

SOFTWARE RELEASE DOCUMENT (SOFTDOC)

Product:	HPE Shadowbase Compare for SQL
Release:	Gravic Version: 6.802 HPE NonStop Shadowbase: T1122H06-ABG (SB Repl/Guardian)
Release Date:	December 11, 2023
Copyright Notice:	Copyright Gravic, Inc. 1995 – 2023 (www.gravic.com)
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VERY IMPORTANT: Due to licensing changes in Version 6.700, existing Shadowbase installations running versions prior to (earlier than) 6.700 will require a new license file in order to install and run Version 6.802. This is true for any Shadowbase upgrade when the prior release is before Version 6.700 and the new release you plan to install is version 6.700 or after (more recent).

Contact the HPE License Manager to request a new license file <license.manager@hpe.com>. DO NOT INSTALL Shadowbase Version 6.700 (or later) software when upgrading from a version prior to Version 6.700 until a new license file has been received.

NOTE: This release contains updated software for HPE Shadowbase Compare for SQL for the HPE Integrity Nonstop X and Virtualized NonStop.

NOTE: If this is a TCD delivery, please see [NOTE FOR TCDs](#) for TCD delivery information.

NOTE: This softdoc applies to the HPE Shadowbase Compare for SQL component. Other softdocs document the releases of the other components in T1122H06, including:

- HPE Shadowbase Audit Reader,
- HPE Shadowbase Enterprise Manager,
- HPE NonStop Shadowbase Guardian replication, and

- HPE NonStop Shadowbase OSS replication (see T1123).

You are advised to reference those other softdocs for the changes related to those specific components of T1122H06.

NOTE: This softdoc covers new features and corrected problems for Shadowbase Compare for HPE Integrity NonStop X/Virtualized NonStop servers (L-series Guardian NonStop).

This softdoc is available in an Adobe PDF file (.PDF). Softdoc files for SQL Compare are named IPMnnnn-SQL COMPARE.pdf (where nnnn is the Shadowbase version number).

NOTE: HPE Shadowbase Compare for SQL internally uses the nomenclature “CS-SQL-COMPARE” to reflect its original development roots. Hence, you may notice that some examples show commentary reflecting that name.

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Disclaimer

We are distributing this communication in an effort to bring important information to the attention of users of the affected products. We recommend that all users determine the applicability of this information to their individual situations and take appropriate action. We do not represent or warrant that this information is necessarily accurate or complete for all user situations and, consequently, we will not be responsible for any damages resulting from the user's use or disregard of the information provided. To the extent permitted by law, we disclaim all representations and warranties, whether express, implied, statutory, or otherwise, including the warranties of the merchantability, fitness for a particular purpose, title, and non-infringement.

We expect customers of the Shadowbase product suite to “stay current” on Shadowbase releases. This means that you, the customer, should periodically upgrade your Shadowbase software to a newer release that is under support before support ends on your current release. For most customers, this means that you will want to upgrade while your release is in ‘ACTIVE’ support. Otherwise, you run the risk of not being able to get full (or even any if the release has gone ‘OBSOLETE’ end-of-service-life) support for the version you are running.

The Shadowbase Software Policy for Software Versions is described here:
<https://shadowbasesoftware.com/support/shadowbase-software-product-release-and-support-policies/>.

We encourage all customers to periodically review this material and plan for periodic upgrades to their Shadowbase software. Contact Support if you need additional information.

Note for TCDs

TCD (Temporary Code Delivery) – A software update delivered via an SPR downloadable from an FTP dropbox. A TCD is an early version, intended for customer testing only (not production usage). A TCD by definition is restricted to certain customers. Note that a “Gravic TCD” is delivered directly from Gravic, not via HPE, but otherwise has the same attributes.

A TCD is provided only to the specified customer for the purposes agreed between the customer and Gravic as to how it will be used. A TCD is provided subject to the following terms and conditions in addition to the existing written license governing the use of Shadowbase:

- A TCD is provided for evaluation and test purposes only for no more than ninety (90) days use, and is not to be used in production systems
- A TCD may not have been fully tested by Gravic, no warranties are implied as to its behavior
- A TCD is delivered directly from Gravic to the customer, it is not available from HPE/SCOUT
- As testing proceeds, iterative TCD deliveries may be necessary as issues are identified/resolved
- A TCD is temporary, after evaluation it is to be withdrawn from use by the customer
- After testing completes, a TCD may or may not subsequently be released as a Shadowbase TCF or otherwise be included in the Shadowbase product line

Please see <https://www.shadowbasesoftware.com/support/shadowbase-software-product-release-and-support-policies/shadowbase-software-release-glossary/> for additional information.

Special Notes for Version 6.802

- 1) **As of Version 6.700, customers are required to update their license / SHADPASS files when upgrading from a version before 6.700 to version 6.700 or later. Shadowbase will not start if an old SHADPASS is used. Contact your HPE Shadowbase account representative for a renewed license.**
- 2) The SQL Compare for MX component must be installed in a different subvolume from the SQL Compare for MX Remote Agent to avoid SQL compilation conflicts.

Changes in Release 6.802

This section summarizes the new features and problems fixed since the last General Availability release, Gravic version 6.801 for HPE Integrity NonStop i systems and HPE Integrity NonStop X servers.

- 1) Double-quotes are no longer required when specifying SQL/MX tables in SQLCMPMX unless the catalog/schema/table specified is a quoted identifier. The values specified for SOURCE and TARGET commands should still be listed in all uppercase though. For example:

```
SOURCE MXCAT.MXSCH.SOURCE_TABLE  
TARGET MXCAT.MXSCH.TARGET_TABLE
```

- 2) A maximum number of parallel threads can be set with the SET MAXPARTNS setting. This setting controls the maximum number of partitions compared concurrently in a compare job. When working with many partitions (> 20), SQL Compare will generally run faster if the number of parallel compare threads is less than the number of partitions in the table. The default value is 4 times the number of CPUs configured for PCEs. Setting MAXPARTNS to 0 will cause it to use this default value. SQL Compare will always compare the complete table regardless of this setting, but if there are more partitions than the MAXPARTNS setting, multiple partitions will be compared together on a single parallel thread. This may reduce the total number of SQL Compare processes, reduce memory consumption by the main SQL Compare process (SQLCMPE/SQLCMPMX), and in general reduce the overall runtime.

Example:

```
SET MAXPRTNS 20
```

This limits the number of partitions handled in parallel to 20.

The setting is independent of the concurrency setting, so setting this to 20 and setting CONCURRENCY to 8 will result in 160 parallel sets of PCE/DBSRVP processes.

Any setting of MAXPRTNS different from 0 will be stored with the run if the run is saved.

The maximum allowed value is 300. Using values larger than 16 may not improve runtime of the product.

- 3) When comparing tables with ON commands configured to do INSERT/UPDATE/DELETE events to make the source and target tables match, the output showing the results of these events can be disabled. The SET REPORT NO-CHANGES command can be issued before running the compare job to disable logging each of these events. The summary will still be logged at the end even if this setting is in effect.

- 4) An alternate EMS collector can be specified by setting the EMSCOLL TACL parameter to the process name of the alternate collector before starting SQL Compare.
- 5) When a run is saved without an explicit CHECKPOINT setting, it automatically assigns a value of 10000.
- 6) The overall performance of the Compare runs has been improved by explicitly specifying an appropriate access path to the data, automatically and internally during the run. In some cases, especially those where catalog and table statistics had not been generated, the SQL optimizer was selecting inappropriate plan paths.
- 7) The obsolete PERF, PRINTCHECK and SET ERRNO ABEND commands were removed.
- 8) The HELP output was cleaned up to remove obsolete commands and fix the alphabetical sorting.
- 9) The PAUSE <n> LINES behavior now only takes effect while a compare job is actively running.
- 10) Tables that contain \x00 (NUL) bytes (all bits binary 0) in character key columns are now supported.
- 11) Certain compare jobs would fail near the end of the job with an error 100 due to inserts being rolled back on the source table in the middle of the compare job. This problem has been fixed.
- 12) The LOGGER program was not being installed when installing the MP remote agent. This has been fixed.
- 13) Certain large tables would fail in the middle of a compare job if the catalog statistics were not up to date. The workaround was to update the table's statistics, but this problem has been fixed so that the workaround is no longer required.

Validating Downloaded Files

Gravic provides an SHA1 checksum and the size of the release package (file) in bytes. The purpose of this is so that the user can confirm that the release package they downloaded is valid and free from corruption/tampering.

- For HPE Shadowbase releases, this information is published in the HPE SOFTDOC that corresponds with the specific SPR version of the software. The HPE SOFTDOC for a specific SPR version is available on the HPE SCOUT

- portal. This information can also be found on the Gravic Shadowbase website here (<https://www.shadowbasesoftware.com/releases>).
- For non-HPE Shadowbase releases, for example Shadowbase releases obtained directly from Gravic (regardless if an HPE TCD release or a direct Gravic licensee release), this information is included in the body of the Gravic email that provides the link to download the software. This information can also be found on the Gravic Shadowbase website here (<https://www.shadowbasesoftware.com/releases/gravic>).

All Shadowbase releases are provided as Windows format download files. The user should validate the downloaded release file size by comparing it with the published release file size.

In order to validate the SHA1 checksum of the downloaded file, users can run the following command on a Windows system where the file was downloaded in order to generate the checksum in their own environment:

```
certutil -hashfile <downloaded filename> SHA1
```

Users can compare the certutil-generated checksum value against the published checksum value to make sure they match. Note that any other SHA1 generation tool can also be used to create the checksum value on the downloaded file. The certutil method is just one available option for Windows environments, and is included as part of Certificate Services.

Installation Instructions (Shadowbase Compare for SQL)

- 1) Transfer the HPE Shadowbase Compare for SQL installation files to the host system using FTP or any other file transfer product capable of transferring ASCII and binary files. Binary transfer the SQLCMPR file from your PC (if you obtained the files from a Gravic FTP site) or DVD. Then ASCII transfer the RINSTARX, RINSTALL, RINSTLMX, and RINSTLRA files from the same location.
- 2) To begin the installation process, run the RINSTARX, RINSTALL, RINSTLMX, and RINSTLRA files to unpack the installation files for the desired HPE Shadowbase Compare for SQL component(s):

RUN RINSTARX to unpack the installation components for the SQL/MX Remote Agent.

RUN RINSTALL to unpack the installation components for the SQL/MP Compare program, SQLCMPE.

RUN RINSTLMX to unpack the installation components for the SQL/MX Compare program, SQLCMPMX.

RUN RINSTLRA to unpack the installation components for the SQL/MP Remote Agent.

3) Follow instructions in the Installation section of the ***HPE Shadowbase Compare for SQL Manual***. Each component has an installation INI file that must be edited with the desired system specific settings before the corresponding installation program is run.

HPE Release File Structure

If this release is obtained through HPE Scout, the downloaded file is a single self-extracting zip file that is intended to be run on a Windows PC. When the zip file has extracted itself, it will create a folder structure on the PC with all of the various pieces of Shadowbase in appropriate folders. This folder structure is as follows:

CONTENTS

Each component's installation files are in a separate directory in the self-extracting ZIP file or on the product DVD under the directory \T1122H06-<SPR ID>. This file set contains the following files:

File or Directory	Description
\readme.txt	This file.
\SBEnterpriseManager	Directory containing the files required to install SEM on a PC.
\TNS-E	Directory containing the installation files for the HPE Integrity NonStop i versions of NS Repl, SAR, and Compare.
SBAuditReader	Directory containing the installation files for SAR.
SBCompare	Directory containing the installation files for Compare.
SBReplication	Directory containing the installation files for NonStop Guardian replication.
\TNS-X	Directory containing the installation files for the HPE Integrity NonStop X versions of NS Repl, SAR, and Compare.
SBAuditReader	Directory containing the installation files for SAR.

SBCompare	Directory containing the installation files for Compare.
SBReplication	Directory containing the installation files for NonStop Guardian replication.

Known Problems Remaining

- 1) Since the TCP/IP remote agent relies on the NonStop LISTNER program to establish connections between the client and server processes, certain settings such as TRGCPUS and CPULIMIT are ignored since LISTNER controls them. It is expected that a future version of SQL Compare will employ a custom listener program which will be able to control these settings.
- 2) For long SQL/MX floating point column values, the precise values of the last digits are unpredictable when being inserted or selected from a table (generally, due to rounding). If SQL Compare attempts to compare these values, it may result in unexpected behavior depending on how the MX engine provides the values to SQL Compare. Hence, compares of high-precision floating point columns may yield differing results across runs. A case has been opened with HPE regarding this issue.