SOFTWARE RELEASE DOCUMENT (SOFTDOC)

Product:	HPE Shadowbase Compare for SQL
Release:	Gravic Version: 6.900 HPE Nonstop Shadowbase: T1122L70^ABL (SB Repl/Guardian)
Release Date:	July 31, 2026
Copyright Notice:	Copyright Gravic, Inc. 1995 – 2026 (www.gravic.com)
File Name:	IPM6900-SQL COMPARE.pdf

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 6.900. 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, Virtualized Nonstop, and HPE Integrity Nonstop I Servers.

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, which is used to compare SQL/MP and SQL/MX databases. Other softdocs document the releases of the other components in the release, including:

- HPE Shadowbase Audit Reader,
- 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 this release.

NOTE: This softdoc covers new features and corrected problems for Shadowbase Compare for HPE Integrity Nonstop I servers (J06 Guardian Nonstop) and HPE Integrity Nonstop X/Virtualized Nonstop servers (L06 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.

Table of Contents

SOFTWARE RELEASE DOCUMENT (SOFTDOC) 1
Table of Contents 3
Disclaimer 4
Note for TCDs 5
Upgrade Considerations for Version 6.900 from 6.821 5
Special Notes for Version 6.900 5
Changes in Release 6.900 6
New Features 6
Problems Fixed 6
New Features Description 7
SQL Compare Plus Release 1 (R1) 7
Introduction and Prerequisites 7
Installation and Configuration 8
Starting the Remote Agent 8
Configuring Compare Plus 10
Example Compare Plus Job 12
Troubleshooting with the Remote Agent Log File 13
Stopping the Remote Agent 13
Uninstalling Compare Plus 14
New and Modified SQLCMPE/SQLCMPMX Commands 14
LIST RDB 14
REMOVE RDB 15
SET LOGFILE-NUM 15
SET LOGFILE-SIZE 16
SET RDB 16
SOURCE 17
TARGET 18
New and Modified TACL Parameters 18
RDBPORT 18
Validating Downloaded Files 18
Installation Instructions (Shadowbase Compare for SQL) 19
HPE Release File Structure 19
Known Problems Remaining 20

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.

Upgrade Considerations for Version 6.900 from 6.821

There are no special considerations for upgrading from version 6.821 to version 6.900.

Special Notes for Version 6.900

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 license file 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 6.900

This section summarizes the new features and problems fixed since the last General Availability release, version 6.821.

New Features

1) This release of SQL Compare includes SQL Compare Plus which allows for SQL table compares between certain heterogeneous database types. In this release of Compare Plus, it supports the following database type combinations:

SQL/MP to SQL Server via Windows client
SQL/MX to SQL Server via Windows client
SQL/MP to Oracle via RHEL client
SQL/MX to Oracle via RHEL client

   These are the only combinations supported in this version called ***Compare Plus Release 1*** (R1). More platforms and databases may be added in future versions. For more information, refer to the Compare Plus section below.

2) A new command SET RDB was added to catalog remote agents in the SQL Compare console. This command will eventually replace the existing SOURCE ADDRESS and TARGET ADDRESS commands, however they are now MATURE and you should change to the new SET RDB approach as soon as you can. Note that the old commands are still available in this release. Refer to the SET RDB command below for more information.

3) When a multi-line command is issued on the SQL Compare console, the prompt will change from "`COMPARE>`" to "`------>>`" to make it clear that the command must be completed and is not finished yet.

Problems Fixed

1) The SQL Compare PCE, DBSRV, DBSRVMP and LOGGER processes no longer open stdin, stdout, or stderr files by default. This prevents error 14 conditions, for example, when attempting to run a SQL Compare job using a spooler job for the OUT or TERM files when starting the console.

New Features Description

SQL Compare Plus Release 1 (R1)

Introduction and Prerequisites

Compare Plus is a feature of SQL Compare that provides the ability to compare two tables across "heterogeneous" databases, meaning the two tables being compared are on different database types. For example, this could include comparing a Nonstop SQL table with a table residing on a different platform like a Windows or Linux server and belonging to a different database management system like SQL Server or Oracle. This is referred to as a "remote table". Comparing a Nonstop SQL/MP or SQL/MX table with a remote table is now supported by Compare Plus if the following are all true:

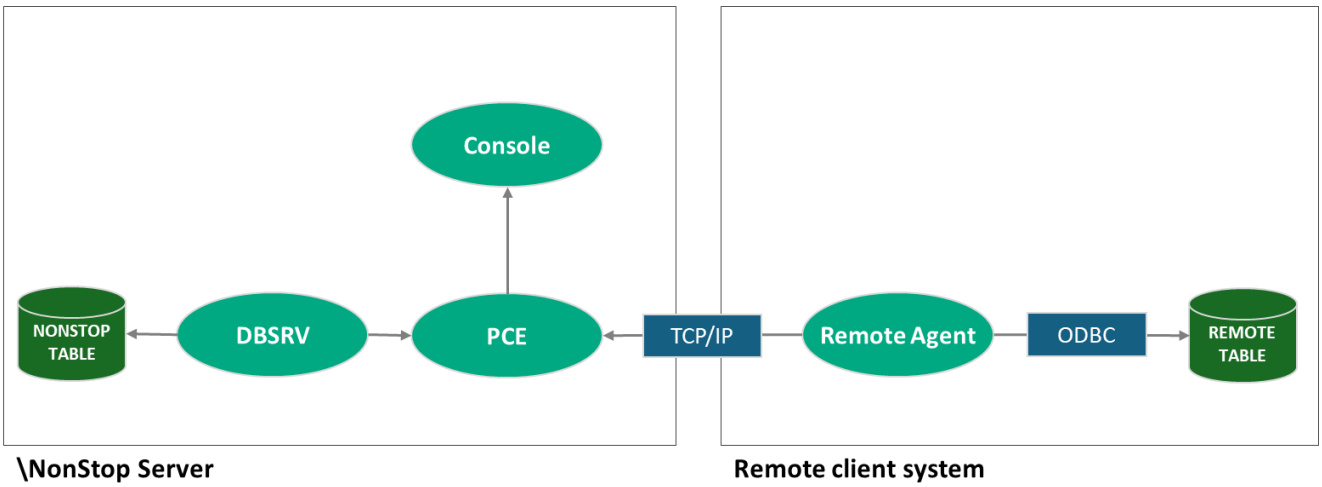
1. There is a client system is running a supported OS (e.g. Windows, Red Hat Linux, etc.) where you can install a "remote agent" delivered as part of the Compare Plus package.
2. There is an ODBC driver available for the remote table which can be installed on the client system, and the driver can connect to the remote table.
3. The client system can be configured so that a TCP/IP connection from the Nonstop system can be established.
4. The Nonstop table and the remote table have identical or similar table and key structures (those that are not similar must be excluded).

In addition to these requirements, Compare Plus only supports certain database and client system OS types. Refer to the softdoc for your release for a full list of the databases and clients supported as more may be added over time.

Compare Plus must be enabled in the Shadowbase license file for both the Nonstop and the client systems. Contact your sales representative if you wish to acquire a Compare Plus license for your environment.

This figure shows a sample process architecture for a simple Compare Plus environment with one comparison thread. This includes both the Nonstop and remote tables being compared, the SQL Compare components on the Nonstop system (Console, DBSRV, PCE), and the Compare Plus remote agent on the client system.

Please note that the architecture will pull the data to be compared from the remote agent onto the Nonstop to be compared on the Nonstop with the Nonstop data.



Installation and Configuration

To install Compare Plus for Nonstop, no additional steps are required other than the usual process of installing SQL Compare. Refer to the standard installation sections for those details. However, to run Compare Plus, both a Compare license is required, as well as an additional license extension that enables the Compare Plus features. Additionally, an installation of Compare Plus is required on the non-Nonstop system (called the "client system" below) where it will run when it accesses the remote database for the compare.

For the client system, the remote agent must be installed. In the SQL Compare release delivery, find the appropriate folder for the client OS type (e.g. Windows, RHEL, etc) and copy the compare-ra executable into a directory on the client system. If applicable, set the permissions on the compare-ra file so that it can be executed. This will be where the remote agent program resides. Place the Shadowbase license for this client system into the same directory.

An ODBC data source must be configured on the client system to connect into the database where the remote table resides. This ODBC data source must be accessible while logged on as the user that will be running the remote agent. If running on a Windows client system, configure the DSN and make sure it can be tested successfully to connect to the remote database. For Unix/Linux, configure unixODBC on the client system along with the remote database's associated ODBC driver for the appropriate operating system. unixODBC's isql tool can be used to confirm that the connection from the client server to the remote database is working as expected.

Starting the Remote Agent

Once the remote agent has been installed, it must be started before starting the Compare Plus job on the Nonstop system. The remote agent runs in the background on the client

system indefinitely. As long as the remote agent process is running, Compare Plus jobs can connect to the client system and run properly, for any compare run against any table in the configured database. This is possible because the compare-ra executable will listen for incoming connections for Compare runs, and when received it will fork a copy of itself to handle that connection (as a separate 'compare thread') and then continue to listen for more. For example, if the Nonstop Compare Plus configuration plans to run 10 compare threads for the comparison to the remote table, there will be 10 separate connections into the compare-ra process that fork to run in parallel on the client system.

The compare-ra executable can be started on a command line using the following syntax:

```
compare-ra  -a <listen IP address>
            {-install}
            {-L <path for SHADPASS license file>}
            {-p <port number>}
            {-r}
            {-stop}
            {-uninstall}
```

The arguments are defined as follows:

-a	The IP address to listen on. This must be a valid IP address for the client system that the Nonstop system can use to connect to it.
-install	Install the remote agent as a Windows Service (Windows only- Windows services allow automatic restarts of the service after a system reboot).
-L <file>	Location of Shadowbase license file to use relative to the current directory. When not provided, if SHAD_BASE is set in the environment, it will look in the SHAD_BASE/data directory for a shadpass.ini file. If SHAD_BASE is not set, the default will be to look in the current directory for a shadpass.ini file.
-p <port>	TCP/IP port to listen on. The default value is 1879.
-r	Roll existing log file.
-stop	Stop the running remote agent.
-uninstall	Uninstall the previously installed Windows Service (Windows only).

For example, to start the remote agent to listen on IP 10.20.30.40 on a system with a custom port 41301 and license file location, the command would look like this:

```
compare-ra -a 10.20.30.40 -p 41301 -L ../license/shadpass.ini
```

This command will start the remote agent process in the background. At this point, the remote agent is running and ready to receive the incoming connection for a Compare Plus job from the Nonstop system.

On Windows, the option exists to install the remote agent as a Windows Service rather than a process started at the command line. To do this, include the "-install" argument when running the compare-ra command like so:

```
compare-ra -a 10.20.30.40 -p 41301 -L C:\Compare\shadpass.ini -install
```

This will create a Windows Service called "COMPARERA <port number>". This service can be started and stopped from the Services control panel on the system as needed.

IMPORTANT NOTE: To install the remote agent as a Windows Service, the compare-ra command must be run in an Administrator cmd session. In addition, if specifying a -L option, the file must be fully qualified starting from the drive letter all the way to the filename so that the service process can find it.

As mentioned above, the remote agent on the client system can handle multiple simultaneous Compare jobs, including single compare jobs that run multiple compare threads in parallel for the table being compared. Each time a job is started that connects to the remote agent, it forks and keeps the listen open on the original port so that any other jobs started while others are running can also run in parallel. Only one remote agent process can be started for each installation. If for any reason it is necessary to start a second remote agent using a different port or IP address on a single client system, a separate installation location will need to be configured on the client system so that the two remote agents can be maintained independently. For example, it may be helpful to setup two separate installation locations on a single system: one for production use and one for test use.

Configuring Compare Plus

Once the remote agent is running on the client system, the SQL Compare console on the Nonstop system can be configured to connect into it. This is done by configuring an RDB (remote database) in the console with all the necessary information to connect into the remote agent. Refer to the section on the SET RDB command for full syntax. Here is an example of what a SET RDB command might look like to configure a connection:

```
SET RDB TGTDB (10.20.30.40:31001,DSNNAME,db_user)
```

This command adds an RDB named TGTDB to the compare session using IP address 10.20.30.40 and port 31001. It will use the ODBC data source name DSNNAME (which must be configured ahead of time) and it will attempt to connect into the database using the user db_user. After running this command, the console will prompt the user for the password associated with db_user to connect into the database which can be entered at that time.

This RDB information is stored in the SQL Compare database with key "TGTDB". This allows it to be used in all future SQL Compare sessions without needing to define it in every new session. The database password is encrypted before it is stored in the SQL Compare database.

Current RDB information can be shown with the "LIST RDB <RDB name|*>" command, and can be removed with the "REMOVE RDB <RDB name>" command. Refer to the descriptions of these commands below for more details.

Once the RDB is defined, it can be added to the SOURCE or TARGET command to add a remote table to the compare job. For example, here's the syntax for comparing a SQL/MP table with a remote table using the sample RDB named TGTDB created above:

```
SOURCE $VOL.SUBVOL.SRCTABLE
TARGET RDB TGTDB TARGET_TABLE
```

In this example, the TARGET command initiates the TCP/IP connection to the running remote agent which then causes the remote agent to establish a connection through ODBC into the target database using the data source name and user/password provided by the RDB on the Nonstop side. Note that if the remote agent is not running yet, you will receive a 4127 error on the Compare console.

Once the SOURCE and TARGET commands are issued, all the relevant SQL Compare features can be configured normally, just like a Nonstop to Nonstop compare job. This includes any parallelism commands as the Compare Plus environment will automatically start multiple copies of the DBS agents on the client system as remote agents when the compare operation starts.

Note: For Compare Plus jobs, it's preferrable to use SOURCE for the Nonstop table and TARGET for the remote table, especially when using the parallel compare feature for large or partitioned Nonstop tables. This is because by default, SQL Compare uses the source table's partition information to automatically control parallelization. This automatic parallelization can only be done when the source table is a Nonstop table.

Example Compare Plus Job

The output when running a Compare Plus job looks similar to a Nonstop to Nonstop compare job in prior versions of SQL Compare. Here is a sample Compare Plus job comparing the following two tables.

SQL/MP:

```
 COL1         COL2
-----------  -----------

          1            1
          2            2
          3            3
```

Oracle:

```
      COL1       COL2
---------- ----------
         2          2
         3          9
         4          4
```

When running Compare Plus to compare these two tables, the output is like so:

```
SHADOWBASE COMPARE SQL/MP - T1122L70 - V6900(L) - (19MAY2026),
COPYRIGHT CSX SOFTWARE CONCEPTS AND SOLUTIONS GMBH AND GRAVIC, INC.
2003-2026.
PORTIONS COPYRIGHTED BY AND LICENSED FROM THIRD PARTIES. SEE README
FILE.
USAGE SUBJECT TO THE TERMS OF A WRITTEN LICENSE AGREEMENT.
PATENTS: WWW.GRAVIC.COM/GRAVICLABS/PATENTS/PRODUCTS


COMPARE>SOURCE CJCDATA.TESTTABL
COMPARE>TARGET RDB ORACLETGT TESTTABL
COMPARE>START
Start                   :             2026-05-22 10:10:06

---> Target record not found for key <--------------
COL1                          : 1

---> Difference(s) found for key <--------------
COL1                          : 3

Source Column COL2 = 3
```

```
Target Column COL2 = 9

---> Source record not found for key <--------------
COL1                          : 4
-------- Primary compare run finished.

Start                         :      2026-05-22 10:10:06
Finished                      :      2026-05-22 10:10:06
Duration                      :      00:00:00.157300
Number of source records read:             3
Number of target records read:             3
Compare rate (records/sec)    :      19.07
Source: \NS2SQL.$QA.CJCDATA.TESTTABL
        recsize = 8, 2 columns, 2 compared columns
Target: "TESTTABL" [Oracle]
        recsize = 76, 2 columns, 2 compared columns
Differences:                  :             3
Column value differences      :             1
Source not found              :             1
Target not found              :             1
Tables are not equal!
COMPARE>
```

Just like in a normal Nonstop/Nonstop SQL Compare job, Compare Plus identifies all three mismatch types (missing data, extra data, and data in both where the column values differ) between the two tables and reports on their details.

Troubleshooting with the Remote Agent Log File

The Compare Plus remote agent maintains a log file called compare.log in the same directory as the compare-ra executable. This log file contains details about the running remote agent and each job that connects into it to run it. If there are any errors when attempting to run a Compare Plus job, this log file may contain useful information to help diagnose and fix the problem.

By default, the log file will roll when it reaches 5MB in size, and it will maintain 5 generations of log files before removing the oldest one every time it rolls. These settings can be controlled with the SET LOGFILE-NUM and SET LOGFILE-SIZE settings described below.

In addition, the -r argument can be used when starting the compare-ra executable to roll the log file when starting the remote agent.

Stopping the Remote Agent

In order to stop the remote agent, run the compare-ra executable with the "-stop" argument. This will bring down the running process that was started with the initial compare-ra command.

When the remote agent is installed as a Windows Service, simply stop the "COMPARERA <port number>" service to stop the remote agent process.

Uninstalling Compare Plus

Uninstalling Compare Plus on the Nonstop system is similar to uninstalling SQL Compare. Refer to the section on uninstalling SQL Compare for more information.

To uninstall the Compare Plus remote agent on the client system, first stop the remote agent process. If it was installed as a Windows Service, uninstall the service by running the compare-ra executable with the "-uninstall" argument. At this point, the directory containing the Compare Plus remote agent can be safely removed along with all of its files.

New and Modified SQLCMPE/SQLCMPMX Commands

LIST RDB

Syntax:

LIST RDB <RDB name>|*

Semantics:
Lists the remote database defined by the SET RDB command for this user. The output includes the details of the remote database excluding the password. Specifying * instead of a specific RDB name displays the details for all configured RDBs.

The DSN and User fields will only be present for RDBs for Compare Plus client systems. Nonstop RDBs only have the Name and IP address fields.

Example:

```
COMPARE>list rdb *
RDB Name:               NS1
RDB IP address:         10.2.3.4:41301
------------------------------------------------------------------------
RDB Name:               WIN1
RDB IP address:         10.2.3.5:41302
RDB DSN:                TARGETDB
RDB User:               db_user
```

```
------------------------------------------------------------------------
```

REMOVE RDB

Syntax:

REMOVE RDB <RDB name>

Semantics:
Removes the specified RDB from the SQL Compare database. Note that RDBs are stored by Nonstop user, so each Nonstop user has their own set of RDBs.

SET LOGFILE-NUM

Syntax:

SET {RDB <RDB name>} LOGFILE-NUM <number>

Min: 2
Max: 50
Default: 5

Semantics:
Defines the number of logfile generations kept on the system. The logs contain output in logfiles named SQCLOG<nn> (on Nonstop) or compare.log (compare.<n>.log for previous generations of the file) on Windows and Linux. When these files reach a certain size defined by LOGFILE-SIZE, the oldest file is deleted and other files are renamed accordingly (SQCLOG01 is renamed to SQCLOG02 etc., SQCLOG01 is always the most recent logfile on Nonstop). This value is stored for each SQL Compare user.

If the optional “RDB <RDB name>” argument is not present, this setting controls the logfile behavior on the Nonstop environment.

If the optional “RDB <RDB name>” argument is provided, this setting applies to the Compare Plus remote client system. This setting information is stored per user as part of the RDB definition (see SET RDB command).

Examples:

```
SET LOGFILE-NUM 10
SET RDB REMOTEDB LOGFILE-NUM 20
```

SET LOGFILE-SIZE

Syntax:

SET {RDB <logical name>} LOGFILE-SIZE <number>

Min: 1
Max: 500
Default: 5

Semantics:
Defines the size (in MB) of individual logfiles kept on the system. The logs contain output in logfiles named SQCLOG<nn> (on Nonstop) or compare.log (compare.<n>.log for previous generations of the file) on Windows and Linux. When these files reach the size determined by this setting, the logfile is archived by being renamed and a blank one is created to continue logging. The number of previous generations to keep on the system is controlled by the LOGFILE-NUM setting. This value is stored for each SQL Compare user.

If the optional "RDB <RDB name>" argument is not present, this setting controls the logfile behavior on the Nonstop environment.

If the optional "RDB <RDB name>" argument is provided, this setting applies to the Compare Plus remote client system. This setting information is stored per user as part of the RDB definition (see SET RDB command).

Examples:

```
SET LOGFILE-SIZE 10
SET RDB REMOTEDB LOGFILE-SIZE 15
```

SET RDB

Syntax:

SET RDB <logical name> (<IP address>{:<port>}{,<DSN>,<user>})

Semantics:

The RDB command defines a remote database that is accessible over TCP/IP on a different system. This could be via a remote agent on another Nonstop system, or a Compare Plus remote agent on a client system. The <logical name> is the name you assign to this remote database. The logical name is not case sensitive and will be stored in all uppercase letters in the SQL Compare database. The logical name may contain alphabetic characters and letters but must start with an alphabetic character.

The <IP address> must be set to the IP address or hostname of the system where the SQL Compare remote agent is installed and running. The <port> must be set to the IP port used by the remote agent. If not specified, the default <port> values are:

1820 for Nonstop SQL/MP remote agents
1821 for Nonstop SQL/MX remote agents
1879 for Compare Plus remote agents

To configure an RDB to connect to a Nonstop remote agent, the optional <DSN> and <user> arguments must not be included in the command. Only the IP address and port are required for configuring an RDB to a Nonstop remote agent.

To configure an RDB to connect to a Compare Plus remote agent, the <DSN> must be set to the configured ODBC data source on the client system to connect into the remote database. The <user> must be set to a valid database user configured for the DSN. When running this command that includes a DSN and user, it will be followed by a prompt for the remote database user's password. All information will be stored in the SQL Compare database, and the password will be encrypted.

Examples:

```
SET RDB NSREMOTE (10.20.30.40:31001)
SET RDB CPREMOTE (10.20.30.50:31001,DSNNAME,db_user)
```

SOURCE

An additional option for running the existing SOURCE command has been added for the purpose of connecting to a configured RDB in the SQL Compare environment.

Syntax:

SOURCE RDB <RDB name> <table name>

This allows the user to specify a remote table as the source of the compare operation through the pre-configured <RDB name> as defined in the SET RDB command.

TARGET

An additional option for running the existing TARGET command has been added for the purpose of connecting to a configured RDB in the SQL Compare environment.

Syntax:

TARGET RDB <RDB name> <table name>

This allows the user to specify a remote table as the target of the compare operation through the pre-configured <RDB name> as defined in the SET RDB command.

New and Modified TACL Parameters

RDBPORT

This TACL parameter allows the user to specify a different default port value when configuring RDBs in the console. By setting this parameter before starting the console (e.g. PARAM RDBPORT 31001), it will use this value by default when running the SET RDB command to catalog a remote agent.

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 \T1122L<nn>-<SPR ID>. This file set contains the following files:

File or Directory	Description
\readme.txt	This file.
\RHEL	Directory containing the installation files for Compare Plus for RHEL systems.
\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.
\Windows	Directory containing the installation files for Compare Plus for Windows systems.

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 being investigated that a future version of SQL Compare may employ a custom listener program which will be able to assist in controlling 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 by the file system/SQL engine). 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.

3) If two tables being compared contain matching columns with different scales such as DECIMAL (10,3) and DECIMAL (10,5), ON commands to make one table match the other cannot be configured.

4) For SQL/MX tables that contain LOB column types, Compare cannot use ON commands to modify its rows, even when the LOB columns are excluded from the compare job.

5) For Compare Plus, the following data types are not supported and will be ignored when running compare jobs. All other supported column types in the pair of tables will be compared. If any of these column types are present in the key of the tables being compared, Compare Plus cannot be used to compare the tables:

SQL/MP:	FLOAT
SQL/MX:	BINARY, VARBINARY, FLOAT, REAL, DOUBLE PRECISION, BLOB, CLOB
Oracle:	RAW, LONG RAW, FLOAT, REAL, DOUBLE PRECISION, BINARY_FLOAT, BINARY_DOUBLE, INTERVAL, BFILE, BLOB
SQL Server:	BIT, FLOAT, REAL, DATETIMEOFFSET, BINARY, VARBINARY, IMAGE, SQL_VARIANT, XML

6) For Compare Plus, support is limited for Oracle CLOB and NCLOB and SQL Server TEXT and NTEXT large character data types. For any columns of these types that are paired with a character column on the matching SQL/MP or SQL/MX table, the values will only be compared up to the length of the character column on the MP/MX table. Any portion of the large column value past this length is ignored in the comparison. If using ON commands to update these large column values with values from the matching column on the MP/MX table, it will overwrite the entire large column value with the shorter value from the MP/MX table.