

Installing the Natural CICS Interface

This document describes how to install the Natural CICS Interface (product code NCI).

The following topics are covered:

- Prerequisites
- Installation Tape for the Natural CICS Interface
- Naming Conventions for the Natural CICS Interface
- Installation Procedure for the Natural CICS Interface
- Installation Verification



Warning:

Before starting the installation procedure of Natural under CICS, you should have read the section concerning the system control mechanism, see *System Control under CICS* in the *Natural TP Monitor Interfaces* documentation.

See also *Natural under CICS* in the Natural TP Monitor Interfaces documentation for information on the following topics:

- *NCISPCB Generation Parameters*
- *NCMPRM Macro Parameters*
- *Customization of VSAM RRDS Roll Files*
- *NCISCPRI Warnings and Error Messages*

Notation vrs or vr: If used in the following document, the notation *vrs* or *vr* stands for the relevant version, release, system maintenance level numbers. For further information on product versions, see Version in the *Glossary*.

Prerequisites

The following software must be installed and running before you install the Natural CICS Interface:

- Base Natural under z/OS or z/VSE.
- Adabas CICS Interface (product code ACI), version as specified under *Natural and Other Software AG Products* in the current *Natural Release Notes* for Mainframes.
- CICS/TS or CICS/VSE, version as specified under *Operating/Teleprocessing Systems Required* in the current *Natural Release Notes* for Mainframes.

Installation Tape for the Natural CICS Interface

Installation Tape - z/OS Systems

The installation tape contains the datasets listed in the table below. The sequence of the datasets is shown in the *Report of Tape Creation* which accompanies the installation tape.

Dataset Name	Contents
NCIvrs.LOAD	CICS-dependent load modules
NCIvrs.OBJS	CICS-dependent object modules.
NCIvrs.SRCE	CICS-dependent source programs and macros

Copying the Tape Contents to a z/OS Disk

If you are using SMA, refer to the *System Maintenance Aid* documentation (included in the current edition of the Natural documentation CD).

If you are *not* using SMA, follow the instructions below.

This section explains how to:

- Copy dataset COPY.JOB from tape to disk.
- Modify this dataset to conform to your local naming conventions.

The JCL in this dataset is then used to copy all datasets from tape to disk.

If the datasets for more than one product are delivered on the tape, the dataset COPY.JOB contains the JCL to unload the datasets for all delivered products from the tape to your disk.

After that, you will have to perform the individual install procedure for each component.

- Step 1 - Copy Dataset COPY.JOB from Tape to Disk
- Step 2 - Modify COPY.JOB on Your Disk
- Step 3 - Submit COPY.JOB

Step 1 - Copy Dataset COPY.JOB from Tape to Disk

The dataset COPY.JOB (Label 2) contains the JCL to unload all other existing datasets from tape to disk. To unload COPY.JOB, use the following sample JCL:

```
//SAGTAPE JOB SAG,CLASS=1,MSGCLASS=X
//* -----
//COPY EXEC PGM=IEBGENER
//SYSUT1 DD DSN=COPY.JOB,
// DISP=(OLD,PASS),
// UNIT=(CASS,,DEFER),
// VOL=(,RETAIN,SER=tape-volume),
// LABEL=(2,SL)
//SYSUT2 DD DSN=hilev.COPY.JOB,
// DISP=(NEW,CATLG,DELETE),
// UNIT=3390,VOL=SER=volume,
```

```
// SPACE=(TRK,(1,1),RLSE),
// DCB=*.SYSUT1
//SYSPRINT DD SYSOUT=*
//SYSIN DD DUMMY
//
```

where:

hilev is a valid high level qualifier

tape-volume is the tape volume name, for example: T12345

volume is the disk volume name

Step 2 - Modify COPY.JOB on Your Disk

Modify the COPY.JOB on your disk to conform to your local naming conventions and set the disk space parameters before submitting this job:

- Set HILEV to a valid high level qualifier.
- Set LOCATION to a storage location.
- Set EXPDT to a valid expiration date.

Step 3 - Submit COPY.JOB

Submit COPY.JOB to unload all other datasets from the tape to your disk.

Installation Tape - z/VSE Systems

The installation tape contains the dataset listed below. The sequence of the datasets on tape is shown in the *Report of Tape Creation* which accompanies the installation tape.

Dataset Name	Contents
NCIvrs.LIBR	Natural CICS interface installation libraries

Copying the Tape Contents to a z/VSE Disk

If you are using SMA, refer to the *System Maintenance Aid* documentation (included in the current edition of the Natural documentation CD).

If you are *not* using SMA, follow the instructions below.

This section explains how to:

- Copy dataset COPYTAPE.JOB from tape to disk.
- Modify this dataset to conform with your local naming conventions.

The JCL in this member is then used to copy all datasets from tape to disk.

If the datasets for more than one product are delivered on the tape, the member COPYTAPE.JOB contains the JCL to unload the datasets for all delivered products from the tape to your disk, except the datasets that you can directly install from tape, for example, Natural INPL objects.

After that, you will have to perform the individual install procedure for each component.

- Step 1 - Copy Dataset COPYTAPE.JOB from Tape to Disk
- Step 2 - Modify COPYTAPE.JOB
- Step 3 - Submit COPYTAPE.JOB

Step 1 - Copy Dataset COPYTAPE.JOB from Tape to Disk

The dataset COPYTAPE . JOB contains the JCL to unload all other existing datasets from tape to disk. To unload COPYTAPE . JOB, use the following sample JCL:

```
* $$ JOB JNM=LIBRCAT,CLASS=0,                                     +
* $$ DISP=D,LDEST=(*,UID),SYSID=1
* $$ LST CLASS=A,DISP=D
// JOB LIBRCAT
* *****
*       CATALOG COPYTAPE.JOB TO LIBRARY
* *****
// ASSGN SYS004,nnn                                           <----- tape address
// MTC REW,SYS004
// MTC FSF,SYS004,4
ASSGN SYSIPT,SYS004
// TLBL IJSYSIN,'COPYTAPE.JOB'
// EXEC LIBR,PARM='MSHP; ACC S=lib.sublib'                   <----- for catalog
/*
// MTC REW,SYS004
ASSGN SYSIPT,FEC
/*
/&
* $$ EOJ
```

where:

nnn is the tape address

lib.sublib is the library and sublibrary of the catalog

Step 2 - Modify COPYTAPE.JOB

Modify COPYTAPE . JOB to conform to your local naming conventions and set the disk space parameters before submitting this job.

Step 3 - Submit COPYTAPE.JOB

Submit COPYTAPE . JOB to unload all other datasets from the tape to your disk.

Naming Conventions for the Natural CICS Interface

The following naming conventions apply for Natural under CICS:

<i>ncip</i>	A common system prefix of 1 to 5 characters; for example, NCI42. This prefix is determined by the value of the parameter <code>PREFIX</code> in the Natural CICS interface parameter module; see also the corresponding step of the Installation Procedure described below. It is followed by specific characters to make up the names of the following objects:
<i>ncipCB</i>	Natural CICS interface system directory; for example, NCI42CB.
<i>ncipR1</i> to <i>ncipR9</i>	Natural CICS interface VSAM RRDS roll files (optional).
<i>ncipXFA</i>	Natural CICS interface 3270 Bridge XFAINTU exit.

Installation Procedure for the Natural CICS Interface

This section describes the actual installation steps.

When link-editing the Natural nucleus or its subcomponents, you may receive `IEW2646I` or `IEW2660W` messages, which can be ignored.

Step 1: Allocate the VSAM RRDS Roll Files for Natural (optional)

- (Job I008, Step 2200)

This step must only be performed if VSAM roll files are used as CICS roll facility.

For optimum performance, which means without CI/CA splits, the Natural CICS Interface uses VSAM RRDS files for roll files.

Step 2: Assemble the Roll-File Initialization Module (optional)

- (Job I070, Step 2205)

This step must only be performed if VSAM roll files are used as roll facility.

This step creates an executable batch module which is used in the step *Link the VSAM Roll-File Initialization Module* (optional).

Assemble and link/catalog the module `NCISCPRI` for initializing a roll-file.

Step 3: Create the Natural CICS Interface Parameter Module

- (Job I070, Steps 2220, 2225)

The Natural CICS interface parameter module `NCIPARM` contains a macro named `NCMPRM`, which contains parameters specific to the Natural CICS Interface.

You can generally use the default values for all parameters. Modify only the values of those parameters whose default values do not suit your requirements. The only mandatory parameter without a default value is the common Natural CICS interface prefix.

To simplify the Natural CICS interface parameter module installation process, the source module NCIPARM contains the NCMPRM macro request with parameter PREFIX=&SYSPARM. Thus, when generating a Natural CICS interface parameter module, assemble the NCIPARM source module with assembler option SYSPARM=*prefix* rather than editing the source module.

The individual parameters are described in the section *NCMPRM Macro Parameters* in the *Natural TP Monitor Interfaces* documentation.

Edit, assemble and link/catalog the Natural CICS interface parameter module NCIPARM.

Step 4: Assemble the Natural CICS Interface Starter Module NCISTART

- (Job I070, Step 2230)

Translate, assemble and link/catalog the Natural CICS interface module NCISTART.

Keep in mind that with each installation of a new CICS release, the NCISTART module must be reassembled and linked.

Important:

If you are not using the most recent CICS version, the translate step may result in a non-zero return code (4 - 16, depending on your CICS version) because of CICS commands being used that are unknown to your CICS translator. This return code can be ignored as long as the subsequent assembly step will end with a return code of 0 by using conditional assemblies to bypass potential CICS translator messages.

Notes:

1. Under CICS/TS 3.1 and later, the CICS translator option LEASM has to be set for LE enablement, see *Natural CICS Interface and IBM Language Environment (LE)*.
2. The IBM Language Environment macro library must be available in the SYSLIB chain in the assembler step.
3. When linking NCISTART, the following modules receive an IEW0461 / IEW2454W error message: NCIROOT, DFHEAI0, DFHEI1 and some IBM Language Environment modules (CEE . . .). This is normal and is resolved in the final link-edit.

Step 5: Assemble the Natural CICS Interface Root Module NCIROOT

- (Job I070, Step 2235)

Translate, assemble and link/catalog the Natural CICS interface module NCIROOT.

Keep in mind that with each installation of a new CICS release, the NCIROOT module must be reassembled and linked.

Notes:

1. If you are not using the most recent CICS version, the translate step may result in a non-zero return code because of CICS commands being used that are unknown to your CICS translator. The subsequent assembly step will end with a return code of 0 by using conditional assemblies to bypass potential CICS translator messages.
2. When linking NCIROOT, the following modules receive an IEW0461 / IEW2454W error message: NCIPARM, NCISERV, DFHEAI0 and DFHEI1. This is normal and is resolved

in the final link-edit.

Step 6: Create the System Directory

- (Job I070, Steps 2245, 2250)

The Natural CICS Interface system directory is generated by assembling and linking the source module `NCISPCB`.

For z/OS, you find a basic example source in dataset `NATvrs.JOBS` and a comprehensive example source in dataset `NCIvrs.SRCE`.

For z/VSE, you find a basic example source in dataset `NATvrs.LIBJ` and a comprehensive example source in dataset `NCIvrs.LIBR`.

For a description of the individual macros and parameters contained in `NCISPCB`, refer to *NCISPCB Generation Parameters* in the *Natural TP Monitor Interfaces* documentation.

Edit, assemble and link/catalog module `NCISPCB`.

Step 7: Assemble the Natural CICS Interface External CALLNAT Interface Module (optional)

- (Job I070, Step 2270)

This step must only be performed if you want to use the Natural CICS interface external `CALLNAT` interface.

Translate, assemble and link/catalog the Natural CICS interface external `CALLNAT` interface module `NCIXCALL`.

If you have an `NCIXCALL` module from a previous Natural version, enter a new name for this old `NCIXCALL` in the `SYSARM` parameter; for example, `NCIXCIOV`. In Job I080, Step 2270, the old `NCIXCALL` must be relinked with the name you have specified here.

Keep in mind that with each installation of a new CICS release, the `NCIXCALL` module must be reassembled and linked.

Notes:

1. The translate step may result in a non-zero return code because of CICS commands being used that are unknown or no longer applicable to your CICS translator. The subsequent assembly step will end with a return code of 0 by using conditional assemblies to bypass potential CICS translator messages.
2. When linking `NCIXCALL`, the following modules receive an `IEW0461/IEW2454W` error message: `DFHEAI0` and `DFHEI1`. This is normal and is resolved in the final link-edit.

Step 8: Assemble the Natural CICS Interface NEP Interface Module (optional)

- (Job I070, Step 2275)

This step must only be performed if you want to use the Natural CICS interface node error program (NEP).

Translate, assemble and link/catalog the Natural CICS Interface module NCIZNEP.

Keep in mind that with each installation of a new CICS release, the NCIZNEP module must be reassembled and linked.

Notes:

1. The translate step may result in a non-zero return code because of CICS commands being used that are unknown or no longer applicable to your CICS translator. The subsequent assembly step will end with a return code of 0 by using conditional assemblies to bypass potential CICS translator messages.
2. When linking NCIZNEP, the following modules receive an IEW0461 / IEW2454W error message: DFHEAI0 and DFHEI1. This is normal and is resolved in the final link-edit.

Step 9: Assemble the Natural CICS Interface XFAINTU Exit (optional)

- (Job I070, 2280)

This step must be performed only if you want to use Natural via the CICS 3270 Bridge.

Translate, assemble and link/catalog the Natural CICS interface module NCIXFATU.

Keep in mind that with each installation of a new CICS release, the NCIXFATU module must be reassembled and linked.

Notes:

1. The translate step may result in a non-zero return code because of CICS commands being used that are unknown or no longer applicable to your CICS translator. The subsequent assembly step will end with a return code of 0 by using conditional assemblies to bypass potential CICS translator messages.
2. When linking NCIXFATU, the following modules receive an IEW0461 / IEW2454W error message: DFHEAI0 and DFHEI1. This is normal and is resolved in the final link-edit.

Step 10: Assemble the Natural CICS Front-End Driver NCISFED (optional)

- (Job I070, 2290)

This step must be performed only if you want to use the Natural RPC server front-end under CICS. If you use SMA, this step is only generated if the SMA parameter NAT-RPC is set to Y (Yes). NAT-RPC is used in connection with the SMA parameter NCI-RPC-FRONT.

Translate, assemble and link/catalog the Natural CICS front-end driver NCISFED.

Keep in mind that, with each installation of a new CICS release, the NCISFED module must be reassembled and linked.

Notes:

1. The translate step may result in a non-zero return code because of CICS commands being used that are unknown or no longer applicable to your CICS translator. The subsequent assembly step will end with a return code of 0 by using conditional assemblies to bypass potential CICS translator messages.
2. Under CICS/TS 3.1 and later, the CICS translator option LEASM has to be set for LE enablement, see *Natural CICS Interface and IBM Language Environment (LE) in the TP Monitor Interfaces* documentation.
3. The IBM Language Environment macro library must be available in the SYSLIB chain in the assembler step.
4. When linking NCISFED, the following modules receive an IEW0461/IEW2454W error message: DFHEAI0 and DFHEI1 and some IBM Language Environment modules (CEE . . .). This is normal and is resolved in the final link-edit.

Step 11: Create the Natural Parameter Module

- (Job I080, Steps 2210, 2220)

Create the Natural parameter module for CICS.

The following parameters in the parameter module must be modified for the installation:

```
FNAT=(dbid,fnat)
FUSER=(dbid,fuser)
```

For *dbid*, *fnat* and *fuser* use the values you specified when loading the system files; see *Installation Procedure for Natural under z/OS* or *Installation Procedure for Natural under z/VSE*.

For all other parameters, you can generally use the default values. Modify only the values of those parameters whose default values do not suit your requirements.

For a description of the individual parameters contained in the parameter module, refer to the *Natural Parameter Reference* documentation.

Edit, assemble and link/catalog the parameter module.

Step 12: Link the Natural CICS Interface Nucleus

- (Job I080, Step 2230)

Link the executable Natural CICS interface nucleus *ncistart* into your CICS user library.

Adapt the INCLUDE instruction for the parameter module to the name of the parameter module created in the previous step.

Non-Shared Nucleus:

The following paragraph only applies if you are not using System Maintenance Aid.

If you do not wish to use a shared Natural nucleus under CICS:

Merge all INCLUDE instructions and corresponding DD cards from Job I060, Step 0105 (shared nucleus) into Job I080, Step 2230 (front-end).

Step 13: Link the Natural System Directory

- (Job I080, Step 2250)

Link the Natural system directory into your CICS user library with module name *ncipCB* (see *Naming Conventions for the Natural CICS Interface*).

The Natural system directory must be linked with option NORENT in z/OS.

Step 14: Link the VSAM Roll-File Initialization Module (optional)

- (Job I080, Step 2265)

This step must only be performed if VSAM roll files are used as CICS roll facility.

Link the VSAM roll file initialization module into your CICS user library.

Step 15: Link the Natural CICS Interface External CALLNAT Interface Module (optional)

- (Job I080, Steps 2270, 2271)

This step must only be performed if you want to use the Natural CICS external CALLNAT interface.

Link the Natural CICS external CALLNAT interface module NCIXCALL.

Step 2270 is needed if NCIXCALL has been installed in the same CICS with a previous Natural version. The previous Natural version NCIXCALL must then be relinked with a new name, for example NCIXCIOV (see the corresponding step). This way, you can preserve the old version's name NCIXCALL for the current version, which avoids that you have to relink all your programs using NCIXCALL.

Step 2271 links the module NCIXCALL for the previous Natural version.

Step 16: Link the Natural CICS Interface NEP Interface Module (optional)

- (Job I080, Step 2275)

This step must only be performed if you want to use the Natural CICS interface node error program. See also *CICS Node Error Program Considerations for Natural* in the *Natural TP Monitor Interface* documentation.

Link the Natural CICS Interface module NCIZNEP.

Step 17: Link the Natural CICS Interface XFAINTU Exit (optional)

- (Job I080, Step 2280)

This step must be performed only if you want to use Natural via the CICS 3270 Bridge. See also *CICS 3270 Bridge Support* in the *Natural TP Monitor Interface* documentation.

Link the CICS Interface module NCIXFATU under the name *ncipXFA*; see *Naming Conventions for the Natural CICS Interface* in the *Natural TP Monitor Interface* documentation.

Step 18: Link the Natural CICS RPC Server Front-End (optional)

- (Job I080, Step 2290)

This step must be performed only if you want to use the Natural RPC server front-end under CICS. If you use SMA, this step is only generated if the SMA parameter NAT-RPC is set to Y (Yes). NAT-RPC is used in connection with the SMA parameter NCI-RPC-FRONT.

If you use SMA: Define the name of the RPC server front-end in the parameter NCI-RPC-FRONT.

If you do not use SMA: The name of the RPC server front-end is freely selectable and is specified in the link-edit step.

Step 19: Initialize the VSAM Roll Files (optional)

- (Job I081, Step 2200)

This step must only be performed if VSAM roll files are used as CICS roll facility.

Initialize the VSAM roll files.

This step must be repeated for all roll files used if roll-files are the primary roll-facility.

As a direct (random) access type file, a VSAM RRDS file has to be formatted.

For the Natural CICS interface VSAM roll files, formatting is done by the NCISCPRI program. To execute the NCISCPRI program, the Natural roll file to be initialized has to be assigned with file name ROLL in the JCL DD (z/OS) or DLBL (z/VSE) statement, respectively. No other parameter input is required for NCISCPRI; all data required for file initialization is obtained by SHOWCB VSAM macro calls.

Note:

When running the Natural CICS interface under z/VSE-type operating systems, an end-of-data (/*) statement must be supplied in the JCL stream for compatibility reasons, although no parameter input is required by the NCISCPRI utility.

For a description of the messages that may be output during this step, refer to *NCISCPRI Warnings and Error Messages* in the *Natural TP Monitor Interfaces* documentation.

Step 20: Customize CICS

- (Job I005)

Create CICS RDO entries for CICS.

Note:

It is generally recommended to put all Natural version-dependent components such as programs, transactions and files in a separate resource group, in the following denoted as *natgroup*.

Add the following definitions to your CICS system:

a) Program Definitions

- A program definition for the executable Natural module, where *ncistart* is the name of the Natural CICS interface nucleus as specified in the corresponding step:

```
DEFINE PROGRAM (ncistart) GROUP (natgroup) LANGUAGE(ASSEMBLER) *
  DESCRIPTION (NATURAL CICS INTERFACE V42 DRIVER COMPONENT)
```

Platform:	Requirement:
All CICS/TS versions	The following parameter value can and should be set in the CICS program definition: DATALOCATION (ANY)
CICS Version 5.3 or above	The following parameter value can and should be set in the CICS program definition: CONCURRENCY (THREADSAFE)

- A program definition for the Natural CICS interface system directory (mandatory):

```
DEFINE PROGRAM (ncipCB) GROUP (natgroup) LANGUAGE(ASSEMBLER) *
  DESCRIPTION (NATURAL CICS INTERFACE V42 SYSTEM DIRECTORY)
```

- A program definition for the shared Natural nucleus (optional):

```
DEFINE PROGRAM (natshr42) GROUP (natgroup) LANGUAGE(ASSEMBLER) *
  DESCRIPTION (NATURAL V42 SHARED NUCLEUS)
```

where *natshr42* is the name of the environment-independent nucleus part - see also *Natural Shared Nucleus* in the *Natural Operations* documentation - as specified with the session parameter NUCNAME. The default name is NATSHR42. Note that specifications of EXECKEY or DATALOCATION for the shared Natural nucleus are irrelevant, as the shared Natural nucleus "inherits" all attributes from the executable Natural module (see NCISTART above) because it is involved by BALR and not by CICS means.

- To access a shared Natural nucleus in the LPA/ELPA under z/OS, specify USELPACOPY (YES) for this program definition and LPA=YES in the CICS start-up parameters.
- To access a shared Natural nucleus in the SVA under z/VSE with CICS Version 4.1, specify USESVACOPY (YES) for this program definition and SVA=YES in the CICS start-up parameters.
- A program definition for the 3GL CALLNAT interface (optional):

```
DEFINE PROGRAM (ncixcall) GROUP (natgroup) LANGUAGE(ASSEMBLER) *
  DESCRIPTION (NATURAL CICS INTERFACE V42 EXTERNAL CALLNAT INTERFACE)
```

Platform:	Requirement:
All CICS/TS versions	The following parameter value can and should be set in the CICS program definition: DATALOCATION (ANY)

- A program definition for the node error program (optional):

```
DEFINE PROGRAM (nciznep) GROUP(natgroup) LANGUAGE(ASSEMBLER) *
  EXECKEY(CICS) DESCRIPTION (NATURAL CICS INTERFACE V42 NODE ERROR PROGRAM)
```

- A program definition for the XFAINTU global user exit (optional):

```
DEFINE PROGRAM (ncipXFA) GROUP (natgroup) LANGUAGE(ASSEMBLER) *
  EXECKEY(CICS) DESCRIPTION (NATURAL/CICS XFAINTU GLUE)
```

- A program definition for the Natural CICS RPC server front-end (optional):

```
DEFINE PROGRAM (ncisfe) GROUP (natgroup) LANGUAGE(ASSEMBLER)
  DESCRIPTION (NATURAL CICS V42 RPC SERVER FRONT-END)
```

Platform:	Requirement:
All CICS/TS versions	The following parameter value can and should be set in the CICS program definition: DATALOCATION(ANY)

This definition is only required if you want to use the Natural RPC server front-end under CICS. If you use SMA, this definition is only generated if the SMA parameter NCI-RPC-FRONT is set.

If you use SMA: The name of the RPC server front-end *ncisfe* is set to the parameter NCI-RPC-FRONT.

If you do not use SMA: The name of the RPC server front-end *ncisfe* must be identical to the name specified in Job I080 Step 2290, see the corresponding step.

Important Note for CICS/TS Versions:

Programs being involved by BALR, for example, shared Natural nucleus, Adabas linkage interface or external programs called by Natural using standard linkage conventions (SET CONTROL 'P=S'), "inherit" the program attributes (for example, EXECKEY or DATALOCATION) from the Natural module available (see NCISTART above).

b) Transaction Definitions

It is recommended to define or choose a CICS profile for the Natural transactions with the following:

```
DEFINE PROFILE (natprof) GROUP (natgroup) SCRNSIZE (ALTERNATE) INBFMH (ALL)
```

- A transaction definition for the Natural transaction:

```
DEFINE TRANSACTION (ncitransact) GROUP (natgroup) *
  PROGRAM (ncistart) TWASIZE(128) DUMP(NO) *
  PROFILE (natprof)
```

where:

ncitransact is the name of the Natural CICS interface user transaction code and *ncistart* is the name of the Natural under CICS nucleus as specified in the corresponding step.

- A transaction definition for the Natural internal message switching transaction:

```
DEFINE TRANSACTION (nmsg) GROUP (natgroup) *
PROGRAM (ncistart) TWASIZE(128) DUMP(NO) *
PROFILE (natprof)
```

ncistart being the name of the Natural CICS nucleus as specified in the corresponding step and *nmsg* being the name of the Natural CICS interface message switching transaction code as defined in the MSGTRAN parameter, in the section *Parameters in Macro NCMPRM* in the *Natural TP Monitor Interfaces* documentation. The default name is NMSG.

- The Natural message switching facility requires this transaction to be defined in CICS.

Platform:	Requirement:
All CICS/TS versions	The following parameter values can and should be set in the CICS transaction definitions for Natural: TASKDATALOC (ANY) Setting TASKDATALOC (ANY) may have an impact on non-Natural programs called by Natural, see the <i>CICS Manual</i> for details.
All CICS/TS versions (z/OS only)	The following parameter value can be set in the CICS transaction definition: ISOLATE (YES)

For the impact of transaction isolation, see also *THRDSZE - Thread Size* in the *TP Monitor Interfaces* documentation.

- A transaction definition for the Natural CICS RPC server front-end transaction:

```
DEFINE TRANSACTION (ncisfetransact) GROUP (natgroup) *
PROGRAM (ncisfe) TWASIZE(128) DUMP(NO) *
PROFILE (natprof)
```

where:

ncisfetransact is the name of the Natural CICS RPC server front-end transaction code and

ncisfe is the name of the Natural CICS RPC server front-end as specified in the corresponding step.

e) File Definitions

- One entry in the FCT for each Natural CICS Interface VSAM roll file (only if VSAM roll files are to be used):

```
DFHFCT TYPE=FILE, *
FILE=ncipr1, *
ACCMETH=VSAM, *
RECFORM=(FIXED,BLOCKED), *
SERVREQ=(UPDATE,DELETE,ADD), *
FILSTAT=(ENABLED,OPENED), *
BUFND=5,STRNO=3
```

and correspondingly for all other roll files.

Local shared resources (LSR) should be used whenever possible. If multiple LSR pools are supported, one pool should be dedicated exclusively to Natural under CICS roll files.

d) Transient Data Destinations

- Two or (alternatively) three entries in the DCT for the Natural remote job entry facility NATRJE (z/OS only): When submitting a job to JES with the following *two* entries, the internal reader is started on CLOSE of the destination:

```
DFHDCT TYPE=SDSCI ,DSCNAME=NATRJE ,TYPEFLE=OUTPUT
DFHDCT TYPE=EXTRA ,DSCNAME=NATRJE ,DESTID=nrje ,OPEN=DEFERRED
```

where *nrje* is the name of the Natural CICS submit destination as defined in the RJEDEST parameter, see the section *NCMPRM Macro Parameters* in the *Natural TP Monitor Interfaces* documentation. The default name is NRJE.

- Additionally, the following DD statement is required in the CICS startup JCL:

```
//NATRJE DD SYSOUT=( * ,INTRDR ) ,DCB=(RECFM=F ,LRECL=80 ,BLKSIZE=80)
```

When submitting a job to JES with the following *three* entries, the Natural CICS Interface deals with an indirect destination that will not be closed:

```
DFHDCT TYPE=SDSCI ,DSCNAME=NATRJE ,TYPEFLE=OUTPUT
DFHDCT TYPE=EXTRA ,DSCNAME=NATRJE ,DESTID=name ,OPEN=INITIAL
DFHDCT TYPE=INDIRECT ,DESTID=nrje ,INDEST=name
```

where:

- *nrje* is the name of the Natural CICS submit destination as defined in the RJEDEST parameter, see the section *NCMPRM Macro Parameters* in the *Natural TP Monitor Interfaces* documentation. The default name is NRJE.
- *name* is the name of the corresponding indirect destination.

It is the user's responsibility to either add an /*EOF card as the very last card in the job stream or use the corresponding NATRJE exit. When detecting the /*EOF card, JES submits the previous job stream.

- Optionally, you can add entries in the DCT for the Natural CICS error message logging facility. For Natural error messages, you can use:

- A destination that is already defined in CICS (for example, CSSL); then no extra DCT entry is required.
- An extra partition destination as a synonym for an existing CICS message destination:

```
DFHDCT TYPE=INDIRECT ,DESTID=nerr ,INDEST=name
```

- An extra file:

```

DFHDCT TYPE=SDSCI ,           *
        DSCNAME=NATMSG ,     *
        RECFORM=VARUNB ,     *
        RECSIZE=nnn ,        *
        TYPEFLE=OUTPUT

DFHDCT TYPE=EXTRA ,          *
        DSCNAME=NATMSG ,     *
        DESTID=nerr ,        *
        OPEN=INITIAL

```

where *nerr* is the name of the Natural CICS error message destination as defined in the MSGDEST parameter described in the section *NCMPRM Macro Parameters* in the Natural *TP Monitor Interfaces* documentation. The default name is NERR.

You can change the RECFORM format from VARUNB (variable unblocked) to VARBLK (variable blocked), for example. Natural and the Natural CICS interface messages have a length of up to 120 bytes. Therefore, the record size (RECSIZE= *nnn*) should be at least 124 bytes for variable record format or 120 bytes for fixed record format.

When using a disk file:

Sufficient disk space must be reserved for this dataset; under z/OS, a DD statement, or, under z/VSE, a DLBL statement must be added to the CICS startup JCL.

- Optionally, you can add two entries in the DCT for the Natural CICS interface session statistics:

```

DFHDCT TYPE=SDSCI ,           *
        DSCNAME=NATLOG ,     *
        RECFORM=VARBLK ,     *
        BLKSIZE=4628 ,       *
        RECSIZE=4624 ,       *
        DEVICE=DISK (parameter valid for z/VSE only)

DFHDCT TYPE=EXTRA ,          *
        TYPEFLE=OUTPUT ,     *
        DSCNAME=NATLOG ,     *
        DESTID=nlog ,        *
        OPEN=INITIAL

```

where *nlog* is the name of the Natural CICS logging destination as defined in the parameter LOGDEST, which is described in the Natural *TP Monitor Interfaces* documentation. The default name is NLOG.

Sufficient disk space must be reserved for this dataset; under z/OS, a DD statement, or, under z/VSE, a DLBL statement must be added to the CICS startup JCL.

- Optionally, you can add two entries in the DCT for the Natural CICS profile parameters file:

```

DFHDCT TYPE=SDSCI ,           *
        RECSIZE=80 ,          card image *
        BLKSIZE=nnnn ,       *
        BUFNO=1 ,            *
        DSCNAME=cmprmin ,    *
        RECFORM=FIXBLK ,     *
        TYPEFLE=INPUT

```



```
DFHDCT TYPE=EXTRA,          *
        DESTID=nprm,        *
        DSCNAME=cmprmin,    *
        OPEN=DEFERRED
```

where *nprm* is the name of the Natural CICS profile parameter input destination as defined in the PRMDEST parameter; see *NCMPRM Macro Parameters* in the *Natural TP Monitor Interfaces* documentation. The default name is NPRM.

A DD statement, or, under z/VSE, a DLBL statement must be added to the CICS startup JCL.

e) Other Definitions

z/OS only:

Add the following system abend codes to a CICS System Recovery Table (SRT):

- 0D6 To protect CICS against failing Roll Server and/or Authorized Services Manager requests (via PC instructions) by Natural.
- 01D To protect CICS against failing data space cache requests by Natural.
- DC2 To protect CICS against failing memory object cache requests by Natural.

Installation Verification

1. Enter CICS from a user's terminal and type in the Natural transaction code.
2. Proceed with the steps described in the section *Installation Verification for the TP Monitor Interface*.