.6.1	
32-bit Windows 7; **32-bit Windows XP, SP 1 or later**	6.6.1	6.6.1, 6.5.8	6.6.1, 6.5.8
Red Hat Linux ES 6.1	6.6.1	6.6.1	
Red Hat Linux ES 5.0 and 5.5	6.6.1	6.6.1, 6.5.8	6.6.1, 6.5.8
Solaris 9 and 10 on SPARC	6.6.1	6.6.1, 6.5.8	6.6.1, 6.5.8

Table 2 Supported GemStone/S 64 Bit Server versions - RPC logins only

	VW 7.8.1 32-bit prerelease	**VW 7.8** 32-bit	**VW 7.7.1** 32-bit
64-bit Windows 2008 R2	3.0.1	3.0.1	
64-bit Windows 7; **32-bit Windows 7;** **32-bit Windows XP, SP 1 or later**	3.0.1, 2.4.5	3.0.1, 2.4.5, 2.4.4.7	3.0.1, 2.4.5, 2.4.4.7
SUSE Linux ES 11; **Red Hat Linux ES 6.1;**	2.4.5	2.4.5	2.4.5
SUSE Linux ES 10; **Red Hat Linux ES 5.5**	3.0.1, 2.4.5	3.0.1, 2.4.5	3.0.1, 2.4.5
Solaris 10 on SPARC	3.0.1, 2.4.5	3.0.1, 2.4.5	3.0.1, 2.4.5
Solaris 9 on SPARC	2.4.5	2.4.5	2.4.5

Table 3 Supported GemStone/S 64 Bit Server versions - Linked or RPC logins
Linked logins require 64-Bit VisualWorks Smalltalk clients

	VW 7.8.1 64-bit prerelease	**VW 7.8** 64-bit	**VW 7.7.1** 64-bit
SUSE Linux ES 11; **Red Hat Linux ES 6.1;**	2.4.5	2.4.5	2.4.5
SUSE Linux ES 10; **Red Hat Linux ES 5.5**	3.0.1, 2.4.5	3.0.1, 2.4.5	3.0.1, 2.4.5
Solaris 10 on SPARC	3.0.1, 2.4.5	3.0.1, 2.4.5	3.0.1, 2.4.5

Distribution Files

GemBuilder for Smalltalk is provided in zipped form. Prior to following the installation instructions, unzip the distribution.

The GemBuilder for Smalltalk distribution includes the following:

A directory named **docs** that contains PDF copies of the GemBuilder for Smalltalk documentation:

GBS-UsersGuide-VW-7.4.pdf
GBS-ReleaseNotes-7.4.1.pdf
GBS-InstallGuide-7.4.1.pdf

A directory named **VW** with the parcel files for VisualWorks:

CstMessengerSupport.pcl
CstMessengerSupport.pst
GbsRuntime.pcl
GbsRuntime.pst
GbsTools.pcl
GbsTools.pst

Shared Library Files

GemBuilder for Smalltalk requires access to a set of shared library files that are compatible with the specific GemStone/S server product and version.

The GemStone/S 64 Bit shared library files are distributed differently than GemStone/S. For GemStone/S 64 Bit, follow the instructions provided in the GemStone/S 64 Bit Installation Guide, and proceed with Step 3.

When using 64-Bit VisualWorks clients with GemStone/S 64 Bit, copy the shared library files from $GEMSTONE/lib, rather than $GEMSTONE/lib32. The files have the same names.

For GemStone/S, follow these steps:

1. For the GemStone/S server version you will be connecting to, locate the file *clientFiles.zip*. This is distributed along with the server distribution archive. Unzip it. This file unzips to a directory tree:

   `clientFiles/`<*clientPlatform*>`/`<*shared library files*>

2. From the appropriate client platform directory, copy the shared library files listed in Table 4 for your GemStone/S platform into a directory in which your client Smalltalk executable resides, or another local directory.

3. Ensure that your library search path includes the directory to which they were copied, and that your client has read and execute privileges on these files.

4. When logging into a GemStone server product other than GemStone/S 64 Bit, you will need to explicitly set the GbsConfiguration parameter *libraryName* to the correct library name, from the following tables. This is described in more detail in the section “You may find it helpful to create an additional copy of this GBS image to use as a backup during application development.” on page 12.

32-Bit VisualWorks clients

The following tables list the shared library files required for running with 32-bit VisualWorks clients, with the supported GemStone/S server product versions and operating system platforms.

Table 4 Shared Library Files for GemStone/S v6.6.1

Operating System	Shared Library Files

Windows	`gcilw66.dll` (linked or RPC logins)
	`gcirw66.dll` (RPC logins only)
	`gsw66.dll`
	`englis66.err`

Solaris or Linux	`libgcilnk66.so` (linked or RPC logins) `libgcirpc66.so` (RPC logins only) `english66.err`

Table 5 Shared Library Files for GemStone/S 64 Bit v2.4.5

With 32-Bit VisualWorks clients, only RPC logins are possible. For logins from 64-Bit VisualWorks clients, see Table 7.

Operating System	Shared Library Files
Windows	`%GEMSTONE%\bin\libgcirpc.dll` `%GEMSTONE%\bin\libgs64-245.dll`
Solaris or Linux	`$GEMSTONE/lib32/libgcirpc.so`

Table 6 Shared Library Files for GemStone/S 64 Bit v3.0.1 (RPC only)

Operating System	Shared Library Files
Windows	`%GEMSTONE%\bin\libgcirpc.dll` `%GEMSTONE%\bin\libgs64-301.dll`
Solaris or Linux	`$GEMSTONE/lib32/libgcirpc.so`

64-Bit VisualWorks clients

When running with 64-Bit VisualWorks clients, you may log in either linked or RPC to GemStone/S 64 Bit. You must use the 64-Bit shared libraries. The 64-Bit shared libraries are in $GEMSTONE/lib rather than $GEMSTONE/lib32; the file names are the same.

Table 7 64-bit Shared Library Files for GemStone/S 64 Bit

The following libraries can be used for linked or RPC logins with 64-Bit VW clients

Operating System	Shared Library Files
Solaris or Linux	`$GEMSTONE/lib/libgcilnk.so` (linked or RPC) `$GEMSTONE/lib/libgcirpc.so` (RPC only)

Loading GBS into a VisualWorks Image

1. Copy the parcel files from the distribution directory named **vw** to the desired directory visible to your VisualWorks parcel path.
2. Start VisualWorks, using an image without any previous versions of GemBuilder for Smalltalk.
3. Use the **System > Settings** tool to ensure that the directory to which you copied the parcels is included in **System > Parcel Path**. Add it, if necessary.
4. In a Parcel Manager, select the parcel **GbsTools**. Select **Parcel > Load**. This parcel in turn loads the other required parcels.

   If you are building a deployment image and do not need the GBS development tools, install the **GbsRuntime** parcel instead of **GbsTools**.
5. Save your image.

   You may find it helpful to create an additional copy of this GBS image to use as a backup during application development.