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Syncsort Optimize IDMS

(EZ-IDMS)

Syncsort IDMS CICSLink

Release 5.4

Version 1.0

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Syncsort IDMS CICSLink User Guide
(formerly DB-CICSLINK User Guide)

FOREWORD:

The standard IDMS-CICS interface supplied prior to CA-IDMS release 12.0 contains CICS macro level calls which are incompatible with CICS release level 3.2 and above.

DB-CICSLINK is a program product of Cogito Limited which replaces the standard macro level CICS-IDMS interface with a CICS 3.2 compatible command level interface.

By replacing the macro level interface with the **DB-CICSLINK** Command level interface, CA-IDMS 10.2x users do NOT have to wait for IDMS release 12.0 before implementing CICS release 3.2.

Furthermore, unlike CA-IDMS release 12.0, **DB-CICSLINK** users do NOT have to re-link CICS application programs when moving to CICS release 3.2.

This User Guide contains full details about the operation and installation of the DB-CICSLINK package.

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Summary of Release 3.2 Enhancements

This section highlights the changes between this release and previous releases of DB-CICSLINK. It is of particular interest to users who have installed earlier releases of this product.

- A new module COGIENAB exists which should be run in the first phase of PLTPI to enable COGIEXEC and COGITRUE.

- IDMSINTC may now be run in the second phase of PLTPI. It is no longer necessary to use a sequential terminal.

- The problems of compatibility with CA-ENF and the resultant problems which ensued when restarting an AOR have been overcome.

- The passing of accounting information from CICS to IDMS now reverts back to the IDMS SVC. The standard SVC exit (#CULLSVX), however, is incompatible with CICS 3.3, so replacement exit code is supplied in the source member PMXSCICS.

- The PERFMON code in IDMSINTC has been removed so the parameters PERFMON=YES and INTCXIT= are no longer valid.

- DB-CICSLINK will now operate under CA-IDMS release 12.0 so there is no necessity to relink CICS applications to incorporate the release 12.0 version of IDMSCINT.

DB-CICSLINK Product Overview

1 DB-CICSLINK Product Overview

1.1 Who needs DB-CICSLINK?

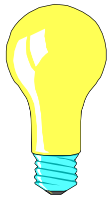
If you are a user of CICS and IDMS, then there is a good chance that YOU have a requirement for DB-CICSLINK from Cogito.

The CICS-IDMS interface code provided with CA-IDMS release 10.2, contains CICS macro level calls which are no longer supported in CICS 3.2. Computer Associates (CA) provide support for CICS 3.2 in CA-IDMS release 12.0, however, this is problematic for many CICS-IDMS users. Implementation of a major CICS release becomes tied to another major software upgrade (IDMS release 12.0). There are clear advantages in being able to implement major software upgrades such as these independently.

In addition, there is the important question of timing; CICS 3.2 has been available for some time, whereas CA-IDMS release 12.0 only became available in GA status late 1992. At the time of writing (October 1993) most sites are still some way from implementing CA-IDMS release 12.0 in production. This means that CICS users are being delayed in their ability to take advantage of the new CICS release. Worse still, some users are being forced to maintain two CICS licenses - one for CICS 3.2 and one to support an older release for their IDMS systems.

With DB-CICSLINK, there is a solution to these problems - CA-IDMS users can now install CICS 3.2 with CA-IDMS release 10.2x. With DB-CICSLINK, all of the existing functionality of the CICS-IDMS interface is fully supported.

Most importantly, the implementation of DB-CICSLINK is simple and transparent to CICS application programs. **No re-compilation or re-linking is required.**



Even when subsequently upgrading to CA-IDMS release 12.0, DB-CICSLINK users may continue to use DB-CICSLINK and avoid the necessity of re-linking all CICS application programs.

All of the standard features of the standard CICS interface are supported, eg.,

- CICS applications accessing IDMS-DB.
- UCF transaction shipping and distributed applications.

- CICS printer support.
- Active Rununit Tracking (ARTS) functionality supported through Task Related User Exit (COGITRUE).
- Support for SVC exit code provided.

1.2 The Standard Interface Operation

This section provides a brief overview of the various components of the CICS-IDMS interface. For a complete description, refer to the CA manual, "System Operations".

1.2.1 IDMSINTC

This module is generated by the assembly of the IDMSINTC macro. A given CICS system requires a separate IDMSINTC module for each IDMS-CV with which it communicates. At generation time, you specify the IDMS SVC and CV number of the target IDMS-CV. Alternatively, you may specify the name of a SYSCTL file from which IDMSINTC will read this information. You must also specify a CWADISP parameter. At CICS initialization time, IDMSINTC saves its entry point address in the specified CWA location.

1.2.2 IDMSCINT

This module provides the link between CICS application programs and the target IDMS system. At IDMSCINT generation time, you specify a CWADISP corresponding to the required IDMSINTC module. Each CICS application program that accesses IDMS must be link-edited with the required IDMSCINT module.

1.2.3 UCFCICS

This module is generated by assembly of the #UCFCICS macro. It is required where you wish to "ship" transactions from CICS to IDMS. That is, you may invoke a DC/UCF transaction from a CICS terminal. Simply define the CICS transaction code to invoke program UCFCICS. In addition, you may signon to IDMS-DC/UCF from a CICS terminal by entering the *dedicated task code* specified on the #UCFCICS macro.

UCFCICS also provides support for *CICS printing*, that is, the ability to route reports from DC/UCF transactions to printers owned by CICS, and *Distributed Applications*, that is, passing control and data between CICS and DC/UCF transactions.

1.2.4 IDMSARTS

IDMSARTS (Automatic Rununit Tracking System) is the mechanism by which IDMS is made aware of abending CICS rununits. IDMSARTS is activated by specifying ARTREUS=YES on the IDMSINTC generation. With ARTS installed, if a CICS rununit abends, or terminates without issuing a FINISH, the corresponding IDMS rununit is notified to issue an immediate ROLLBACK. Without ARTS, the rununit would "hang" until expiration of the EXTERNAL WAIT TIME, retaining valuable resources and possibly DBKEY locks.

1.2.5 IDMS SVC

The IDMS SVC is used to pass information from the CICS transaction to IDMS. For instance, you may want to include information about the CICS transaction in the IDMS task termination statistics records, or identify the CICS terminal/transaction/operator id when monitoring the IDMS system using a realtime performance monitor.

To accomplish this, you may insert user code in the SVC exit (IDMSSVCX). More commonly, if you generate the SVC with parameters PERFMON=YES and CICS=YES, certain default CICS information is inserted in the PERFMON ERE extension area.

1.2.6 UCFCICZ

This module is generated using the #UCFCICZ macro. The UCFCICZ module may be installed as a CICS terminal error program. That is, it may be defined to receive control when certain error conditions are detected, eg., terminal power off.

1.3 DB-CICSLINK Operation

This section provides an overview of the implementation of the Cogito DB-CICSLINK interface package. Further details can be found in the later "Installation" section of this user guide.

In summary, the implementation follows the same lines as in the installation of the standard CICS interface. To install DB-CICSLINK, you should be familiar with the installation of the standard CICS interface components. Full details can be found in the following Computer Associates manuals:

- System Generation
- System Operations
- Integrated Installation Guide

This section summarizes any differences in the processing between DB-CICSLINK and the standard system.

1.3.1 IDMSINTC

Because IDMSINTC contains macro level CICS statements, a number of source changes must be made to the standard module. The package contains the required source modifications in (IEBUPDTE format) and also the necessary JCL to apply the modifications to the standard IDMSINTC source.

You must apply these changes and then regenerate your IDMSINTC modules(s) using the modified IDMSINTC source.

The generation procedure of the IDMSINTC module is unchanged except that certain facilities are not supported; That is, support for the various ESCAPES is excluded, and IDMSARTS is no longer required. The functionality provided by ARTS is now implemented through the COGITRUE module discussed later.

1.3.2 IDMSCINT/COGIEXEC

IDMSCINT also includes macro level calls. However, to avoid the necessity of having to regenerate IDMSCINT and having to relink it potentially with hundreds (or thousands?) of programs, the package includes a module COGIEXEC. The function of COGIEXEC is to intercept macro level calls from IDMSCINT and convert them to equivalent command level calls.

1.3.3 UCFCICS

Like IDMSINTC, the standard #UCFCICS macro also includes CICS macro level statements. Similarly, the DB-CICSLINK package includes the required source changes and the necessary JCL enabling you to apply the changes to the standard #UCFCICS source module. You must apply the changes and then regenerate your UCFCICS module(s) using the modified version of #UCFCICS.

All existing UCFCICS functions are supported for CICS 3.2 including printer support and distributed applications.

1.3.4 IDMSARTS/COGITRUE

CICS provides support for a feature known as *Task Related User Exits*. A TRUE may be initiated to receive control under certain conditions, eg., normal and abnormal task termination. The TRUE mechanism provides a far superior vehicle to implement the functionality previously provided via IDMSARTS. The package therefore includes a module COGITRUE that completely replaces the IDMSARTS function.

Note: If a given CICS system communicates with multiple IDMS systems, only ONE COGITRUE module is required per CICS job. COGITRUE will ensure that the correct IDMS back-end is notified of the CICS task abend.

1.3.5 COGIENAB

This module (COGIENAB) is executed in the first phase of the CICS PLTPI, to enable COGIEXEC and COGITRUE.

1.3.6 SVC EXITS (PMXSCICS)

The standard PERFMON SVC exit code for CICS (which can be found in the CA source module #CULLSVX) includes code which is invalid for CICS 3.2.
If you use the IDMS SVC PERFMON exit to collect CICS accounting data, you should replace the standard code with the code supplied in the source member PMXSCICS and regenerate the IDMS SVC. All of the CICS information previously available to the IDMS task is provided as before. The change should be completely transparent to any user of this information within IDMS.

The IDMS SVC also provides an exit point for USER code. If you have your own code currently installed in the SVC exit (IDMSSVCX) you may continue to use this, but it is your responsibility to ensure that any such user exit code is compatible with CICS 3.2.

1.3.7 UCFCICZ

Like IDMSINTC and #UCFCICS, the standard #UCFCICZ macro also includes CICS macro level statements. Similarly, the DB-CICSLINK package includes the required source changes and the necessary JCL enabling you to apply the changes to the standard #UCFCICZ source module. You must apply the changes and then regenerate your UCFCICZ module(s) using the modified version of #UCFCICZ.

DB-CICSLINK Installation

2 DB-CICSLINK Installation

2.1 Installation Overview

The installation instructions included in this document are intended as an overview for information purposes only.

The latest and most accurate instructions are included on the install tape in the #README file(s). You should ensure that you have read **all** of the #README member(s) before commencing the install.

The installation of DB-CICSLINK consists of the following steps:

- Unload supplied installation tape.
- Apply supplied source level modifications to IDMSINTC, #UCFCICS and #UCFCICZ.
- Apply supplied Password PTF to COGIEXEC load module.
- Regenerate IDMSINTC and UCFCICS modules (and UCFCICZ if required) using modified source.
- Define CICS PPT and PLTPI entries for new modules.
- If your IDMS SVC has been generated with CICS=YES, you will need to regenerate the SVC.

All of these points are discussed now in more detail.

2.2 Unloading the Installation Tape

DB-CICSLINK is distributed as part of the Cogito DB-90s integrated installation package. DB-90s is provided on an unlabelled tape or cartridge, containing the following files in IEBCOPY format:

DB90S.LOAD102	A load-library containing executable modules for CA-IDMS R10.2
DB90S.LOAD120	A load-library containing executable modules for CA-IDMS R12.0
DB90S.SOURCE	An integrated source library for all DB-90s component.
CICSSRCE	A source library containing DB-CICSLINK source members.
CICSLIST	A library containing DB-CICSLINK listings for verification.

You will need to unload one or both of the load-libraries, depending on whether you are installing on CA-IDMS Release 10.2 or 12.0, and the DB-CICSLINK source and listing libraries. A product information sheet supplied with the tape will tell you which tape labels apply to which file.

2.2.1 CICSSRCE

CICSSRCE contains an 80 byte source library in IEBCOPY format. **At the time of writing**, it contains the following members:

#README0	What's new.
#README1/INSTALL1	Pre-requisite step for S10213 users.
#README2/INSTALL2	Release 10.2 installation instructions and JCL.
#READM12/INSTAL12	Release 12.0 installation instructions and JCL.
I9209040	S10213 only IDMSINTC modification.
I9308103	Source mods required for IDMSINTC module.
I9308104	Source mods required for UCFCICS module.
I9308105	Source mods required for UCFCICZ module.
ASMINTC	Sample Compile and Link JCL for IDMSINTC.
ASMUCFC	Sample Compile and Link JCL for UCFCICS.
ASMUCFZ	Sample Compile and Link JCL for UCFCICZ.
LINKINTC	Sample Link-edit JCL for IDMSINTC.
LINKUCFC	Sample Link-edit JCL for UCFCICS.
LINKUCFZ	Sample Link-edit JCL for UCFCICZ.
LNKINT12	Sample Link-edit JCL for R12.0 IDMSINTC.
ASMINT12	Sample compile and Link JCL for R12.0 IDMSINTC.

2.2.2 DB90S.LOAD102

DB90S.LOAD102 is a LOAD library in IEBCOPY format. It contains the following DB-CICSLINK LOAD modules:

COGIENAB	Enables COGITRUE and COGIEXEC.
COGITRUE	TRUE exit to signal to IDMS to abort rununits for transactions that fail to issue a FINISH.
COGIEXEC	Converts IDMSCINT macro calls to EXEC level.
UCFPRINT	Command Level version of UCFPRINT module.
UCFDESPL	Command Level version of UCFDESPL module.

2.2.3 DB90S.LOAD120

DB90S.LOAD120 is a LOAD library in IEBCOPY format. It contains the following DB-CICSLINK LOAD modules:

COGIENAB	Enables COGITRUE and COGIEXEC.
COGIEXEC	Converts IDMSCINT macro calls to EXEC level.

2.2.4 CICSLIST

CICSLIST contains the following listings:

UPDTINTC	Sample output from the IEBUPDTE step for IDMSINTC.
UPD#UCFC	Sample output from the IEBUPDTE step for #UCFCICS.
UPD#UCFZ	Sample output from the IEBUPDTE step for #UCFCICZ.

2.3 Running the INSTALL JCL (R10.2)

Tech Note: If you are on CA-IDMS release S10213, you must perform the steps described in #README1 (JCL member INSTALL1) before commencing the main installation. All other users commence the installation with INSTALL2.

The member INSTALL2 in the installation tape source file contains the following steps.

2.3.1 Create archive copies of source members.

As a precautionary measure, the install procedure contains the steps to take a backup copy of the original IDMSINTC, #UCFCICS and #UCFCICZ source. The backup copies are named I308INTC, I308UCFC and I308UCFZ respectively.

2.3.2 Renumber existing source members.

In preparation for the subsequent IEBUPDTE steps, the IDMSINTC, #UCFCICS and #UCFCICZ modules are renumbered. This is to ensure that the sequence numbers match those specified in the IEBUPDTEs. Refer to the next paragraph for further information.

2.3.3 Applying the source modifications.

The supplied members I9308103, I9308104 and I9308105 contain the required source modifications to IDMSINTC, #UCFCICS and #UCFCICZ respectively, in standard IEBUPDTE format. As such, they are generated on the assumption that they are to be applied to the standard versions as distributed on the CA-IDMS install tape.

If there have been any user modifications to these standard modules, then these source changes will be incorrect as the sequence numbering will be wrong. In this event, run the IEBUPDTE steps against the original unmodified versions of IDMSINTC and #UCFCICS, and then re-apply your site specific changes to the modified source.

Of course, it is your responsibility to ensure your own code is CICS 3.2 compatible and that there is no interference between the supplied modifications and any site specific modifications you may have made.

TECH NOTE: Check the output from the IEBUPDTE steps against the members UPDTINTC, UPD#UCFC and UPD#UCFZ in the supplied list library. There should be no differences. If you find any differences that you cannot reasonably account for, then contact your DB-CICSLINK supplier before proceeding further with the installation.

2.3.4 Applying the password to COGIEXEC.

The DB-CICSLINK software includes a password protection system which allows you to evaluate the software for a given period. You will have been provided with a temporary password which is applied as a PTF to the COGIEXEC load module. By the end of the trial period, you should contact your support representative for a permanent password if you intend to continue using DB-CICSLINK. Otherwise, the software will be disabled with a message "INVALID PASSWORD".

2.4 UCF Print Support

TECH NOTE: The supplied modules UCFPRINT and UCFDESPL provide equivalent functionality to the sample modules described in the CA "System Operations" manual, except that they are compatible with CICS 3.2. If you are using your own site standard versions of these modules, then it will be your responsibility to ensure that your modules are CICS 3.2 compatible.

2.5 Generating the new IDMSINTC module

The IDMSINTC module must be regenerated using the modified IDMSINTC source as input. Sample JCL for the assembly and link-edit of IDMSINTC can be found in the supplied member ASMINTC.

In general, the generation procedure is the same as for the standard IDMSINTC module.

Full details can be found by referring to the CA manuals "Integrated Installation Guide", "System Generation", and "System Operations".

2.5.1 CICS Pre-Processor

The macro source for IDMSINTC must be submitted to the CICS pre-processor as the first step in the compile process for IDMSINTC.

Note: The following options must be specified as input to the pre-processor:

NOPROLOG,NOEPILOG,NOEDF,SP

2.5.2 CWADISP parameter

The IDMSINTC parameter CWADISP is **mandatory**. Ensure that it is specified. CWADISP must correspond to the CWADISP specified on the appropriate IDMSCINT module.

2.5.3 Escape Support

DB-CICSLINK is NOT compatible with ESCAPE VSAM, ESCAPE DL/1, or ESCAPE.

The applicable IDMSINTC parameters should therefore be coded accordingly.

2.5.4 ARTS Support

DB-CICSLINK does NOT support ARTS (Active Rununit Tracking System) and IDMSINTC must therefore be generated with ARTREUS=NO. The module COGITRUE will signal to IDMS to terminate any rununits when the CICS task aborts or fails to issue a FINISH. ARTS is therefore no longer required.

2.5.5 Link-editing the new IDMSINTC module

When you Link-Edit the new IDMSINTC module, you must ensure that you include the extra parameters as specified in the supplied member LINKINTC.

2.6 Generating the new UCFCICS module

The UCFCICS module must be regenerated using the modified #UCFCICS source as input. Sample JCL for the assembly and link-edit of UCFCICS can be found in the supplied member ASMUCFC.

In general, the generation procedure is the same as for the standard UCFCICS module.

Full details can be found by referring to the CA manuals "Integrated Installation Guide", "System Generation", and "System Operations".

2.6.1 CICS Pre-Processor

The macro source for #UCFCICS must be submitted to the CICS pre-processor as the first step in the compile process for #UCFCICS.

Note: The following options must be specified as input to the pre-processor:

NOPROLOG,NOEPILOG,NOEDF,SP

2.6.2 Link-editing the new UCFCICS module

When you Link-Edit the new UCFCICS module, you must ensure that you include the extra parameters as specified in the supplied member LINKUCFC.

2.7 Generating the new UCFCICZ module

UCFCICZ is an optional CICS terminal error program which your site may have implemented.

The UCFCICZ module (if required) must be regenerated using the modified #UCFCICZ source as input. Sample JCL for the assembly and link-edit of UCFCICZ can be found in the supplied members ASMUCFZ and LINKUCFZ.

2.8 IDMS SVC

The following information relates to the generation of the IDMS SVC.

2.8.1 PERFMON SVC Exit

If you are currently making use of the CICS accounting information collected by the SVC PERFMON exit, you must modify the standard CA exit (#CULLSVX) as described below before regenerating the IDMS SVC.

Locate the section in #CULLSVX titled "CAPTURE CICS ACCOUNTING DATA" at statement label PMXSCICS, and replace this section of code with the code supplied in the DB-CICSLINK module PMXSCICS.

You must now regenerate the SVC, specifying PERFMON=YES and CICS=YES as before.

2.8.2 User SVC Exit

If you included a user exit in the IDMS SVC (IDMSSVCX) which addresses CICS information, it is your responsibility to ensure that the code included in the user exit is compatible with CICS release 3.2.

2.9 CICS PPT entries

If you are a user of the existing CICS interface, then no doubt you will already have CICS PPT entries for the following modules:-

```
IDMSINTC ASSEMBLER RESIDENT
UCFCICS  ASSEMBLER
UCFPRINT ASSEMBLER
UCFDESPL ASSEMBLER
```

In addition, for DB-CICSLINK you will need PPT entries for:-

```
COGIENAB ASSEMBLER
COGIEXEC ASSEMBLER RESIDENT
COGITRUE ASSEMBLER
```

You must also ensure that all of the above modules are available to the CICS run-time system. ie., ensure that the generated load-modules are copied to an appropriate CICS run-time library.

2.10 CICS PLTPI entries

If you are a user of the existing CICS interface, then no doubt you will already have a CICS PLPTI entry for IDMSINTC.

In addition, for DB-CICSLINK, you should add an entry to the first phase PLTPI as follows:-

```
DFHPLT TYPE=ENTRY,PROGRAM=COGIENAB
```

DB-CICSLINK and Release 12.0

3 DB-CICSLINK and Release 12.0

3.1 Why Use DB-CICSLINK with CA-IDMS R12.0 ?

The standard CICS-IDMS interface modules supplied by CA with CA-IDMS release 12.0 have been converted to COMMAND level, and are therefore fully compatible with CICS release 3.2 and upwards. However, one of the interface modules (IDMSCINT) is link-edited with every CICS application program. This means that for release 12.0 users to operate in a CICS 3.2 environment, every CICS application program must be re-linked with the new IDMSCINT.

For many users, this requirement will be problematic; Apart from the potential number of programs involved, generation of the required link-edit JCL may not be a simple task.

With DB-CICSLINK, release 12.0 users may operate under CICS release 3.2 WITHOUT link-editing their CICS application programs. The DB-CICSLINK module COGIEXEC will intercept the MACRO level calls in IDMSCINT and convert them to equivalent COMMAND level calls.

3.2 DB-CICSLINK operation R12.0 versus R10.2.

This section highlights the differences in the operation of DB-CICSLINK in a CA-IDMS release 12.0 versus release 10.2 environment.

- No changes are required to the interface modules IDMSINTC, UCFCICS, UCFCICZ or the IDMS SVC. Use the standard (CA) supplied modules.
- Run COGIENAB in the first phase PLTPI as for release 10.2.
- COGIEXEC takes care of the macro level calls in IDMSCINT (as for release 10.2).
- COGITRUE is not required. IDMS release 12.0 has its own TRUE.

3.3 DB-CICSLINK installation for release 12.0

If you have already installed DB-CICSLINK for CA-IDMS release 10.2, then there is no need to do anything further with DB-CICSLINK. Simply regenerate the interface modules (IDMSINTC etc.) with the release 12.0 code.

If you have not previously installed DB-CICSLINK, then proceed as follows:

- **Unload the installation tape.**

This step is fully described in **section 2.2**. For release 12.0, you require the load library (DB90S.LOAD120) and the installation JCL found in the source library (CICSSRCE).

- **Run the installation JCL.**

  Execute the release 12.0 installation JCL found in the member INSTAL12 to apply the product password to COGIEXEC.

- **Define CICS PPT entries.**

  Ensure CICS PPT entries exist for:

```
COGIENAB ASSEMBLER
COGIEXEC ASSEMBLER RESIDENT
```

- **Define CICS PLTPI entries.**

  Update the first phase of the CICS PLTPI to include:

```
DFHPLT TYPE=ENTRY,PROGRAM=COGIENAB
```

- **Make sure that the DB-CICSLINK modules are available to the CICS runtime environment.**

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