



Con-form

Version 3.4.1

Installation and Operations

This document applies to Con-form Version 3.4.1 and to all subsequent releases.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

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Con-form Installation

This documentation provides information on installing and operating Con-form in various operating system environments.

It is subdivided as follows:

●	General Information	Describes general information that is required prior to installing Con-form.
●	The Con-form Installation Tapes	Describes the various Con-form installation tapes.
●	Installation Procedures for Con-form	Describes the installation procedures.

General Information

This section contains general information for installing Con-form. It covers the following topics:

- The Con-form Operating Environment
 - 31-Bit Addressing
 - Installation Prerequisites
 - Installation Jobs
 - Using System Maintenance Aid
 - Space Requirements
 - Dataset Names
-

The Con-form Operating Environment

Con-form Version 3.4.1 can be used with any of the following operating systems:

- z/OS
- VSE/ESA
- VM/CMS
- BS2000/OSD

Con-form Version 3.4.1 can be used with any of the following teleprocessing monitors:

- Com-plete
- CICS
- TSO
- SHADOW
- IMS/DC
- TIAM and UTM (BS2000)

This documentation describes the installation of Con-form Version 3.4.1 for the above-mentioned operating systems.

31-Bit Addressing

31-bit addressing mode is enabled.

Installation Prerequisites

Before installing Con-form, ensure that the following software has been installed:

- Natural Version 4.1.2 or above, and
- Adabas (version as required for your current Natural installation).

Installation Jobs

The installation of Software AG products is performed by installation jobs. These jobs are either created "manually" or generated by System Maintenance Aid (SMA).

For each step of the installation procedure, the job number of a job performing the respective task is indicated. This job number refers to an installation job generated by SMA.

If you are not using SMA, an example installation job of the same number is provided in the job library on the Con-form installation tape; you must adapt this example job to your requirements. Note that the job numbers on the tape may be preceded by a product code (for example, CMFI061).

Using System Maintenance Aid

If you plan to use SMA for the installation process, you must set the parameter CMF-FIRST-INSTALL to either **Y** if Con-form is not installed, or **N** if you are upgrading from a previous Con-form version.

For information on using SMA for the installation process, refer to the System Maintenance Aid documentation.

Note:

If you are installing Con-form on the operating system VM/CMS, SMA is not used as an installation tool.

Space Requirements

The space required for each dataset on the Con-form installation tape is as follows (approximately):

Dataset Name	Directory Blocks (if PDS)	Space	
		3390	3380
CMFnnn.JOBS	1	2 tracks	2 tracks
CMFnnn.LOAD	3	7 tracks	8 tracks
CMFnnn.SRCE	3	2 tracks	2 tracks
CMFnnn.ERRN		1 track	1 track
CMFnnn.SYS1		1 track	1 track
CMFnnn.LIBR		1	1

The space required for each dataset on the BS2000 installation tape is as follows (approximately):

Dataset Name	PAM Pages
CMF nnn .JOBS	108
CMF nnn .PAMS	310
CMF nnn .SRCE	20
CMF nnn .ERRN	40
CMF nnn .SYS1	33

Dataset Names

All references in this documentation are made to dataset names. The notation nnn in dataset names represents the version number of the product.

The Con-form Installation Tapes

This section describes the various installation tapes. It contains the following topics:

- The z/OS Installation Tape
 - The VSE/ESA Installation Tape
 - The VM/CMS Installation Tape
 - The BS2000/OSD Installation Tape
-

The z/OS Installation Tape

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

Dataset Name	Contents
CMF <i>nnn</i> .JOBS	Example installation jobs.
CMF <i>nnn</i> .LOAD	Con-form load library.
CMF <i>nnn</i> .SRCE	Con-form source library.
CMF <i>nnn</i> .ERRN	Con-form internal error texts (language-independent).
CMF <i>nnn</i> .SYS1	An unloaded copy of an empty Con-form system file. This file has the internal identification number 251.

Copying the Tape Contents to Disk

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

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

- Step 1 - Copy data set COPY.JOB from tape to disk
- Step 2 - Modify COPY.JOB to conform with your local naming conventions
- Step 3 - Submit COPY.JOB

The JCL in this data set is then used to copy all data sets 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 procedures for each component.

Step 1 - Copy data set COPY.JOB from tape to disk

The data set COPY.JOB (label 2) contains the JCL to unload all other existing data sets 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=<Tnnnnn>),
// LABEL=(2,SL)
//SYSUT2 DD DSN=<hilev>.COPY.JOB,
// DISP=(NEW,CATLG,DELETE),
// UNIT=3390,VOL=SER=<vvvvvv>,
// SPACE=(TRK,(1,1),RLSE),
// DCB=*.SYSUT1
//SYSPRINT DD SYSOUT=*
//SYSIN DD DUMMY
//
```

Where:

<hilev> is a valid high level qualifier

<Tnnnnn> is the tape number

<vvvvvv> is the desired volser

Step 2 - Modify COPY.JOB to conform with your local naming conventions

Modify the COPY.JOB to conform with 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 data sets from the tape to your disk.

The VSE/ESA Installation Tape

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

Dataset Name	Contents
CMFnnn.LIBR	Con-form relocatable and source libraries, and example installation jobs.
CMFnnn.ERRN	Con-form internal error texts (language-independent).
CMFnnn.SYS1	An unloaded copy of an empty Con-form system file. This file has the internal identification number 251.

Copying the Tape Contents to Disk

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

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

- Step 1 - Copy data set COPYTAPE.JOB from tape to disk
- Step 2 - Modify COPYTAPE.JOB
- Step 3 - Submit COPYTAPE.JOB

This section explains how to:

- Copy data set COPYTAPE.JOB from tape to library.
- Modify this member to conform with your local naming conventions.

The JCL in this member is then used to copy all data sets 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, Con-nect INPL objects.

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

Step 1 - Copy data set COPYTAPE.JOB from tape to disk

The data set COPYTAPE.JOB (file 5) contains the JCL to unload all other existing data sets 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 with 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 data sets from the tape to your disk.

The VM/CMS Installation Tape

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

Dataset Name	Contents
CMF nnn .TAPE	Con-form VM/CMS-specific components in VM/CMS tape dump format.
CMF nnn .ERRN	Con-form internal error texts (language-independent).
CMF nnn .SYS1	An unloaded copy of an empty Con-form system file. This file has the internal identification number 251.

Copying the Tape Contents to Disk

1. To position the tape for the TAPE LOAD command, calculate the number of tape marks as follows:

If the sequence number of CMF nnn .TAPE, as shown by the Report of Tape Creation, is n , you must position over $3n - 2$ tape marks (that is, FSF 1 for the first dataset, FSF 4 for the second, etc.).

2. Access the disk that is to contain the Con-form installation files as disk "A".

The size of the disk must be at least 1500 4-KB blocks, for example, 10 cylinders on 3380-type disks or 12000 blocks FB-512.

3. Ask the system operator to attach a tape drive to your virtual machine at address X'181' and mount the Con-form installation tape.

4. Position the tape by issuing the CMS command:

```
TAPE FSF  $fsfs$ 
```

where $fsfs$ is the number of tape marks and is calculated as described above.

5. Load the Con-form under CMS installation material by issuing the CMS command:

```
TAPE LOAD * * A
```

6. Keep the tape drive attached to your virtual machine, because the tape is still needed during the installation procedure.

The BS2000/OSD Installation Tape

The installation tape contains the files listed below. The sequence of the files is shown in the "Report of Tape Creation" which accompanies the installation tape.

Dataset Name	Contents
CMF nnn .JOBS	Example installation jobs.
CMF nnn .PAMS	Con-form load library. This file is used as input data to LMS or LMR, which produces a LMS or LMR library with the name CMF nnn .LIB. It is also contains source elements and assembles language macros.
CMF nnn .ERRN	Con-form error texts (language-independent).
CMF nnn .SYS1	An unloaded copy of an empty Con-form system file. This file has the internal identification number 251.

Copying the Tape Contents to Disk

If you are not using SMA, use the procedure described below. In this procedure, the values specified below must be supplied.

To copy the datasets from tape to disk, perform the following steps:

- 1. Copy the Library SRV nnn .LIB from Tape to Disk
- 2. Copy the Procedure COPY.PROC from Tape to Disk
- 3. Copy all Product Files from Tape to Disk

1. Copy the Library SRV nnn .LIB from Tape to Disk

This step is not necessary if you have already copied the library *SRV nnn .LIB* from another Software AG tape. For more information, refer to the element #READ-ME in this library

The library *SRV nnn .LIB* is stored on the tape as the sequential file *SRV nnn .LIBS* containing LMS commands. The current version nnn can be obtained from the Report of Tape Creation. To convert this sequential file into an LMS-library, execute the following commands:

```

/IMPORT-FILE  SUPPORT=*TAPE(FILE-NAME=SRV $nnn$ .LIBS, -
/  VOLUME=<volser>, DEV-TYPE=<tape-device>)
/ADD-FILE-LINK LINK-NAME=EDTSAM, FILE-NAME=SRV $nnn$ .LIBS, -
/  SUPPORT=*TAPE(FILE-SEQ=3), ACC-METH=*BY-CAT, -
/  BUF-LEN=*BY-CAT, REC-FORM=*BY-CAT, REC-SIZE=*BY-CAT
/START-EDT
@READ  '/'
@SYSTEM 'REMOVE-FILE-LINK  EDTSAM'
@SYSTEM 'EXPORT-FILE  FILE-NAME=SRV $nnn$ .LIBS'
@WRITE  'SRV $nnn$ .LIBS'
@HALT
/ASS-SYSDTA  SRV $nnn$ .LIBS
/MOD-JOB-SW  ON=1
/START-PROG  $LMS
/MOD-JOB-SW  OFF=1
/ASS-SYSDTA  *PRIMARY

```

Where:

- <tape-device> is the device-type of the tape, e.g. TAPE-C4
- <volser> is the VOLSER of the tape (see Report of Tape Creation)

2. Copy the Procedure COPY.PROC from Tape to Disk

To copy the procedure COPY.PROC to disk, call the procedure P.COPYTAPE in the library SRVnnn.LIB:

```
/CALL-PROCEDURE (SRVnnn.LIB,P.COPYTAPE), -  
/ (VSNT=<volser>, DEVT=<tape-device>)
```

If you use a TAPE-C4 device, you may omit the parameter DEVT.

3. Copy all Product Files from Tape to Disk

To copy all Software AG product files from tape to disk, enter the procedure *COPY.PROC*:

```
/ENTER-PROCEDURE COPY.PROC, DEVT=<tape-device>
```

If you use a TAPE-C4 device, you may omit the parameter DEVT. The result of this procedure is written to the file 'L.REPORT.SRV'.

Installation Procedures for Con-form

This section describes step by step how to install Con-form under the operating systems z/OS, VSE/ESA, VM/CMS and BS2000/OSD. It contains the following topics:

- Step 1. Loading the System File (Job I050, Step 0201)
- Step 2. Relinking Your Natural Nucleus (Job I060 for Batch Mode or Job I080 for Online Operation)
- Step 3. Loading Error Messages (Job I061, Step 0202)

Note:

Before you begin the installation procedures, determine if this is the first time that Con-form is being installed or whether this version is to replace an existing Con-form version. See Using System Maintenance Aid .

Step 1. Loading the System File (Job I050, Step 0201)

If you are migrating from another version of Con-form, skip this step and continue with the next step.

If this is a first time installation, proceed with this step.

One Adabas file will be used by Con-form for storage and retrieval of texts, documents and other information (this is referred to as the Con-form system file). The following procedure prepares the file for subsequent use by Con-form.

Create the new Adabas file using the Adabas utility program ADALOD. Use the dataset CMF*nnn*.SYS1 as input. The ISN REUSE flag of the Con-form system file should be set to ON. The specifications of the NTLFILE macro call in the Natural parameter module must correspond to the file number and the DBID of the database in which this file is contained. The internal file identification number 251 refers to the Con-form system file (CMF*nnn*.SYS1).

Note:

Whenever this file is loaded and reloaded, you must specify the USERISN option to ensure that the ISN assignments of the database records remain unchanged.

For a medium-sized installation the following ADALOD parameters can be used for the system file:

```
ADALOD LOAD FILE=16,MAXISN=350000,ASSOPFAC=5,DATAPFAC=15,  
ADALOD DSSIZE=100,TEMPsize=20,sortsize=10,ISNREUSE=YES
```

Step 2. Relinking Your Natural Nucleus (Job I060 for Batch Mode or Job I080 for Online Operation)

2.1 Modify Parameter Modules

Generating an executable Natural/Con-form nucleus is almost identical to generating a standard Natural nucleus. The changes that must be applied are given below.

1. The keyword parameter `CSIZE=nn` must be set to a value of 30 or more. This parameter can be specified either in the `NTPRM` macro call, or dynamically when Con-form is invoked. If this parameter is not specified correctly, Natural error 5300 or 5319 will occur whenever Con-form is called.
2. The keyword parameter `MAXCL` (maximum number of program calls between successive terminal dialogue steps) should reflect the number of program calls during execution of the `COMPOSE` statement.
3. The keyword parameter `MADIO` (maximum number of DBMS calls between successive screen I/O operations) should reflect the number of times the database is accessed during execution of the `COMPOSE` statement.
4. The profile parameter `RCA` (controls dynamic loading of the `CSTATIC` programs) in the macro `NTPRM` can be set to `ON`.
5. If Con-form is to be link-edited as a separately loadable module, `NTALIAS` must be specified within the Natural parameter module. For example:
 - `NTALIAS NATGWCNT`, *load module name*
 - `NTALIAS CONFORMR`, *load module name*
 - `NTALIAS CONFORMA`, *load module name*
 - `NTALIAS CONFORME`, *load module name*
 - `NTALIAS CONFORMM`, *load module name*
 - `NTALIAS CONFORMF`, *load module name*
 - `NTALIAS CONFORMU`, *load module name*

"NTALIAS NATGWCNT, *load module name*" is specified only when the load module name is different from NATGWCNT.

- An additional macro call must be specified to define the Con-form system file to the nucleus. The name of the macro is NTLFILE. The NTLFILE macro call must be placed after the NTPRM macro call.

NTLFILE is a keyword macro with the following parameters:

Parameter	Explanation
ID	Internal identifier. Must be set to 251 for the Con-form system file. This parameter is mandatory.
DBID	ID of the database where the Con-form system file resides. This parameter may be specified if necessary.
FNR	Number of the Con-form system file. This parameter is mandatory.
PASSW	Adabas password that may be required to gain access to the Con-form system file. This parameter may be specified if necessary.
CIPH	Adabas cipher key that may be required to encipher or decipher records in the Con-form system file. This parameter may be specified if necessary.

The NTLFILE macro is contained in the appropriate Natural source library.

As an alternative to using this macro, the dynamic parameter LFILE can be specified when Con-form is invoked. The format is:

```
LFILE=(251,dbid,fnr< ,passw>< ,cipht>)
```

where the parameters shown in pointed brackets are optional.

2.2 Assemble and Link Parameter Module

2.3 Link-edit a Natural/Con-form Nucleus

Use the standard link procedure as described in the *Natural Installation and Operations* documentation.

Include the load modules CONFRUN, CONFUPP, CONFLOW, CONFTRA, CONFSRT, CONDCA, CONDTR1 and CDFTTAB from the Con-form load library (for both batch and TP environments).

If Con-form is to be link-edited as a separately loadable module, those modules may form a module of their own. In this case, CONFRUN must be the first module to be included.

Step 3. Loading Error Messages (Job I061, Step 0202)

The Natural utility program ERRLODUS is used in batch mode to load the Con-form error texts into the Natural system system file (required). The dataset CMF nnn .ERRN must be assigned to workfile 02.

If Natural Security is not installed, use the following:

```
LOGON SYSERR  
ERRLODUS  
FIN
```

If Natural Security is installed, use the following:

```
SYSTEM,USER ID, PASSWORD  
ERRLODUS  
FIN
```