

ETI Data System Library for C/DB2 DA

Release Notes

Revision 4.3.3A

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1 PREREQUISITES

The ETI Data System Library (DSL) for C/DB2 DA requires the following products to be at the indicated release number *or later*:

- **ETI Solution® Version 5.2.2.** Required to ensure that the DSL will generate the expected code.
- **Shared Objects 4.3.2.** This component will be loaded automatically during the installation of the DSL when you select the option to auto-load the prerequisites.
- **TCL Functions 4.3.3.** This component will be loaded automatically during the installation of the DSL when you select the option to auto-load the prerequisites.
- **Executive 4.3.1.** This component will be loaded automatically during the installation of the DSL when you select the option to auto-load the prerequisites.
- **C Intermediate Actions 4.3.3.** This component will be loaded automatically during the installation of the DSL when you select the option to auto-load the prerequisites.

2 DSL INSTALLATION

If You Have ETISolution Installed

To install ETI Data System Libraries, you must follow the directions listed in:

- *ETI Solution Administration Guide*, Chapter 2, “Getting Started”

Warning: If you do not follow the DSL installation procedures described in the manual listed above, but instead manually copy files from the CD-ROM, then you will not get the updated version of the DSL install script, which will cause the DSL installation to fail.

Loading the DSL

To load the DSL into a MetaStore, follow the procedure listed in:

- *ETI Solution Administration Guide*, Chapter 3, “Populating MetaStores”

Any available patches will be loaded automatically with the DSL.

3 IMPORTANT NOTICES

3.1 Potential Impact to Existing 4.3 DA DSL Installations

The DSL for C/DB2 DA 4.3 ships with updates to the core DA components. Loading C/DB2 DA 4.3 into a MetaStore™ automatically loads these components. If your MetaStore contains other 4.3-based DSLs, the components may affect those DSLs.

3.2 Considering User Customizations

New product releases may have patches from prior releases rolled into the base components, as well as new functions. After loading C/DB2 DA 4.3.3 into a MetaStore that contains other 4.3 DSLs, it may be possible that functions in a custom library would override changes made within the base core components. You should review any custom functions and reconcile with the new components to ensure that custom functions do not improperly override core function.

3.3 Impact to Existing 4.2 or Earlier DA DSL Installations

The DSL for C/DB2 DA includes enhancements and fixes that are applicable for all C-based DSLs. These changes impact the generated exfcns.h and exfcns.c files, which are not specific to a version of the DSL. **This can result in a change in behavior to existing 4.2 C-based DSLs, if the DSL for C/DB2 DA is loaded into a MetaStore which already contains 4.2 C-based DSLs.**

You should review the changes listed below before loading the DSL for C/DB2 DA into an existing MetaStore.

3.3.1 Cleanse Filters and VarChars

The DSL for C/DB2 DA includes fixes for an error that could occur in prior releases of the 4.2 C-based DSLs when using cleanse filters and VARCHAR data. Application of a cleanse filter (compress multiple spaces, reformat, etc.) that can remove white space within a varchar may provide a result that contains no (character) data; that is, its length is zero. Previous releases of the C-based 4.2 DSLs would incorrectly interpret the result as an empty string (“”), while the applied fixes now correctly interpret the result as null.

3.3.2 Large Integer and Floating Point Number Support and Temporary Variables

The DSL for C/DB2 DA includes enhancements for Large Integer and Floating Point Number support and improvements in the handling of temporary variable allocation which can impact existing 4.2 C-based DSLs.

A set of patches for 4.2-based DSLs are provided with the DSL for C/DB2 DA 4.3 release to provide backward compatibility with the changes. **When loading C/DB2 DA 4.3 into an existing MetaStore containing 4.2 C-based DSLs, the following patches must be loaded to ensure correct behavior of the existing 4.2 DSLs:**

- `rel_c_42_patch.RELC42P_4_2_102_1`
- `core_c_42_patch.COREC42P_4_2_102_1`

As these patches are for the 4.2 release, they will not be automatically loaded with C/DB2 DA 4.3. **Refer to the *ETI Solution Administration Guide*, Chapter 3, “Load DSL Updates”** for instructions on loading these patches into your MetaStore.

Note that when loading into an existing development environment in which you are using a previously-generated exfcns object file, you will need to re-create exfcns.o. If you normally generate programs with the **ex_generate_static_h** and **ex_generate_static_c** properties set to false, then you must temporarily set these properties to true in order to re-generate the exfcns files after loading the DSL for C/DB2 DA 4.3. Once the exfcns.h and exfcns.c files have been re-generated, you may reset these properties to false, to avoid regenerating the exfcns files each time you generate programs.

3.3.3 Changes to the Shell/Bat Templates between 4.2 and 4.3

DA 4.3 DSLs contain changes to the structure of the Shell/Bat templates. These changes provide a common set of Template Definitions that can be extended by attaching DSL-specific Template Libraries.

DA 4.2 DSLs provided DSL-specific Template Definitions for the shell/bat scripts, each of which contained one or two DSL-specific Template Libraries and a large number of DSL-independent (core) libraries. For example, C/DB2 DA 4.2 contained the following Template Definitions:

```
cdb2_sh_qry_cmp_da, cdb2_sh_qry_exe_da, cdb2_sh_qry_std_da
cdb2_sh_pop_cmp_da, cdb2_bat_pop_exe_da, cdb2_sh_pop_std_da
cdb2_bat_qry_cmp_da, cdb2_bat_qry_exe_da, cdb2_bat_qry_std_da
cdb2_bat_pop_cmp_da, cdb2_bat_pop_exe_da, cdb2_bat_pop_std_da
```

The DA 4.3 DSLs provide a common set of shell/bat Template Definitions for all DSLs:

```
sh_qry_cmp_da, sh_qry_exe_da, sh_qry_std_da
sh_pop_cmp_da, sh_pop_exe_da, sh_pop_std_da
bat_qry_cmp_da, bat_qry_exe_da, bat_qry_std_da
bat_pop_cmp_da, bat_pop_exe_da, bat_pop_std_da
```

By default, the 4.3 Template Definitions contain common DSL-independent (core) libraries. However, at DSL load time, DSL-specific Template Libraries are attached to the Template Definitions, providing the functionality specific to that DSL.

For example, when loading a MetaStore with the C/DB2 DSL, the sh_cdb2_43 Template Library will be added to the sh_pop_cmp_da Template Definition to provide functionality specific to C/DB2 DA. Subsequent loading of the C/FS DA DSL into the same MetaStore will add sh_cfs_43 to the sh_pop_cmp_da Template Definition and provide the C/FS DA functionality.

4 RELEASE 4.3.3

4.1 Purpose

The 4.3.3 release of the C/DB2 DA DSL contains new functions not previously available in prior versions of this DSL. The Sections below provide details on the new functionality within this release.

4.1.1 Cross-DAS Lookup Support

This DSL now supports cross-DAS lookups when used with the C/FS DA 4.3.3 DSL. That is, by attaching Template Libraries in the appropriate location, the C/DB2 DA 4.3.3 DSL can be used to create conversions with the following lookups:

- C/DB2 to C/FS Query In-Memory Lookup
- C/DB2 to C/FS Populate In-Memory Lookup
- C/FS to C/DB2 Query In-Memory Lookup
- C/FS to C/DB2 Query Database Lookup
- C/FS to C/DB2 Populate Database Lookup
- C/FS to C/DB2 Populate In-Memory Lookup

The following sections describe how to attach the appropriate libraries to support the cross-DAS lookups noted above.

4.1.1.1 C/DB2 to C/FS in-memory lookup (query and populate)

In template definitions `cdb2_c_qry_da` and `cdb2_c_pop_da`, attach the following libraries in the listed order, before the library `obsolete_43`:

```
das_cfs_fixed
das_cfs_delimited
das_cfs_43
pflow_c_hier_43
pflow_hier_43
```

4.1.1.2 C/FS query to C/DB2 lookup (database and in-memory)

In template definition `cfs_c_qry_da`, attach the following libraries in the listed order, before the library `obsolete_43`:

```
das_cdb2_43
das_db2_43
das_sql_43
das_c_rel_43
pflow_c_rel_43
filt_sql_43
```

4.1.1.3 C/FS populate to C/DB2 lookup (database and in-memory)

In template definition `cfs_c_pop_da`, attach the following libraries in the listed order, before the library `obsolete_43`:

```
das_cdb2_43
```

das_db2_43
das_sql_43
das_c_rel_43
pflow_c_rel_pop_43
pflow_c_rel_43
filt_sql_43

4.1.1.4 Additional Notes for Cross-DAS Lookups

It is possible to get different results between a C/FS to C/DB2 database vs. in-memory lookup. This results from the fact that a string data type will contain padded spaces. An in-memory lookup uses the `strncpy c` function to compare the strings including the padded spaces whereas a database SQL select statement will most likely ignore the padded spaces.

The DB2 pre-compiler expects a c source file with embedded SQL to have a file extension of `.sqc`. The pre-compiler will generate a `.c` file from the `.sqc` and compile with a c compiler. When generating a C/DB2 lookup from C/FS, the generated source file will have an extension `.c`. In order to satisfy the pre-compile step the generated shell for that instruction renames the generated `.c` file to a file with extension `.sqc`. This process could lead to some confusion if the generated compilation shell scripts are executed multiple times. If the compile script needs to be executed multiple times it is best to delete the rename (move) statement from the generated shell scripts once the file has been renamed.

When generating a C/FS to C/FS single step program with a C/DB2 lookup in the query program the compilation shell scripts for the query program will use the C/DB2 compile and pre-compile options, however the populate program will use the C/FS compile and link options. It may be necessary to set the `shell_compiler_c`, `shell_flags_compiler_c` and `shell_flags_linker` to the values appropriate for compiling and linking a DB2 program.

4.1.2 Enhanced Dialogs for Entering Arithmetic Expressions in Business Rules

Release 4.3 of all DA DSLs includes a new dialog for entering arithmetic expressions. The new dialog is more streamlined and intuitive than the previous one. The previous dialog is still available to allow replaying business rules defined with the old dialog.

4.1.3 Access to Pre and Post Transformed Values

Customers have requested the ability to create a virtual part, define a business rule on the virtual part to calculate a value, and then use this virtual part as input into other business rules in the same processing stage. The problem in the past has been that references to other parts always used the value of the part *before* any business rule was applied. Beginning with DA 4.3, the business rule dialog provides the ability to reference the value of a part as it was before the current processing stage (pre-stage value) or after the current processing stage (post-stage value).

4.1.4 C Intermediate Actions

Release 5.2 of ETI Solution and C Intermediate Actions DA 4.3 (C/IA DA 4.3) provide the user much better control on how data is merged than in previous releases of Intermediate Actions. (For details please refer to the sections beginning with “Merge Processing” in Chapter 16 of the *DA Procedures* manual.) C Intermediate Actions is functionally equivalent to the COBOL Intermediate Actions except that C Intermediate Actions does not have the ability to perform n-way merges.

5 RELEASES 4.3.0 – 4.3.2

Not applicable. 4.3.3 is the first Generally Available 4.3 release of the DSL for C/DB2 DA.