IBM IMS Network Compression Facility for z/OS
Version 1  Release 2

User's Guide
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About this information

These topics provide instructions for configuring and using IBM® IMS Network Compression Facility for z/OS® (IMS Network Compression Facility).

This information is designed to help database administrators, system programmers, application programmers, and system operators perform the following tasks:

- Plan for the installation of IMS Network Compression Facility
- Configure IMS Network Compression Facility
- Diagnose and recover from IMS Network Compression Facility problems

To use these topics, you should have a working knowledge of:

- The z/OS operating system
- SMP/E

Always check the IMS™ Tools Product publications page for the most current version of product publications:


Service updates and support information

To find service updates and support information, including software fix packs, PTFs, Frequently Asked Question (FAQs), technical notes, troubleshooting information, and downloads, refer to the following Web page:


Highlighting conventions

This information uses the following highlighting conventions:

- **Boldface type** indicates commands or user interface controls such as names of fields, folder, icons, or menu choices.
- **Monospace type** indicates examples of text that you enter exactly as shown.
- **Italic type** indicates variables that you should replace with a value. It is also used to indicate book titles and to emphasize significant words.

How to look up message explanations

You can use any of the following methods to search for messages and codes:

Searching an information center

In the search box that is located in the top left toolbar of any Eclipse help system, such as the IBM Information Management Software for z/OS Solutions Information Center, enter the number of the message that you want to locate. For example, you can enter DFS1065A in the search field.

Use the following tips to help you improve your message searches:
You can search for information on codes by entering the code; for example, enter -327.

Enter the complete or partial message number. You can use wild cards (*) or (?) in the message number to broaden your search; for example, DFS20??I.

The information center contains the latest message information for all of the information management products that are included in the information center.

**Searching for messages on the web**

You can use any of the popular search engines that are available on the Web to search for message explanations. When you type the specific message number or code into the search engine, you will be presented with links to the message information in IBM information centers.

**How to send your comments**

Your feedback is important in helping to provide the most accurate and high-quality information. If you have any comments about this book or any other Administration Console documentation, use either of the following options:

- Use the online reader comment form, which is located at: [www.ibm.com/software/data/rcf/](http://www.ibm.com/software/data/rcf/)
- Send your comments by e-mail to comments@us.ibm.com. Be sure to include the name of the book, the part number of the book, the version of Administration Console, and, if applicable, the specific location of the text you are commenting on (for example, a page number or table number).
Chapter 1. Introduction

The IMS Network Compression Facility for z/OS (IMS Network CF) reduces the size of data streams sent to 3270 terminals logged on to IMS; IMS Network CF reduces data stream size using standard 3270 data stream commands and conventions.

Reduction in data stream size decreases use of teleprocessing facilities (including FEPs, lines, and control units), which can potentially reduce hardware and TP costs.

IMS Network CF reduces data stream sizes for any devices generated in IMS as VTAM® 3275, 3277, or SLU2 terminals. (This also applies to any devices created using ETO.) TN3270 sessions with IMS that appear as 3270 VTAM® devices also benefit from reduction in data stream sizes.

An ISPF interface lets you display:
- The status of IMS Network CF
- What options are in use
- Information about specific terminals

The ISPF interface also lets you dynamically change the IMS Network CF options in use for each IMS system. The ISPF interface can be used to query and update options and statistics on any IMS system in the enterprise.

Features

Features of IMS Network CF include:
- No IMS application program changes need to be made.
- IMS Network CF is composed of the following components, each of which is separately controllable:
  - Basic Compression. This component eliminates repeating characters in a data stream using the 3270 Repeat to Address order (instead of sending a long string of characters). Basic compression is required for the field merge, blank elimination, or non-display fields components to be active. If basic compression is disabled for a data stream, the other components are also disabled.
  - Field Merge. This component identifies 3270 field definitions, and eliminates redundant field definition orders from the data stream.
  - Blank Elimination. This component completely eliminates strings of blank characters from the data stream. If this component is not active for a specific data stream, streams of blanks are treated as any other repeating character in basic compression, and are reduced in size using the 3270 Repeat to Address order.
  - Non-Display Fields. This component eliminates from the data stream any fields that cannot be modified or displayed.
- Each compression component can be enabled or disabled. You can specify exception information for each component based on node name, LTERM name, userid, IMS user name, transaction code, or MFS format name. For example, you can do basic compression for all messages except those for node name ABC.
- 3270 data streams sent to 3270 terminals can be traced and displayed.
- A TSO/ISPF interface lets you:
  - Secure features using the OS/390* Security Server (or equivalent)
  - From any ISPF session, query information on any IMS system in the enterprise
  - Display product status, status for a specific node, options in use, and exception lists
  - Dynamically update product options and exception lists
  - Start, stop, display, and print 3270 data stream traces

**Software requirements**

IMS Network CF runs on any supported version of IMS.

**Storage requirements**

Each data stream IMS sends to VTAM requires work area storage. The amount of storage is 16 times the data stream length, plus 256 bytes. This storage is obtained from the HIOP pool and is freed when the data stream completes compression. Note that the HIOP pool is designed to dynamically expand, so there should be no requirement to change the size of the HIOP pool.

In addition, approximately 30K of IMS control region extended private area is used for code and control blocks, and about 8K of IMS control region private area (below the 16M line) is used.

Active traces require an additional 100K of extended private area storage per traced session. This storage is allocated the first time a data stream is traced, and is retained until the trace data is deleted through the ISPF screens.
Chapter 2. Customization

This chapter contains diagnosis, modification, or tuning information. Do not use this information as a programming interface.

The process of installation and customization consists of:

Preparing
IMS Network CF requires APPC/MVS for the ISPF interface. IMS Network CF does not require APPC/IMS. If APPC/MVS is not active, it must be activated to use the ISPF monitoring and dynamic update facilities.

The IMS Network CF load library must be APF authorized on each MVS™ system where IMS executes. APF authorization is not required for the ISPF interface.

IMS Network CF requires no started tasks, subsystems, or other SYS1.PARMLIB changes. Also, no VTAM definition changes are required.

Installing
The software must be installed from the tape based on the installation instructions in the Custom-Built Product Delivery Offering (CBPDO*) documentation that came with your order.

Customizing
Customization consists of:
• Setting up the parameter options member in each IMS PROCLIB data set
• Preparing APPC for IMS Network CF
• Installing the IMS Network CF ISPF interface
• Implementing security for the ISPF interface

Implementing
Implementation consists of:
1. Adding the IMS Network CF software to the IMS STEPLIB
2. If your installation currently uses the Partner Product exit (DFSPPUE0), renaming your current member and taking special note of the PPUE0= parameter in the parameter options member
3. Restarting IMS

The rest of this chapter describes the tasks involved in customizing IMS Network CF.

Specifying parameter options
IMS Network CF parameter specifications are stored in PDS member CFNPimid (where imid is the IMSID of the online IMS subsystem). This member must be located in the PDS referred to in the IMS control region JCL for DDNAME PROCLIB.

Parameter specifications are coded in control statements present in the CFNPimid member. When specifying parameters, the following rules apply:
• An asterisk (*) in column one of a control statement indicates a comment card.
• Parameters are specified in KEYWORD=VALUE syntax.
Keywords must be the first nonblank characters on a line, although they need not start in column 1.
An equal sign (=) separates a keyword from its associated value.
Any number of blanks may separate multiword keywords, the equal sign, and the assigned value.
Any number of blanks may separate multiword keywords, the equal sign, and the assigned value.
Blanks are not required on either side of the equal sign.

For example, the following control statements are valid:

```
*This is a comment line.
FIELD MERGE = NO 1/1/98 MAA
Field Merge=No Lower case is permitted
```

The following control statements are NOT valid:

```
THIS IS NOT A COMMENT LINE UNLESS IT STARTS WITH AN ASTERISK
FIELDMERGE = NO  Must have blanks between keywords
FIELD MERGE = YES-Keyword values must be followed by a blank
```

Exception list specifications allow definition of exceptions to each compression component. When specifying exceptions, the following rules apply:

- Exception lists use the same syntax as for the parameter specifications, except that values must be separated only by a comma, and must not have any embedded blanks.
- A blank space signifies the end-of-list specification for that line.
- Names specified in the list must be eight (8) characters or less.
- All exception lists are specified with the EXCEPT keyword.

The following exclude list control statements are valid:

```
EXCEPT NODE = NODE1,NODE2,NODE3 1/1/998 MAA
EXCEPT USERID=USER1
```

The following exclude list control statements are NOT valid:

```
EXCEPT NODE = NODE1 NODE2 Names must be separated by a comma
EXCEPT NODE=NODE1, NODE2 The blank after the comma ends the list
```

Generic specification of exception list names is permitted. There are two ways to specify a generic list entry:

- Using the MATCH ONE character
- Using the MATCH ALL character
The MATCH ONE character substitutes for exactly one character in the entry name. The MATCH ALL character matches the entire remaining portion of the entry name. The MATCH ALL character must be the last character of a list entry name.

The default values for these characters are the percent sign (%) for the MATCH ONE character and the asterisk (*) for the MATCH ALL character.

If you use the default values for MATCH ONE (%) and MATCH ALL (*), a list entry coded as TR%N00* will match TRAN00 and TRON00AZ but not TRN001 (since the MATCH ONE character must substitute for a character in the name).

The MATCH ONE and MATCH ALL characters are specified in the IMS Network CF parameters, which are described in “Keywords”.

Sample parameter file

A sample parameter file is distributed with the product in member CFNPIMSA in the SCFNDATA data set. The sample is shown in the Sample parameter file (member CFNPIMSA) figure.
Enabling compatibility with IMS Tools Generic Exits

If your installation uses IMS Tools Generic Exits, you must use it to drive the IMS Network Compression Facility version of the IMS Partner Product exit routine DFSPPUE0.

About this task

IMS Network Compression Facility uses its own version of the IMS Partner Product exit routine, DFSPPUE0, which enables IMS Network Compression Facility to initialize and run with IMS. This exit routine is named CFNPPUE0, but it uses the name DFSPPUE0 as an alias.

The exit routine CFNPPUE0 conflicts with the versions of DFSPPUE0 that are driven by the Generic Partner exit that comes with IMS Tools Generic Exits, which is a module that is part of IBM Tools Base IMS Tools Common Services for z/OS.

Figure 1. Sample parameter file (member CFNPIMSA)
Consequently, if IMS Tools Generic Exits are used in your environment, the exit routines that are specified with the PPUEO= keyword for IMS Network Compression Facility are bypassed and IMS Network Compression Facility fails to initialize.

Therefore to use IMS Network Compression Facility with IMS Tools Generic Exits, you must define CFNPPUE0 to IMS Tools Generic Exits, and you must remove the conflicting DFSPPUE0 alias definition in IMS Network Compression Facility.

**Procedure**

1. Determine whether IMS Tools Generic Exits are active in your system. When the IMS Tools Generic Exits are active, the following message is issued during the IMS control region initialization:

   GPR2926I IMS TOOLS GENERIC PARTNER EXIT INITIALIZATION IN PROGRESS

   If your IMS system does not write this message during IMS initialization, IMS Tools Generic Exits are not active in your environment, and you do not need to complete this procedure.

2. If IMS Tools Generic Exits are active in your environment, define CFNPPUE0 to IMS Tools Generic Exits by updating the IMS Tools Generic Exits Partner exit PROCLIB member (either GPREXIT0 or GPR0) by adding a statement like the following example:

   EXITDEF(TYPE(PARTNER)
   EXITNAME(CFNPPUE0)
   LOADLIB(h1q.SCFLOAD)
   )

3. Remove the DFSPPUE0 alias for CFNPPUE0 by running the sample jobs that are listed in the following table. These sample jobs are in the SCFNSAMP library. These sample jobs install usermod CFNUM01, which is in the SCFNSAMP library. All jobs must receive condition code 0000.

   **Table 1. Members in the SCFNSAMP library for installing usermod CFNUM01**

<table>
<thead>
<tr>
<th>Member name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFN1RECV</td>
<td>Receives usermod CFNUM01.</td>
</tr>
<tr>
<td>CFN1APLY</td>
<td>Applies usermod CFNUM01 to the target zone.</td>
</tr>
<tr>
<td>CFN1ACPT</td>
<td>Accepts usermod CFNUM01 to the distribution zone.</td>
</tr>
</tbody>
</table>

   * Normally, usermods are not accepted. This usermod does not update any code. It removes only the DFSPPUE0 alias from the SCFNLOAD library and updates JCLIN to remove the alias from any updates that can re-link CFNPPUE0 in future PTFs.

   If you apply usermod CFNUM01 but then decide to restore it, use the SMP RESTORE command. However, this command does not re-create the DFSPPUE0 alias that was deleted when the usermod was applied. You can re-create the DFSPPUE0 alias by installing usermod CFNUM02. After this usermod is installed, the DFSPPUE0 alias is placed back in the JCLIN.

   You can install usermod CFNUM02 by running the sample jobs that are listed in the following table. These sample jobs are in the SCFNSAMP library. These sample jobs install usermod CFNUM02, which is in the SCFNSAMP library.

   **Table 2. Members in the SCFNSAMP library for installing usermod CFNUM02**

<table>
<thead>
<tr>
<th>Member name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFN2RECV</td>
<td>Receive usermod CFNUM02.</td>
</tr>
<tr>
<td>CFN2APLY</td>
<td>Applies usermod CFNUM02 to the target zone.</td>
</tr>
</tbody>
</table>
Table 2. Members in the SCFNSAMP library for installing usermod CFNUM02 (continued)

<table>
<thead>
<tr>
<th>Member name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFN2ACPT</td>
<td>Accepts usermod CFNUM02 to the target zone.</td>
</tr>
</tbody>
</table>

Related reference:
“Keywords”

Related information:
IMS Tools Generic Exits

### Keywords

Keyword specifications and their use are as follows:

**INIT ERROR={ABEND | BACKOUT}**
- If an initialization error occurs, specifies whether IMS should ABEND or whether IMS Network CF should BACKOUT and leave IMS running without data stream compression.
- Default: BACKOUT

**PARM ERROR={CONTINUE | BACKOUT | ABEND}**
- User parameter specifications are read immediately after restart. If syntax errors are found in the user specifications, PARM ERROR specifies the action to be taken as follows:
  - IMS can ignore the errors and continue with compression active (CONTINUE)
  - The software can be shut down (BACKOUT)
  - The IMS control region can abend (ABEND)
- Default: BACKOUT

**PPUE0=name**
- Specifies module names to be invoked following IMS Network CF initialization. This specification is required if your installation has other vendor products that require DFSPPUE0 exit routines to be activated. Specify only one module name per line. If more than one exit routine is required, include multiple lines with the PPUE0= keyword on each line.
- If IMS Tools Generic Exits are used in your IMS system, IMS Network Compression Facility ignores any PPUE0= statements and writes a warning message to the MVS system log. Use IMS Tools Generic Exits instead of the PPUE0= keyword to drive other Partner Product Initialization exit routines.
  - For more information, see “Enabling compatibility with IMS Tools Generic Exits” on page 6.
- Default: The default is that no exit routine is to be invoked.

**MATCH ONE=x**
- Specifies the character used in exception list entries that matches exactly one character. MATCH ONE must be specified as a single character. If this parameter is not specified, it defaults to a percent sign (%).

**MATCH ALL=x**
- Specifies the character used in exception list entries that matches the entire remaining portion of the name. It must be specified as a single character. If this parameter is not specified, it defaults to an asterisk (*).
**COMPRESS**={ENABLED|DISABLED|ON|OFF|YES|NO}
Specifies whether outbound 3270 data compression is to be done for 3270 VTAM display terminals (CRTs) sysgened as 3270, 3270 local, and SLU type 2 terminals.

The values of ENABLED and DISABLED set the default for each data stream, and exception lists are checked to see whether each data stream should be processed. Values of ON and OFF set the value for every data stream. Exception lists are not checked. Values of YES and NO are still permitted for compatibility and are the same as ENABLED and DISABLED (exception list processing is active).

Default: ENABLED

**FIELD MERGE**={ENABLED|DISABLED|ON|OFF|YES|NO}
Specifies whether 3270 data compression is to eliminate field definitions in the 3270 data stream where they are not required.

The values of ENABLED and DISABLED set the default for each data stream, and exception lists are checked to see whether each data stream should be processed. Values of ON and OFF set the value for every data stream. Exception lists are not checked. Values of YES and NO are still permitted for compatibility and are the same as ENABLED and DISABLED (exception list processing is active).

Default: ENABLED

**BLANK ELIMINATION**={ENABLED|DISABLED|ON|OFF|YES|NO}
Specifies whether data streams are to have strings of blanks removed from the data stream where they occur in protected fields.

The values of ENABLED and DISABLED set the default for each data stream, and exception lists are checked to see whether each data stream should be processed. Values of ON and OFF set the value for every data stream. Exception lists are not checked. Values of YES and NO are still permitted for compatibility and are the same as ENABLED and DISABLED (exception list processing is active).

Default: ENABLED

**NON-DISPLAY FIELDS**={ENABLED|DISABLED|ON|OFF|YES|NO}
Specifies whether protected non-display fields are to be removed from the 3270 data stream sent to the terminal.

The values of ENABLED and DISABLED set the default for each data stream, and exception lists are checked to see whether each data stream should be processed. Values of ON and OFF set the value for every data stream. Exception lists are not checked. Values of YES and NO are still permitted for compatibility and are the same as ENABLED and DISABLED (exception list processing is active).

Default: ENABLED

**EXCEPT parm=name{,name}**
Specifies exceptions to whichever compression component control statement precedes it. Note that if the preceding control statement specifies a value of ON or OFF, an EXCEPT statement is read and names are saved. However, the names are not checked during the processing of data streams. Exception list processing only occurs when the component status is ENABLED or DISABLED.
The parm field indicates the criteria for the exception. The following values can be specified for parm:

**NODE**
Specifies node names that are an exception to the prior compression component control specification.

**LTERM**
Specifies TERM names that are an exception to the prior compression component control specification.

**USERID**
Specifies userids that are an exception to the prior compression component control specification. The userid is the security user identification used in the IMS /SIGN command. If sign on security is not used, the USERID parameter should not be used.

**USER**
Specifies user names that are an exception to the prior compression component control specification. The user name is the name that appears as the USER in a /DIS ASMT NODE nodename command.

**TRAN**
Specifies transaction names that are an exception to the prior compression component control specification. The TRAN name is obtained from the CTBDEST field, which typically contains the last trancode executed. For conversational transactions, the trancode in this field does not change from the first conversational transaction; instead it keeps the initial conversational transaction name until the conversation ends. For some command output, the CTBDEST field will contain the LTERM name associated with the terminal.

**FORMAT**
Specifies MFS Message Output Descriptor (MOD) names that are an exception to the prior compression component control specification.

**Example 1**
To compress only nodes named NODE1, NODE2, NODE3, and NODE4, include the following statements:

```
COMPRESS=NO
EXCEPT NODE=NODE1
EXCEPT NODE=NODE2
EXCEPT NODE=NODE3,NODE4
```

Generic names are permitted in exception lists. By default, a percent sign (%) substitutes for a single character, although the percent sign can be changed by using the MATCH ONE keyword. Also, an asterisk (*) substitutes for the rest of a name, although the asterisk sign can be changed by using the MATCH ALL keyword.

Any number of names can be included on a single line, and multiple lines are permitted. Note that to specify multiple names on a single line, the names must be separated by only one comma (no blanks can be included).

**Example 2**
To compress all messages except those from transaction codes that begin with ABCD:
TRACE parm=name
Specifications that an NCF trace is to be enabled for the requested session. Allowable values for the parm keyword are NODE, LTERM, USER, or USERID. The description of these keywords is the same as for the preceding EXCEPT statement. TRACE does not let you specify a TRAN or FORMAT name. In addition, for the TRACE statement generic values are not permitted; fully qualified names must be specified.

Attention: Each active trace uses 100KB of extended private storage.

Preparing APPC for IMS Network CF

APPC is Advanced Program to Program Communication. APPC uses a VTAM SNA network and LU 6.2 protocol to communicate between two application programs on the same or two different hosts (z/OS, OS/390®, MVS/ESA, VM/ESA, AS/400®, work stations running OS/2, and others).

The manual MVS Planning: APPC Management describes how to define and manage APPC/MVS and defines terms used in APPC/MVS. MVS Planning: APPC Management also defines the parameters specified in the TPADD and Side Information Add (SIADD) processes.

Preparing APPC for IMS Network CF requires:
- Setting up APPC/MVS
- Defining APPC resources for IMS Network CF
- Setting IMS Network CF options

The rest of this section describes these tasks.

Implementing APPC/MVS

If your installation has not yet implemented APPC/MVS, the book MVS Planning: APPC Management describes the required definitions.

If your installation has not yet implemented APPC/MVS, the book MVS Planning: APPC Management describes the required definitions.

The activities required to set up APPC/MVS include:
- Setting up the APPC and ASCH started tasks (tasks started by an operator command). The APPC address space controls APPC/MVS communication functions. The ASCH address space is where APPC transaction programs are scheduled. Sample APPC and ASCH procedures are shown in the Sample APPC PROC figure and the Sample ASCH PROC figure.

```
COMPRESS=YES
EXCEPT TRAN=ABCD*
```

```
//APPC PROC APPC=00
//APPC EXEC PGM=ATBINITM,PARM='APPC=&APPC',REGION=0K
```

Figure 2. Sample APPC PROC
Setting up member APPCPMxx in SYS1.PARMLIB. This member defines the APPC/MVS local logical unit names (LU names) and the data set names of the APPCTP and SIDEINFO data sets. A sample APPCPMxx member is shown in the Sample APPCMxx member figure.

Setting up member ASCHPMxx in SYS1.PARMLIB. This member defines classes and scheduling characteristics for transaction programs scheduled in the ASCH address space(s). A sample ASCHPMxx member is shown in the Sample ASCHPMxx member figure.

Defining the APPC/MVS LU name to VTAM. The ACBNAME defined to VTAM must match the ACBNAME specified in the APPCPMxx member of PARMLIB. A sample APPC/MVS APPL definition is shown in the Sample VTAM APPL definition figure.

Note that the VTAM LU name (and ACB name) should be unique within your installation. There is one LU name required for each MVS system (OS/390 or z/OS) on which an IMS system is running. The LU name can be any name. The name must be specified not only in the VTAM definition, but also in the LUADD statement (see Sample APPCPMxx member figure) and in the statements that define the side info entry (see the Job to define side information figure).

In this example, note that the value ALREADYV for SECAPT= is required for IMS Network CF.
When you create definitions for a multi-LPAR environment, the following resource definitions are required on the TSO LPAR (where the IMS Network CF ISPF interface is used) and the IMS LPAR (where IMS actually executes).

<table>
<thead>
<tr>
<th>Resource Definitions</th>
<th>TSO</th>
<th>TSO</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPC started task</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>ASCH started task</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYS1.PARMLIB (in APPCPMxx member)</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>LUADD (in APPCPMxx member)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>APPC/MVS LU definition (SYS1.VTAMLST)</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Figure 6. Sample VTAM APPC/MVS APPL definition

When you create definitions for a multi-LPAR environment, the following resource definitions are required on the TSO LPAR (where the IMS Network CF ISPF interface is used) and the IMS LPAR (where IMS actually executes).

Defining APPC resources for IMS Network CF

Each APPC transaction program (TP) has a TP profile defined to APPC/MVS. These definitions are stored in the APPC TP profile data set. The default name of this data set is SYS1.APPCRIPT, but the name can be customized by the installation. The APPCRIPT data set contains information about transaction programs that are scheduled in response to an inbound allocate request. APPCRIPT contains the scheduling and security information required to initiate the transaction program.

The side information data set (typically named SYS1.SIDEINFO) contains information about symbolic name translation. When an outbound allocate call is done, the side information data set provides the translation and routing definitions required to establish the APPC conversation.

The definition of a TP profile can be done using an ISPF interface or a batch interface. IMS Network CF uses one transaction program; a batch job to define the required transaction profile is included in the sample jobs. Note that the job contains JCL used to run the batch utility and contains JCL in the SYSIN DD DATA input stream. The data set names included in the SYSIN stream (such as the SCFNLOAD library and the dump output data set name) must be customized for your installation. The sample job to define the TP profile is in the SCFNSAMP member CFNTPADD.
The data set names specified in the TPADD command in the
MESSAGE_DATA_SET and the SYSUDUMP DD in the CFNAPPC job must be
allocated before using the ISPF interface. The message data set contains the JES
messages associated with execution of the ISPF interface. DCB parameters are
unimportant, and the space required is minimal (for example, 1 track). The data set
associated with the SYSUDUMP DD must also be allocated. The DCB information
can be omitted, but the space required must be sufficient to hold a dump (in the
event of an abend); ten cylinders should be sufficient to hold a dump. When
allocating these data sets in an SMS environment, be careful: these data sets should
not be allowed to migrate nor to release space. If the data sets are migrated, the
TSO user’s ISPF session will wait for the recall of the data sets.

The definition of side information can also be done using a batch job or using the
APPC ISPF panels. The side information specifies:

• The symbolic destination name (DESTNAME)
• The transaction program name (TPNAME), which must be
  IMS_LINE_OPTIMIZER
• An appropriate VTAM LOGMODE entry name
• The partner LU name (PARTNER_LU)

The job to define side information figure shows a sample job to define a side
information entry.

```
//CFNSIADD JOB (TECH),'SIADD'
/*/ 
//STEP1 EXEC PGM=ATBSDFMU
//SYSPRINT DD SYSOUT=* 
//SYSSDLIB DD DSN=SYS1.APPCSI,DISP=SHR 
//SYSSDOUT DD SYSOUT=* 
//SYSIN DD * 
SIDELETE
DESTNAME(MVS1)
SIADD
DESTNAME(MVS1)
TPNAME(*)
MODENAME(LU6NEGPS)
PARTNER_LU(MVSLU01)

Figure 7. Job to define side information
```

Note that in addition to customizing the DESTNAME and PARTNER_LU name,
the MODENAME must be a valid mode table entry name for LU6.2.

Also note that this APPC definition can be shared by other applications using
APPC, as the TPNAME must be supplied by the application. This same definition
can be shared with, for example, IMS ETO Support (product number 5655-E12).

Also note that this APPC definition can be shared by other applications using
APPC, as the TPNAME must be supplied by the application. This same definition
can be shared with, for example, IMS ETO Support (product number 5655-E12).

Table 4. Resource definitions

<table>
<thead>
<tr>
<th>Resource Definition</th>
<th>TSO</th>
<th>IMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMS Network CF APPC side information definition</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
Setting IMS Network CF options

Use the ISPF interface of IMS Network CF to define the symbolic destination (SYMDEST) of the APPC/MVS LU name for each IMS subsystem you wish to access. This is done in option 0 of the ISPF interface. When you initially enter option 0, you will see a list (if any) of IMSIDs and their associated APPC symbolic destinations, as shown in the figure.

<table>
<thead>
<tr>
<th>APPC CMD IMSID SYMDEST</th>
</tr>
</thead>
<tbody>
<tr>
<td>--- ----- --------</td>
</tr>
<tr>
<td>imid symdest</td>
</tr>
</tbody>
</table>

The imid is a unique IMSID, and symdest is the APPC/MVS symbolic destination for the APPC/MVS LU name on the MVS LPAR where IMS executes.

You can add or delete entries in this table, as required, to access any IMS systems on any LPARs in your environment – as long as the IMS systems are network connected and have symbolic destinations defined on the LPAR where the ISPF interface is executed.

Installing the ISPF interface

When the product libraries are downloaded from the distribution tape, installation of the ISPF interface can be completed.

**Procedure**

1. To start the product enter command `EX 'hlq.SCFNXEXEC(CFNXISPFP)' 'hlq'`
   where 'hlq' is the SMPE data set name high-level qualifier for the installed product.

2. Optional: Provide an ISPF panel interface to IMS Network CF. For example, you can update your ISPF Primary Options Menu to include an option CFN, which starts `CMD EXEC 'hlq.SCFNXEXEC(CFNXISPFP)' 'hlq'`.

3. Define the APPC TPNAME. Use the sample batch job CFNTPADD in the SCFNSAMP library.
Implementing security for the ISPF interface

IMS Network CF uses OS/390 Security Server facilities to restrict access to functions available in the ISPF interface. The security profiles are checked only on the MVS system where the IMS resides.

Specifically, the resource name used for IMS Network CF access verification is:

```
CLASS=FACILITY
RESOURCE=CFN.IMS.imsid (where imsid is the IMSID specified on the ISPF panel)
```

For OS/390 Security Server (RACF), the following command can be used to define the required resource. In the example that follows, a single generic resource is defined that will protect access to any IMS system.

```
RDEFINE FACILITY CFN.IMS.* UACC(NONE)
```

Since APPC is used to send requests from the TSO user session to the appropriate MVS system, APPC security must be defined to propagate the RACF userid from the entering TSO session to the APPC transaction. In addition, the same RACF userid should exist on both the MVS system where the user is logged on to TSO and the MVS system where the IMS subsystem resides.

Functions present in the ISPF interface require different levels of access to the OS/390 Security Server profile. The levels of access are as follows:

**READ**  
The user can select display type options, except for user trace information that could contain proprietary data.

**UPDATE**  
The user can select display type options, including trace data that could contain proprietary data.

**CONTROL**  
The user can select any functions, including those available with READ and UPDATE; in addition, the user can update IMS Network CF options and start or stop traces.

For OS/390 Security Server (RACF), the following command can be used to permit group name IMSSYS access to all functions in the IMS Network CF.

```
PERMIT CFN.IMS.* CLASS(FACILITY) ID(IMSSYS) ACCESS(CONTROL)
```
Chapter 3. Before using IMS Network CF

This chapter describes:

- How data streams are reduced
- How data streams are intercepted
- Storage requirements
- Efficiency recommendations

How 3270 data streams are reduced

Data streams sent to 3270 devices have a very specific format that includes orders and data. IMS MFS does not optimize data streams; it simply generates data streams based on user MFS source. IMS Network CF examines each outbound data stream and uses standard 3270 data stream orders and conventions to reduce the amount of data sent over the teleprocessing line to the end terminal.

Specifically, IMS Network CF examines each data stream for strings of repeated characters and substitutes the 3270 Repeat to Address order to send a repeating string while sending only a single occurrence of the character.

When data streams contain repeating strings of blanks, IMS Network CF does not send a Repeat to Address order if BLANK ELIMINATION is enabled. Instead, the data stream is updated to simply skip the blanks and move to the next non-blank character.

Data stream fields are sorted to identify any adjacent protected (output) fields that have the same field characteristics (such as color, intensity). Such redundant field definitions are eliminated when the FIELD MERGE option for that data stream is enabled.

IMS Network CF also examines each field definition. For fields that are protected (output) and non-display, the field is skipped if the NON-DISPLAY FIELDS option is enabled for the data stream. Note that if the data stream is being interpreted by an intelligent device (not just a 3270 or 3270 emulator), programs in the intelligent device might make use of these non-display protected fields. In this case, the options should be updated to either disable NON-DISPLAY FIELDS or create an exception list for such intelligent devices.

How 3270 data streams are intercepted

IMS Network CF is initialized by including an IMS Partner Product Initialization exit routine (DFSPPUE0). During initialization, the options are read from the parameter options member in PROCLIB, written to the JES job log of the IMS control region, and saved in storage. IMS Network CF positions itself to intercept data any time the IMS APPLID is opened so that each IMS data stream being sent from IMS to VTAM can be examined and compressed.
**Performance recommendations**

IMS Network CF exception lists should be kept to the minimum required. Also, FORMAT and TRAN type exception lists must be processed for each output message, so avoiding these types of exclusions improves efficiency. In addition, non-generic format exception list entries are processed with a single instruction, while generic format entries (those containing a percent sign or an asterisk, or the characters specified in the MATCH ONE or MATCH ALL control statements) are scanned character by character. Thus, use of non-generic entries is more efficient.

The size of the 3270 OUTBUF specification is important in reducing both the IMS time to process an output message and the efficiency of IMS Network CF. The OUTBUF size specifies the maximum amount of data that can be sent by IMS in each buffer being passed to VTAM. When output messages cannot fit in a single buffer, IMS has to set up and call VTAM twice to send a single output message.

Of course, there may be device requirements that limit the size of a single output message delivered from VTAM. This may include the buffer space available in the 3270 control unit. Care should be taken when increasing the size.

Note that the OUTBUF default for IMS 3270 terminals included in the sysgen is 2000 bytes, and the OUTBUF default for SLU2 terminals is 1500 bytes (although SLU2 OUTBUF is only used for MFS bypass). A specification of 4000 bytes appears fairly reasonable for a model 2 (24x80) device. If you regularly use 3270 type devices with larger screens or SLU2 devices with MFS bypass, consider increasing the respective OUTBUF values. Also note the restriction of 1536 bytes for 3790 devices defined as SLU2.
Chapter 4. Using the ISPF interface

Access the IMS Network CF ISPF Primary Options Menu screen using your installation-defined options. Access could be via:

- An option on your ISPF primary option panel
- Command EX 'hlq.SCFNSAMP(CFNXISPF)'

The Primary Options Menu screen is returned.

```
-------------- IMS Network Compression Facility Primary Options Menu ------------
Option ===>

  0 - IMS Systems
      Date: 01.113
      Time: 16:33
      Sysid: S390

  1 - Statistics
      Node: N1

  2 - Display Compression Statistics for a Node
      Plex: LOCAL

  3 - Display Options Currently in Use

  4 - Dynamic Options Update

  5 - Edit Permanent Options Definitions

  6 - Traces
      Work with Network Compression Traces

  M - IMS Network Compression Facility Messages

  Exit
      Exit IMS Network Compression Facility
```

Figure 8. Primary Options Menu screen

0 - IMS SYSTEMS
   Use this option to set up available IMS systems. For additional information, see the screens associated with this option (“Defining IMS system names to the ISPF interface (option 0)”).

1 - DISPLAY COMPRESSION STATISTICS FOR AN IMS SYSTEM
   Use this option to display IMS system compression statistics. For additional information, see the screens associated with this option (“Displaying IMS system compression statistics (option 1)”).

2 - DISPLAY COMPRESSION STATISTICS FOR A NODE
   Use this option to display compression statistics for terminals connected to IMS. For additional information, see the screens associated with this option (“Displaying terminal compression statistics (option 2)”).

3 - DISPLAY OPTIONS CURRENTLY IN USE
   Use this option to display information about the options currently in use. For additional information, see the screens associated with this option (“Displaying IMS Network CF options (option 3)”).

4 - DYNAMIC OPTIONS UPDATE
   Use this option to change the options currently in use. For additional information, see the screens associated with this option (“Updating IMS Network CF options (option 4)”)

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5 - EDIT PERMANENT OPTIONS DEFINITIONS

Use this option to make permanent changes to the options. To make permanent changes, the IMS PROCLIB member must be updated. This option places you in ISPF edit mode so you can update the PROCLIB member.

6 - WORK WITH NETWORK COMPRESSION TRACES

This option lets you display and update traces. For additional information, see the screens associated with this option (Displaying and updating traces (option 6)).

M - IMS NETWORK COMPRESSION FACILITY MESSAGES

Use this option to display a list of the messages for the product and then select the message for which you want more information.

X - EXIT IMS NETWORK COMPRESSION FACILITY

Use this option to exit from the product.

Defining IMS system names to the ISPF interface (option 0)

Before you use the ISPF interface the first time, the product installer must have defined IMS systems. Enter option 0 on the main menu screen to set up available IMS systems.

If IMS systems have not yet been defined, the following warning screen appears:

---------- IMS Network Compression Facility IMSID Table ----------
Command ===>  

WARNING

The IMS Network Compression Facility IMSID table was not found.
If this is the initial setup of your installation's IMSID table, this is a normal condition.
Otherwise, there may be a problem with the IMS Network Compression Facility table library or the IMSID table member (CFNIMSID).

To Proceed - Press the Enter Key
To Cancel - Press the End Key

Figure 9. IMSID Table screen (Warning)

To set up a new IMS system name table, press the enter key to display the IMSID table, which at this point will be empty:
To add IMSIDs to the table, type ADD on the command line and press enter. The Add IMSID Screen is returned (see the IMSID Table screen (ADD IMSID) figure). Enter an IMSID and the APPC symbolic destination for the MVS system where that IMS system runs on the screen. Press the enter key to add that IMSID, and continue entering IMSIDs and symbolic destinations until all IMS systems have been defined. Then press the end key to list the IMSID table.

From this screen, you can also delete IMS system names in the table (type D next to the IMS system). Also, the symbolic destination associated with an IMS system can be updated by selecting the IMSID and entering the updated symbolic destination on the IMSID update screen that is presented.
Note: The IMS Network CF ISPF interface can interact with IMS systems anywhere in the enterprise (not just on one MVS image). To do this, all IMS systems must be defined in the IMSID table. The IMSID table is stored in the table library (CFNTLIB) and could be populated on one MVS system and copied to other MVS systems.

Displaying IMS system compression statistics (option 1)

Compression statistics can be displayed for an entire IMS system or by node name. See “Displaying terminal compression statistics (option 2)” for statistics by node name.

Option 1 on the main menu screen provides access to the following information about an IMS system (see the IMS System Status screen figure):

Command ===> IMS Network Compression Facility IMS System Status  

IMSID ===> IMS5 (Specify the IMSID of an active IMS system)

IMS Restart Date: 2001.112  IMS Active for 000 Days and 21:20:21
IMS Restart Time: 20:43:45  Dynamic PARM Version: 1

Number of 3270 Sessions - Current: 1  Max Concurrent: 2

<table>
<thead>
<tr>
<th>Number of Messages</th>
<th>Original</th>
<th>Compressed</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>17</td>
<td>16</td>
<td>94.1%</td>
</tr>
</tbody>
</table>

Number of Output Characters (Total) 8,641 6,435 25.5%
Compressed Messages 8,591 6,385 25.6%
Uncompressed Messages 50 50 0.0%
Average Output Message Size 508 378 25.5%

Reasons for Messages Being Excluded from Compression:
Compression Not Enabled: 0
Data Stream Length 0: 0
Data Stream Commands Not Supported:
Read: 0  WSF: 0  EAU: 0
Data Stream Characters Not Supported:
PT: 1  Unknown Character(s): 0

Figure 13. IMS System Status screen

IMS RESTART DATE/TIME
Shows the Julian date and time that IMS was last restarted (local time on the system where IMS is executing).

IMS ACTIVE
Shows the number of days and the elapsed hours, minutes, and seconds since IMS was restarted.

DYNAMIC PARM VERSION
Starting with 1, shows the version number of the IMS Network CF options in use. Each update to the options done using the ISPF interface increments this number.

NUMBER OF 3270 SESSIONS
Shows the current number and maximum number (since IMS restart) of terminal-related control blocks.

Note: Control blocks are deleted only when users log off normally (using an /RCL or /CLS command). A terminal that is logged off by powering down the device does not clean up terminal control blocks; these control blocks are reused when the terminal reconnects.
NUMBER OF MESSAGES
Shows the number of messages sent to 3270 terminals since IMS restart, the number of these messages that were compressed, and the percentage of messages compressed.

NUMBER OF OUTPUT CHARACTERS (TOTAL)
Shows the total number of characters IMS sent to 3270 VTAM terminals before compression, the number of characters sent after the messages were compressed, and the percentage reduction in number of characters.

COMPRESSED MESSAGES
Shows, for messages that were compressed, the number of characters that were to be sent before compression, the number of characters that were actually sent after the messages were compressed, and the percentage reduction in number of characters.

UNCOMPRESSED MESSAGES
Shows the number of characters in messages that were not compressed.

AVERAGE OUTPUT MESSAGE SIZE

REASON FOR MESSAGES BEING EXCLUDED FROM COMPRESSION
Shows the number of messages that were not compressed for each of the following reasons:

COMPRESSION NOT ENABLED
Compression was not done due to an exception list entry or because compression was disabled.

DATA STREAM LENGTH 0
The 3270 data stream had a length of 0.

DATA STREAM COMMANDS NOT SUPPORTED
Data streams that are READ, WSF (Write Structured Fields), or EAU (Erase All Unprotected) commands are not compressed.

DATA STREAM CHARACTERS NOT SUPPORTED
Data streams are not compressed when they contain characters that are not supported. This includes PT (Program Tab) and any unknown characters.

Displaying terminal compression statistics (option 2)
To display compression statistics for terminals connected to IMS, use option 2 on the main menu screen. The screen that is returned (see Figure 14) prompts you to enter an IMSID and an optional node name mask (which can include plus signs and asterisks).
Entering IMSID and node name mask

After entering an IMSID and optional node name mask, a list of 3270 terminals connected to IMS will appear, along with information about each terminal.

--- IMS Network Compression Facility IMS Terminal Status List ---

**Command ==>**

**IMSID ==>** (The IMSID of an active IMS system)

**Node Name ==>** (Optional Node Name Mask)

Enter the IMSID and an optional node name or node name mask. A blank node name will retrieve a list of every terminal currently connected to that IMS system.

The Node Name Mask can include an asterisk as the last character of the name to match any name that starts with the characters before the asterisk. A plus sign can be used as a single character wildcard anywhere within the Node Name field.

--- IMS Network Compression Facility IMS Terminal Status Row 1 to 7 of 7 ---

**Command ==>** Scroll ==> PAGE

**IMSID ==> IMS5** (The IMSID of an active IMS system)

**Node Name ==>** (Optional Node Name Mask)

**Refresh ==>** (Select to Update Values Below)

<table>
<thead>
<tr>
<th>Node Number</th>
<th>Original</th>
<th>Compressed</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>L Name</td>
<td>Bytes</td>
<td>Bytes</td>
<td>Reduced</td>
</tr>
<tr>
<td>SC0TCP02</td>
<td>8,999</td>
<td>6,516</td>
<td>27.5</td>
</tr>
<tr>
<td>SC0TCP04</td>
<td>2,139</td>
<td>1,410</td>
<td>34.0</td>
</tr>
<tr>
<td>SC0TCP05</td>
<td>3,390</td>
<td>1,993</td>
<td>41.2</td>
</tr>
<tr>
<td>SC0TCP06</td>
<td>3,079</td>
<td>1,955</td>
<td>36.5</td>
</tr>
<tr>
<td>SC0TCP07</td>
<td>4,660</td>
<td>3,307</td>
<td>29.0</td>
</tr>
<tr>
<td>SC0TCP08</td>
<td>924</td>
<td>662</td>
<td>28.3</td>
</tr>
<tr>
<td>SC0TCP09</td>
<td>1,404</td>
<td>947</td>
<td>32.5</td>
</tr>
</tbody>
</table>

--- Bottom of data ---

--- User's Guide ---

The SORT command can be used to sort the list of node names. Enter SORT NODE, SORT LTERM, or SORT USERID on the command line to do the sort. The LOCATE command scrolls through the list to the name entered. LOCATE may be abbreviated as L. To scroll to name xyz, type L XYZ on the command line. The locate command searches whatever column is currently the sort column (which is initially the node name).

Selecting a specific line in the list provides additional information about that node (see Figure 16).
The fields on the preceding screen have the same meanings as those on the system status screen (see the IMS System Status screen figure), except that the fields apply only to the selected terminal. The only additional fields on the terminal status screen are the fields on the last two lines.

Note: If there is a question about what values to specify in an exception list, the terminal status screen provides a way to see what values were checked by IMS Network CF during the processing of the last output message. The trace facility also provides this information for each data stream traced.

### Displaying IMS Network CF options (option 3)

Option 3 on the main menu screen lets you display the options currently in use. The first screen lets you enter the IMSID for the options you want displayed.

---

**Figure 16. Terminal Status List screen (Node Detail)**

The fields on the preceding screen have the same meanings as those on the system status screen (see the IMS System Status screen figure), except that the fields apply only to the selected terminal. The only additional fields on the terminal status screen are the fields on the last two lines.

**Note:** If there is a question about what values to specify in an exception list, the terminal status screen provides a way to see what values were checked by IMS Network CF during the processing of the last output message. The trace facility also provides this information for each data stream traced.

---

**Figure 17. IMS Options screen (Enter IMSID for Options to Display)**

Once an IMSID is entered, the options currently in use for the specified IMSID are displayed (see Figure 18).
INIT ERROR
Shows the value specified in the parameter options member of PROCLIB for the action to be taken when there is an initialization error.

PARM ERROR
Shows the value specified in the parameter options member of PROCLIB for the action to be taken when there is a parameter error.

DFSPPUE0 EXIT ROUTINES
Shows the number of exit routines specified in the parameter options member of PROCLIB. Placing a nonblank character at the end of the line shows the names of any specified exit routines.

TRACE FOR DATA STREAMS
Shows the number of node names currently defined for the trace. Placing a nonblank character at the end of the line shows the node names currently enabled for the trace facility.

NUMBER OF ENTRIES IN EXCEPTION LISTS
Shows each compression feature’s current status in the Status column, which may be ENABLED, DISABLED, ON, or OFF (ENABLED and DISABLED process exception lists, while ON/OFF do not). Also shown is the number of entries in each possible exception list. To display the entry names in any list, place a nonblank character to the left of the number, and a table showing all exceptions to the component’s status will be displayed.

Figure 19 is displayed when the DFSPPUE0 exit list is requested.
Figure 20 is returned when a list of traced node names is requested.

<table>
<thead>
<tr>
<th>NODE NAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCOTCP02</td>
<td>UNUSED</td>
</tr>
</tbody>
</table>

Figure 21 is an example of a display of an exception list.
ENTRY
  Shows the exception list entries.

STATUS
  Shows the status of each exception list entry, which can be one of the
  following:

  UNUSED
    The entry name was not used during this IMS control region start
    up.

  USED
    The entry name was used during data stream option checking
    during this IMS control region start up.

  DELETED
    The entry name was marked as deleted.

---

**Figure 21. IMS Options screen (Display Exception List)**

<table>
<thead>
<tr>
<th>Entry</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>NODE1</td>
<td>UNUSED</td>
</tr>
</tbody>
</table>

---

**Updating IMS Network CF options (option 4)**

Option 4 on the main menu screen lets you change the options currently in use.

Note that any changes made to options using these screens are only temporary. When IMS is brought down, all changes are lost, and the permanent options in the parameter options member of PROCLIB are read and used. To make permanent changes in the options, use option 5 on the main menu.

In addition, changes to options are not made until all updates are completed. When you leave the Options Update screen, a confirmation screen is shown if any changes have been made, and changes to the options used by the IMS system are then made.

When you select option 4 on the main menu screen, Figure 22 is returned. On this screen you can enter the IMSID for which you want options to be displayed.
When an IMSID is entered, Figure 23 is returned. The fields on this screen are the same as those in Figure 18. Note that some options cannot be updated using this screen. This includes trace options (since these are updated using the trace option on the main menu) as well as parameters that are only used during initialization (INIT Error, PARM Error, and DFSPPUE0 Exit Routines).

The fields that can be updated are in the table at the bottom of the screen. To change an option, simply overtype the status column value with the new desired value. The valid values for the status are:

- **ENABLED** - Enable the option (disabling data streams that match a specification in the exception lists for this option)
- **DISABLED** - Disable the option (enabling data streams that match a specification in the exception lists for this option)
- **ON** - Enable the option for every data stream and ignore any exception list entries
- **OFF** - Disable the option for every data stream and ignore any exception list entries

---

**Figure 22. Options Update screen (Enter IMSID)**

When an IMSID is entered, Figure 23 is returned. The fields on this screen are the same as those in Figure 18. Note that some options cannot be updated using this screen. This includes trace options (since these are updated using the trace option on the main menu) as well as parameters that are only used during initialization (INIT Error, PARM Error, and DFSPPUE0 Exit Routines).

---

**Figure 23. IMS Options screen (Display Options)**

The fields that can be updated are in the table at the bottom of the screen. To change an option, simply overtype the status column value with the new desired value. The valid values for the status are:

- **ENABLED** - Enable the option (disabling data streams that match a specification in the exception lists for this option)
- **DISABLED** - Disable the option (enabling data streams that match a specification in the exception lists for this option)
- **ON** - Enable the option for every data stream and ignore any exception list entries
- **OFF** - Disable the option for every data stream and ignore any exception list entries
To change an option, simply overtype the current value with the desired value as shown in Figure 24.

```
------------------- IMS Network Compression Facility IMS Options Row 1 to 4 of 4
Command ===>
Scroll ===>
PAGE

IMSID ===> IMS7
The following entries cannot be dynamically updated. They must be updated in the IMS Network Compression Facility options member.

INIT Error: BACKOUT   PARM Error: BACKOUT
DFSPPUE0 Exit Routines - 0 Defined - Select Here to View Names ===>
Trace for Data Streams - 1 Defined - Select Here to View Nodes ===>

Update the Active column ot select an exception list to update the list entries

------------- Number of Entries In -------------
--------------- Exception Lists ----------------

<table>
<thead>
<tr>
<th>Option</th>
<th>Status</th>
<th>Node</th>
<th>Tran</th>
<th>LTERM</th>
<th>Userid</th>
<th>User</th>
<th>Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPRESSION DISABLED</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>FIELD MERGE ENABLED</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NON-DISPLAY FIELDS ENABLED</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>BLANK ELIMINATION ENABLED</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

******************************************************** Bottom of data ********************************************************
```

Figure 24. IMS Options screen (Change an Option)

To make changes to an exception list, select the proper list by placing a nonblank character to the left of the number of entries currently in the list. Figure 25, which shows the current list entries and their status, is returned.

```
------------------- IMS Network Compression Facility Options Update Row 1 to 1 of 1
=== Scroll ===>
PAGE

IMSID ===> IMS7

Exception List for COMPRESSION by NODE Name
Default Setting for COMPRESSION - Active=NO

Primary Commands: ADD
Line Commands: D to Delete, S to Edit

S Entry Status
- -------- --------
NODE1 UNUSED

******************************************************** Bottom of data ********************************************************
```

Figure 25. Options Update screen (Status of Current List Entries)

ENTRY
Entry name.

STATUS
Status of the current list entries, which can be one of the following:

UNUSED
The entry name was not used during this IMS control region start up.

USED
The entry name was used during data stream option checking during this IMS control region start up.
The entry name was marked as deleted.

The entry name was added during this options update session.

The entry name was updated during this options update session.

Typing ADD on the command line in Figure 25 returns the Add Exception List screen shown in Figure 26. The component name and exception list name are shown when the screen appears. To add a new entry name to this exception list, simply enter the name and press enter. Multiple names can be added by overtyping the previous name and pressing enter again. When you are finished adding new entry names, press the end key to leave the add entry screen.

The list of exception entry names also allows line commands, including D to delete and S to edit. Entering one of these characters next to an entry name displays a delete confirmation screen or an edit screen; these screens let you change the entry name. The following three screens show a line command entry, the delete confirmation screen, and the edit entry name screen.
To update the entry name in Figure 29, enter the S line command.

Once all option updates are completed, press PF3 to display the Options Update confirmation screen. To implement all changes made since entering option 4 on the main menu, press the enter key. To cancel all updates, press the end key.

Displaying and updating traces (option 6)

Option 6 on the main menu screen lets you display and update traces. Note that any trace requests are lost when IMS is brought down. To have a trace enabled when IMS is restarted, use the TRACE statement in the options member CFNPimid in IMS PROCLIB.

Also note that the trace facility acquires 100K of extended private area storage in the IMS control region for each active trace. This storage is not freed until the trace data is deleted through the ISPF interface.

Generic names are not permitted in the list of nodes to be traced.

When you enter option 6 on the main menu screen, Figure 30 is returned. Enter the IMSID on this screen.
Once the IMSID is entered, the list of node names that have trace either enabled or still present is shown (see Figure 31).

Existing traces can be selected (displayed), stopped, or deleted. In order to delete a trace, it must first be stopped. Note that the process of actually deleting a trace occurs when IMS processes the next data stream. Because of this, deleting a trace and then starting another trace for the same resource name may fail (due to a duplicate trace) if IMS has not processed a data stream between the delete and the add.

To enable a new trace, enter the STRACE command on the command line, and press enter. Figure 32 will be displayed. Specify the requested data (type of resource and name of the resource to be traced) and press enter to initiate a new trace.
Once a specific trace entry (for a specified node, LTERM, user, or userid) is selected, a list of captured data streams is displayed. See Figure 33 for an example of this screen. From this screen, enter an S in the pre-compression or post-compression column to see the actual data stream content in hex dump format. Enter an F to write the data stream to the ISPF user’s screen, which will then display the screen content that was sent to the IMS user’s screen. To return to the selection list in Figure 33, press the enter or PF3 key.

The data stream, in hex dump format, can be printed to a data set. To do this, enter a P in either the pre- or post- compression column. After the print completes, press PF1 for the name of the data set where the printed output was written.

Figure 32. Trace screen (Start Trace)

Once a specific trace entry (for a specified node, LTERM, user, or userid) is selected, a list of captured data streams is displayed. See Figure 33 for an example of this screen. From this screen, enter an S in the pre-compression or post-compression column to see the actual data stream content in hex dump format. Enter an F to write the data stream to the ISPF user’s screen, which will then display the screen content that was sent to the IMS user’s screen. To return to the selection list in Figure 33, press the enter or PF3 key.

The data stream, in hex dump format, can be printed to a data set. To do this, enter a P in either the pre- or post- compression column. After the print completes, press PF1 for the name of the data set where the printed output was written.

Figure 33. Trace screen (Trace Entries that Can Be Selected)

Figure 34 shows a data stream in hex dump format, provided by using the S option.
Figure 34. Trace screen (Display Data Stream)
Chapter 5. Abend codes

U4002

All IMS Network CF abends are U4002 abend codes. The abend codes may occur in the IMS address space, the APPC address space, or the TSO address space.

For errors in either the IMS control region or the APPC address space, abends are preceded by messages in the MVS syslog.

When occurring in the TSO address space, the abend is caused by an ISPF SETMSG call failure.
Chapter 6. Messages

Two types of messages are associated with IMS Network CF:

- ISPF messages
- Non-ISPF messages

Both types of messages begin with CFN.

ISPF messages

Error messages received when using the ISPF interface are designed to be self-documenting. Pressing PF1 (or the help PF key) when an error message occurs provides a description of the error as well as information on what to do to resolve the problem.

ISPF error message identifiers have the format CFNA\text{n\text{n\text{n}} or CFNB\text{n\text{n\text{n}}, where \text{n\text{n\text{n}} is a three-digit message number. ISPF message identifiers are only present in the long version of an ISPF message. To retrieve the long version of an IMS Network CF message, press the help key (PF1) when a short error message is displayed.

Please provide this error message identifier when contacting the IBM support center about an ISPF error.

APPC and IMS address space messages

Messages issued to the MVS syslog from either APPC address spaces or the IMS control region address space are documented in the ISPF interface. Option M on the Primary Options Menu screen (Figure 8) provides access to descriptions of all such error messages.

Using the ISPF message facility

To obtain more information about a message, display a list of the messages and then select the one for which more information is desired.

Enter option M on the Primary Options Menu screen (Figure 8) to obtain a list of product messages. An example of the resulting message display is shown in Figure 35.
Selecting a specific message number provides additional information about that message. Entering an S in the CMD column selects a message and provides the following example message description:

**List of ISPF messages**

For each message, the following accompanying information is provided where applicable:

**CFNAnnn Variable Text**

The message prefix CFNA or CFNB followed by a three-digit number represents the message identifier. The variable text appearing next to the message identifier is the short message text.

**System Action**

This explains what the system will do next.
Programmer Response
This describes whether a response is necessary, what the appropriate response should be, and what the resulting effect is on the system or program.

Explanation
This is the full message text, also called the long message.

---

<table>
<thead>
<tr>
<th>Code</th>
<th>Message</th>
<th>Explanation</th>
<th>System action</th>
<th>Programmer response</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFNA000</td>
<td>APPC ERROR</td>
<td>Error encountered in CFNAPPC0 RC=nn. This could be an APPC error. Verify that APPC is available and connectivity to the required MVS system is available.</td>
<td>The requested function fails.</td>
<td>The detailed APPC error message text should be displayed. Use this information to determine the cause of the APPC error.</td>
</tr>
<tr>
<td>CFNA001</td>
<td>INVALID COMMAND</td>
<td>The primary command entered is not valid on this screen.</td>
<td>The command is ignored.</td>
<td>Correct the information entered on the command line. If the command is valid, contact the IBM support center for assistance in determining the cause of the problem.</td>
</tr>
<tr>
<td>CFNA002</td>
<td>APPC ERROR</td>
<td>APPC Response Message had Return Code rr but no MSGID. This is a software problem and should be reported to the support center.</td>
<td>The requested function fails.</td>
<td>An error occurred in APPC or the remote APPC application. A message ID that should have been returned was not present. Contact the IBM support center for assistance in determining the cause of the problem.</td>
</tr>
<tr>
<td>CFNA003</td>
<td>CFN DIRECTORY INVALID</td>
<td>The CFN directory format was invalid. This is a software problem and should be reported to the IBM support center.</td>
<td>The requested function fails.</td>
<td>Verification of the main IMS Network CF control block within the IMS address space failed. Contact the IBM support center for assistance.</td>
</tr>
<tr>
<td>CFNA004</td>
<td>COMPUTATION ERROR</td>
<td>An error occurred computing the number of messages. This is a software problem and should be reported to the support center.</td>
<td>The function completes, but some data on the screen may not be valid.</td>
<td>One or more of the fields on the screen may not have been calculated correctly. The displayed screen contents may not be valid. Contact the IBM support center for assistance in resolving this problem.</td>
</tr>
<tr>
<td>CFNA005</td>
<td>COMPUTATION ERROR</td>
<td>An error occurred computing a percentage. This is a software problem and should be reported to the IBM support center.</td>
<td>The function completes, but some data on the screen may not be valid.</td>
<td>One or more of the fields on the screen may be calculated incorrectly. The displayed screen contents may not be valid. Contact the IBM support center for assistance in resolving this problem.</td>
</tr>
<tr>
<td>CFNA006</td>
<td>TRACE ENTRY ADDED</td>
<td>The specified node name has been added to the trace list.</td>
<td>A new entry has been added to the trace table.</td>
<td>None</td>
</tr>
<tr>
<td>CFNA007</td>
<td>TRACE ENTRY DELETED</td>
<td>The specified node name has been removed from the trace list.</td>
<td>An entry was deleted from the trace table.</td>
<td>None</td>
</tr>
<tr>
<td>CFNA008</td>
<td>TRACE ENTRY STOPPED</td>
<td>The trace for this node name has been stopped.</td>
<td>Tracing for an entry has been stopped, although the data from the trace is still available for viewing.</td>
<td>None</td>
</tr>
</tbody>
</table>
**CFNA009 • CFNA018**

**CFNA009  IMS imid NOT FOUND**

**Explanation:** The requested IMSID is not currently running on the MVS system specified in the IMSID table.

**System action:** The request fails.

**Programmer response:** Check 1) whether IMS is currently started and 2) whether the IMS Network CF IMSID table specifies the correct MVS system (symbolic destination) for the IMSID.

---

**CFNA010  UNSUPPORTED IMS VERSION**

**Explanation:** The release of IMS imid is not supported by this level of IMS Network CF. If this message is received in error, contact the IBM support center.

**System action:** The request fails.

**Programmer response:** Check for the availability of a PTF or of a new release of IMS Network CF that supports the release of IMS being used.

---

**CFNA011  MODULE NOT FOUND**

**Explanation:** A requested load module name was not found. This could be caused by IMS Network CF not being installed, or by a parameter or initialization error that occurred during IMS initialization. Check for prior errors and contact the support center if no errors are found.

**System action:** The request fails.

**Programmer response:** Verify that IMS Network CF is installed on the requested IMS system, and that initialization errors were not encountered at the last IMS startup. If the function being performed was a request to dump storage for a module, ensure that the module name was entered correctly.

---

**CFNA012  NO EXCEPTION LIST**

**Explanation:** The requested exception list is empty.

**System action:** The request is ignored.

**Programmer response:** Select a field that contains exception list entries.

---

**CFNA013  CFN NOT ACTIVE**

**Explanation:** The IMS Network CF directory was not the Specified IMS system. This could be caused by IMS Network CF not being installed, or by a parameter or initialization error that occurred during IMS initialization. Check for prior errors and contact the IBM support center if no errors are found.

**System action:** The request fails.

**Programmer response:** Verify that IMS Network CF is installed on the requested IMS system, and that initialization errors were not encountered at the last IMS startup. If the function being performed was a request to dump storage for a module, ensure that the module name was entered correctly.

---

**CFNA014  TOO MANY SESSIONS**

**Explanation:** There were more sessions active than were able to be displayed. Contact the IBM support center to determine the reason for this unexpected condition.

**System action:** The request fails.

**Programmer response:** Contact the IBM support center.

---

**CFNA015  NODE NOT FOUND**

**Explanation:** The selected node name is no longer logged on to this IMS.

**System action:** The request fails.

**Programmer response:** Select a device name that is currently logged on to IMS.

---

**CFNA016  UPDATES CANCELLED**

**Explanation:** Updates to IMS Network CF options were cancelled by a user request.

**System action:** Any IMS Network CF updates that have been entered are not transmitted to the IMS system. Any changes to the options entered are ignored.

**Programmer response:** If the updates were intended to be implemented, press the enter key instead of PF3 when asked if the updates should be implemented.

---

**CFNA017  PARTIAL TRACE INFO**

**Explanation:** Some trace information is missing because there was not enough storage for all trace information. Contact the support center for this unexpected condition.

**System action:** Partial trace information is displayed.

**Programmer response:** Contact the IBM support center for assistance.

---

**CFNA018  NODE NOT FOUND**

**Explanation:** The requested node is no longer logged on to this IMS.

**System action:** The requested node is no longer logged on to this IMS.

**Programmer response:** The requested node is no longer logged on to this IMS.
CFNA019  TRACE NOT ACTIVE
Explanation: Trace information for the requested node is no longer available.
System action: TRACE NOT ACTIVE
Programmer response: Either the selected terminal logged off, or the trace information was deleted. Trace information is only available while the terminal is logged on to IMS. Select a terminal name that is currently connected to IMS to display trace information.

CFNA020  TOO MANY TRACES
Explanation: The trace request failed because the maximum number of active trace node names is already present.
System action: The request fails.
Programmer response: Delete a trace that is currently defined to allow a new trace entry to be added.

CFNA021  INVALID LENGTH
Explanation: Specified length is invalid.
System action: The request is ignored.
Programmer response: Specify a valid storage length to dump.

CFNA022  REGION ID INVALID
Explanation: Specified region ID is invalid.
System action: The request is ignored.
Programmer response: Specify a valid region ID (IMS, DLI, DBRC, or * for your TSO session).

CFNA023  REQUEST FIELD BLANK
Explanation: The request field contained no data.
System action: The request is ignored.
Programmer response: Specify a request for the storage address to be dumped.

CFNA024  APPC COMM ERROR
Explanation: APPC receive failed with RC=rr. This is a software problem and should be reported to the IBM support center.
System action: The request fails.
Programmer response: Contact the IBM support center for assistance.

CFNA025  MISSING FUNCTION CODE
Explanation: Missing function code from internal control block. This is a software problem and should be reported to the support center.
System action: The request fails.
Programmer response: Contact the IBM support center. This is a software error.

CFNA026  TRACE NOT STOPPED
Explanation: A trace must be stopped before being deleted. Stop the trace first, and then delete the trace information.
System action: The request is ignored.
Programmer response: Before deleting a trace, issue the stop command to stop the trace. After it has been stopped, delete the trace.

CFNA027  MULTIPLE SELECTS
Explanation: More than one field was selected. Select only 1 field.
System action: The request is ignored.
Programmer response: Select only one of the fields.

CFNA028  MODULE ERROR
Explanation: An error occurred processing the selected module. This is a software problem and should be reported to the support center.
System action: The request fails.
Programmer response: Contact the IBM support center for assistance.

CFNA029  INVALID SELECT CHARACTER
Explanation: Use a valid line/field selection character.
System action: The request is ignored.
Programmer response: Specify a valid line selection character.

CFNA030  MISSING ERROR ID
Explanation: An APPC task returned with RC=rr but no error message ID. This is a software problem and should be reported to the IBM support center.
System action: The request fails.
Programmer response: Contact the IBM support center for assistance.
CFNA031 • CFNA041

**CFNA031 IMSID INVALID**

**Explanation:** The IMSID passed to CFNAPPC0 was invalid (blank or hex zeros). This is a software problem and should be reported to the support center.

**System action:** The request fails.

**Programmer response:** Contact the IBM support center for assistance.

**CFNA032**

**Explanation:** IMSID was not found in the IMSID setup table. Either specify a valid IMSID, or use the setup option to add this IMSID to the IMSID table.

**System action:** The request fails.

**Programmer response:** Either specify a valid IMSID, or use the setup option to add this IMSID to the IMSID table.

**CFNA033 SYMDEST INVALID**

**Explanation:** The SYMDEST value found in the IMSID table was invalid. Use the setup option to correct the SYMDEST value for this IMSID. Contact the IBM support center if the SYMDEST is valid.

**System action:** The request is ignored.

**Programmer response:** Check the IMS Network CF IMSID table to verify that a valid SYMDEST name was specified in the IMSID table for the requested IMS name.

**CFNA034 INVALID SEND LENGTH**

**Explanation:** The APPC header contains a send length of zero. This is a software problem and should be reported to the support center.

**System action:** The request fails.

**Programmer response:** Contact the IBM support center for assistance.

**CFNA035 INVALID RECV LENGTH**

**Explanation:** The APPC header contains a receive length of zero. This is a software problem and should be reported to the support center.

**System action:** The request fails.

**Programmer response:** Contact the IBM support center for assistance.

**CFNA036 INVALID APPCERR ADDR**

**Explanation:** The APPC header contains an APPC error address of zero. This is a software problem and should be reported to the support center.

**System action:** The request fails.

**Programmer response:** Check for availability of a PTF or new release of IMS Network CF that supports the release of IMS being used.
CFNA042  CFNA042
Explanation: An invalid region ID was requested.
System action: The request is ignored.
Programmer response: Specify a valid region ID (IMS, DLI, DBRC, or * for your TSO session).

CFNA043
Explanation: A job name instead of IMSID was specified with IMS storage.
System action: The request is ignored.
Programmer response: Specify a 4-character job name for IMS storage.

CFNA044  INVALID ADDRESS
Explanation: An invalid address was specified.
System action: The request is ignored.
Programmer response: Specify a valid request address for storage.

CFNA045  INVALID MODULE NAME
Explanation: The specified module name was too long.
System action: The request is ignored.
Programmer response: Specify a module name with 8 or fewer characters.

CFNA046  MODULE NOT FOUND
Explanation: The requested module name was not found.
System action: The request fails.
Programmer response: Ensure that the correct module name and address space are specified in the request.

CFNA047  INVALID DUMP ADDRESS
Explanation: A syntax error was found in the requested dump address.
System action: The request is ignored.
Programmer response: Check the syntax of the request field.

CFNA048  TOO MANY MODULES
Explanation: There were too many modules found - some are not listed.
System action: A partial list of modules is displayed.
Programmer response: Contact the IBM support center for assistance.

CFNA049  STORAGE REQ FAILED
Explanation: A storage request did not include both address and length.
System action: The request fails.
Programmer response: Specify all the required fields on the screen.

CFNA050  INVALID FUNCTION ID
Explanation: An internal error occurred during interpretation of the function ID. This is a software problem and should be reported to the IBM support center.
System action: The request fails.
Programmer response: Contact the IBM support center for assistance.

CFNA051  ADD SUCCESSFUL
Explanation: The exception list entry name was added.
System action: The entry was added to the table.
Programmer response: None

CFNA052  DELETE SUCCESSFUL
Explanation: The exception list entry was deleted.
System action: The entry was deleted from the exception list.
Programmer response: None

CFNA053  EDIT SUCCESSFUL
Explanation: The exception list entry was changed.
System action: An exception list entry was successfully updated.
Programmer response: None

CFNA054  DELETE CANCELLED
Explanation: The delete operation was cancelled.
System action: None
Programmer response: The delete operation that had been entered was cancelled by the user.

CFNA055  EDIT CANCELLED
Explanation: The edit operation was cancelled.
System action: None
Programmer response: The update operation that had been entered was cancelled by the user.
CFNA056 OPTIONS UPDATED
Explanation: The options have been successfully implemented.
System action: Updated options were successfully installed.
Programmer response: None

CFNA057 LOGIC ERROR
Explanation: Unable to determine component of table entry. This is a software problem and should be reported to the IBM support center.
System action: The request fails.
Programmer response: Contact the IBM support center for assistance.

CFNA058 APPC SEND LENGTH 0
Explanation: An APPC remote program set a send length of 0. This is a software problem and should be reported to the IBM support center.
System action: The request fails.
Programmer response: Contact the IBM support center for assistance.

CFNA059 APPC RECEIVE ERROR
Explanation: An APPC receive failed because the receive area is too small. This is a software problem and should be reported to the IBM support center.
System action: The request fails.
Programmer response: Contact the IBM support center for assistance.

CFNA060 IMSID imid ADDED
Explanation: The requested IMSID (imid) has been added.
System action: An IMSID and associated SYMDEST was added to the IMSID table.
Programmer response: None

CFNA061 IMSID imid DELETED
Explanation: The requested IMSID (imid) has been deleted.
System action: An IMSID was deleted from the IMSID table.
Programmer response: None

CFNA062 IMSID imid UPDATED
Explanation: The requested IMSID (imid) has been updated.
System action: The IMSID table was updated to include a new SYMDEST.
Programmer response: None

CFNA063 GETMAIN ERROR
Explanation: Getmain failed RC=rr.
System action: The request fails.
Programmer response: Contact the IBM support center for assistance.

CFNA064 FREEMAIN ERROR
Explanation: Freemain failed RC=rr.
System action: The request fails.
Programmer response: Contact the IBM support center for assistance.

CFNA065 ALESERV FAILED
Explanation: An ALESERV macro failed with RC=rr. This is a software problem and should be reported to the IBM support center.
System action: The request fails.
Programmer response: Contact the IBM support center for assistance.

CFNA066 NOT AUTHORIZED
Explanation: Your userid is not authorized to perform this function on the system where this IMS is running.
System action: The request fails.
Programmer response: Review the authorization section of the installation instructions in this manual for assistance in the permissions required for appropriate authorization.

CFNA067 MESSAGE TABLE IN USE
Explanation: An ISPF TBOPEN for the message table failed - ENQ failure.
System action: The request fails.
Programmer response: Ensure that no one is updating the message table.
<table>
<thead>
<tr>
<th>CFNA068 MESSAGE mmmmmmmmm ADDED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
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<tr>
<td><strong>System action:</strong></td>
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<tr>
<td><strong>Programmer response:</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>CFNA069 Message mmmmmmmmm DELETED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
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<tr>
<td><strong>System action:</strong></td>
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<tr>
<td><strong>Programmer response:</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>CFNA070 Message mmmmmmmmm UPDATED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
</tr>
<tr>
<td><strong>System action:</strong></td>
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<tr>
<td><strong>Programmer response:</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>CFNA071 FULLSCREEN FAILED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
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<tr>
<td><strong>System action:</strong></td>
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<tr>
<td><strong>Programmer response:</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>CFNA072 ERROR - FUNCTION FAILED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
</tr>
<tr>
<td><strong>System action:</strong></td>
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<tr>
<td><strong>Programmer response:</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>CFNA073 ADD FAILED - DUPLICATE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
</tr>
<tr>
<td><strong>System action:</strong></td>
</tr>
<tr>
<td><strong>Programmer response:</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CFNA074 ADD FAILED - TABLE FULL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
</tr>
<tr>
<td><strong>System action:</strong></td>
</tr>
<tr>
<td><strong>Programmer response:</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CFNA075 NO TRACE DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
</tr>
<tr>
<td><strong>System action:</strong></td>
</tr>
<tr>
<td><strong>Programmer response:</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CFNA076 PRESS PF1 FOR PRINT DSN</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
</tr>
<tr>
<td><strong>System action:</strong></td>
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<tr>
<td><strong>Programmer response:</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>CFNA077 SECURITY ERROR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
</tr>
<tr>
<td><strong>System action:</strong></td>
</tr>
<tr>
<td><strong>User response:</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>CFNA078 SECURITY CHECK FAILED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
</tr>
<tr>
<td><strong>System action:</strong></td>
</tr>
<tr>
<td><strong>User response:</strong></td>
</tr>
</tbody>
</table>
CFNA079 • CFNB009

CFNA079  SECURITY ERROR
Explanation: The attempt to establish the TSO user’s security environment in the APPC initiator address space failed because the user’s password was expired or the user ID was not defined on the system where IMS is running. The long version of this message provides additional information, including the RACF return code and reason code, and the reason for the error.
System action: The request is rejected.
User response: Review the MVS SYSLOG for an ICH408I or other RACF message that indicates the reason RACF was unable to establish the TSO user ID in the APPC initiator address space.

CFNB000  ISPF VDEFINE FAILED
Explanation: An ISPF VDEFINE service call failed RC=rr.
System action: The request fails.
Programmer response: Contact the support center for assistance. The return code for the ISPF service failure is documented in the ISPF Services Guide.

CFNB001  ISPF DISPLAY FAILED
Explanation: An ISPF DISPLAY call for panel name failed RC=rr.
System action: Contact the IBM support center for assistance. The return code for the ISPF service failure is documented in the ISPF Services Guide.

CFNB002  ISPF SETMSG FAILED
Explanation: An ISPF SETMSG call for message msgid failed RC=rr.
System action: The function fails.
Programmer response: Contact the IBM support center for assistance. The return code for the ISPF service failure is documented in the ISPF Services Guide.

CFNB003  ISPF TBEND FAILED
Explanation: An ISPF TBEND call failed with RC=rr.
System action: The request fails.
Programmer response: Contact the IBM support center for assistance. The return code for the ISPF service failure is documented in the ISPF Services Guide.

CFNB004  ISPF TBCREATE FAILED
Explanation: An ISPF TBCREATE call failed with RC=rr.
System action: The request fails.
Programmer response: Contact the IBM support center for assistance. The return code for the ISPF service failure is documented in the ISPF Services Guide.

CFNB005  ISPF TBADD FAILED
Explanation: An ISPF TBADD call failed with RC=rr.
System action: The request fails.
Programmer response: Contact the IBM support center for assistance. The return code for the ISPF service failure is documented in the ISPF Services Guide.

CFNB006  ISPF TBTOP FAILED
Explanation: An ISPF TBTOP call failed with RC=rr.
System action: The request fails.
Programmer response: Contact the IBM support center for assistance. The return code for the ISPF service failure is documented in the ISPF Services Guide.

CFNB007  ISPF TBDISPL FAILED
Explanation: An ISPF TBDISPL call failed with RC=rr.
System action: The request fails.
Programmer response: Contact the IBM support center for assistance. The return code for the ISPF service failure is documented in the ISPF Services Guide.

CFNB008  ISPF TBDELETE FAILED
Explanation: An ISPF TBDELETE call failed with RC=rr.
System action: The request fails.
Programmer response: Contact the IBM support center for assistance. The return code for the ISPF service failure is documented in the ISPF Services Guide.

CFNB009  ISPF TBMOD FAILED
Explanation: An ISPF TBMOD call failed with RC=rr.
System action: The request fails.
Programmer response: Contact the IBM support center for assistance. The return code for the ISPF service failure is documented in the ISPF Services Guide.
CFNB010  ISPF TBSORT FAILED
Explanation: An ISPF TBSORT call failed RC=rr.
System action: The request fails.
Programmer response: Contact the IBM support center for assistance. The return code for the ISPF service failure is documented in the ISPF Services Guide.

CFNB011
Explanation: An ISPF TBOPEN for the IMSID table failed - ENQ Failure.
System action: The request fails.
Programmer response: A user updating the IMSID table will lock out any other users trying to use IMS Network CF screens. Contact the user updating the table and request that he exit the IMSID table maintenance function.

CFNB012  CFNTLIB NOT ALLOC
Explanation: The CFNTLIB table library is not allocated.
System action: The request fails.
Programmer response: DDNAME CFNTLIB may have been freed after entering IMS Network CF screens, or an allocation failure may have occurred when first entering IMS Network CF screens.

CFNB013
Explanation: An ISPF TBOPEN call failed with RC=rr.
System action: The request fails.
Programmer response: Contact the IBM support center for assistance. The return code for the ISPF service failure is documented in the ISPF Services Guide.

CFNB014  IMSID TABLE MISSING
Explanation: The IMSID table (CFNIMSID) was not found in DDNAME CFNTLIB.
System action: The request fails.
Programmer response: Use the IMSID table maintenance option of the ISPF panels to create an IMSID table before trying to access other IMS Network CF functions.

CFNB015
Explanation: An ISPF TBCLOSE call failed with RC=rr.
System action: The request fails.
Programmer response: Contact the IBM support center for assistance. The return code for the ISPF service failure is documented in the ISPF Services Guide.

CFNB016  ISPF TBGET FAILED
Explanation: An ISPF TBGET call failed with RC=rr.
System action: The request fails.
Programmer response: Contact the IBM support center for assistance. The return code for the ISPF service failure is documented in the ISPF Services Guide.

CFNB017  ISPF CONTROL FAILED
Explanation: An ISPF CONTROL call failed with RC=rr.
System action: The request fails.
Programmer response: Contact the IBM support center for assistance. The return code for the ISPF service failure is documented in the ISPF Services Guide.

CFNB018  ISPF TBBOTTOM FAILED
Explanation: An ISPF TBBOTTOM call failed with RC=rr.
System action: The request fails.
Programmer response: Contact the IBM support center for assistance. The return code for the ISPF service failure is documented in the ISPF Services Guide.

CFNB019  ISPF TBSCAN FAILED
Explanation: An ISPF TBSCAN call failed with RC=rr.
System action: The request fails.
Programmer response: Contact the IBM support center for assistance. The return code for the ISPF service failure is documented in the ISPF Services Guide.

CFNB020  ISPF TBPUT FAILED
Explanation: An ISPF TBPUT call failed with RC=rr.
System action: The request fails.
Programmer response: Contact the IBM support center for assistance. The return code for the ISPF service failure is documented in the ISPF Services Guide.

CFNB021
Explanation: An ISPF TBSKIP call failed with RC=rr.
System action: The request fails.
Programmer response: Contact the IBM support center for assistance. The return code for the ISPF service failure is documented in the ISPF Services Guide.
Non-ISPF messages

This section describes the non-ISPF messages issued by IMS Network CF. The messages are listed in sequential order.

Each message number has a suffix of E, I, or W:

- E means that the job step encountered a severe error and will terminate unsuccessfully.
- W means that the message is a warning to alert you to a possible error condition.
- I means that the message is for your information only.

For each message, the following accompanying information is provided where applicable:

**System Action**
This explains what the system will do next.

**Programmer Response**
This describes whether a response is necessary, what the appropriate response should be, and what the resulting effect is on the system or program.

**Module**
This is the module that issued the message.

**Explanation**
This explains what the message text means, what caused the message to be issued, and what its variable entry fields are (if any).

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**CFN1001E**
ERROR ENCOUNTERED ON xxxxxxxx
RC=yyyyyyyy

**Explanation:** This is an APPC communication error. The xxxxxxxx field identifies the APPC command being processed, and the yyyyyyyyyy field identifies the return code received from APPC. This error occurred on the local side (where the TSO user is logged on).

**System action:** The request is aborted.

**Programmer response:** Determine if APPC is available on both the local MVS system and the remote MVS system (where the target IMSID is brought up). If there are no indications of APPC problems, contact the IBM support center for assistance.

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**CFN1020E**
GETMAIN FAILED IN IMS NETWORK COMPRESSION FACILITY APPC PROGRAM

**Explanation:** A GETMAIN attempted in the APPC address space on the remote MVS system failed. Review SYSLOG on the MVS system where the target IMS system runs for associated errors.

**System action:** The request is aborted.

**Programmer response:** Review any GETMAIN error messages on the MVS system where the error occurred, and contact the IBM support center for assistance.
Module: CFNAPPC1

CFN1021I

Explanation: A FREEMAIN attempted in the APPC address space on the remote MVS system failed. Review SYSLOG on the MVS system where the target IMS system runs for associated errors.

System action: The request completes successfully. This is a warning message.

Programmer response: Review any FREEMAIN error messages on the MVS system where the error occurred, and contact the IBM support center for assistance.

Module: CFNAPPC1

CFN1022E  ERROR ENCLOSED ON xxxxxxx
RC=yyyyyyyy

Explanation: This is an APPC communication error. The xxxxxxx field identifies the APPC command being processed, and the yyyyyyyyyy field identifies the return code received from APPC. This error occurred on the remote side (where IMS executes).

System action: The request is aborted.

Programmer response: Determine if APPC is available on both the local MVS system and the remote MVS system (where the target IMSID is brought up). If there are no indications of APPC problems, contact the IBM support center for assistance.

Module: CFNAPPC1

CFN1042I  IMS NETWORK COMPRESSION FACILITY INITIALIZATION SUCCESSFUL

Explanation: This informational message is produced when IMS Network CF has successfully initialized.

Programmer response: None

Module: CFNINITn

CFN1043I  IMS CTL RGN U4002 ABEND DUE TO INIT ERROR=ABEND

Explanation: A previously-identified error occurred during IMS Network CF initialization. The INIT FAILURE parameter option was specified as ABEND, so an IMS control region abend follows this message.

System action: The IMS control region abends with a U4002 abend code.

Programmer response: Identify the cause of the initialization error based on prior error messages.

Module: CFNINITn

CFN1044I  IMS NETWORK COMPRESSION FACILITY INITIALIZATION FAILED - RESTART CONTINUES

Explanation: A previously-identified error occurred during IMS Network CF initialization. The INIT FAILURE parameter option was specified as BACKOUT, so IMS restart continues with IMS Network CF disabled.

System action: IMS continues without IMS Network CF.

Programmer response: Identify the cause of the initialization error based on prior error messages. To enable IMS Network CF, correct the error and restart IMS.

Module: CFNINITn

CFN1045I

Explanation: A DFSPPUE0 exit routine is about to be called.

System action: The specified user DFSPPUE0 exit routine is called.

Programmer response: None

Module: CFNINITn

CFN1046E  IMODULE LOAD FOR USER SPECIFIED DFSPPUE0 EXIT ROUTINE xxxxxxx FAILED RC=rr

Explanation: An IMODULE LOAD for the user specified exit routine xxxxxxx failed with the indicated return code.

System action: The specified DFSPPUE0 exit routine is not invoked.

Programmer response: Investigate the reason for the module load failure.

Module: CFNINITn

CFN1047W  IMS NCF DETECTED GENERIC EXITS-BYPASSING EXIT exitname

Explanation: IMS Network CF detected that the Generic Partner Exit was in use. Because Generic Partner Exit provides the facility to call all required Partner exits (DFSPPUE0 exits), IMS Network CF does not call the named module, even though the module was requested in a PPUEx= statement in the CFNPmid member. For additional information on the Generic Partner Exit, see IMS Tools Common Services Reference, SC19-2546.

System action: The specified DFSPPUE0 exit routine is not invoked.

User response: If you must call the exit routine, add the exit name to the Generic Partner exit member of the
IMS PROCLIB, either GPREXIT0 or GPRimid0 (where “imid” is the 4 character IMSID).

Module: CFNINITn

CFN1061E CFNINRTN RECEIVED INVALID DIRECTORY ADDRESS
Explanation: During IMS Network CF initialization, verification of the directory address failed.
System action: The IMS control region abends with a U4002 abend code.
Programmer response: Contact the IBM support center.
Module: CFNINRTn

CFN1062W
Explanation: An invalid RPL was passed from IMS.
System action: IMS Network CF ignores the RPL and passes it to VTAM.
Programmer response: An IMS node trace will assist in identifying the cause of the problem. Contact the IBM support center.
Module: CFNINRTn

CFN1063W CFNINRTN RPL REQUEST BYTE OF 00 FOUND
Explanation: An RPL was passed from IMS that contains an RPL request byte of 00.
System action: IMS Network CF ignores the RPL and passes it to VTAM.
Programmer response: An IMS node trace will assist in identifying the cause of the problem. Contact the IBM support center.
Module: CFNINRTn

CFN1064W OPNDST ERROR: RPL DID NOT HAVE A NIB
Explanation: During OPNDST processing, an RPL was encountered without a NIB. Internal control blocks will not be created for this node.
System action: IMS Network CF ignores the RPL and passes it to VTAM.
Programmer response: An IMS node trace will assist in identifying the cause of the problem. Contact the IBM support center.
Module: CFNINRTn

CFN1065W OPNDST ERROR: RPL HAD AN INVALID NIB
Explanation: During OPNDST processing, an RPL was encountered with an invalid NIB pointer. Internal control blocks will not be created for this node.
System action: IMS Network CF ignores the RPL and passes it to VTAM.
Programmer response: An IMS node trace will assist in identifying the cause of the problem. Contact the IBM support center.
Module: CFNINRTn

CFN1066W CFNINRTN HAD NO IMS CFN SAVE SETS AVAILABLE
Explanation: A product save set could not be obtained because there were no free save sets available.
System action: IMS Network CF bypasses this message.
Programmer response: Obtain a dump of the IMS control region, and contact the IBM support center.
Module: CFNINRTn

CFN1067W CFNINRTN RPLREQ xx UNKNOWN
Explanation: The RPL request byte specified in the message is unknown.
System action: IMS Network CF bypasses this message.
Programmer response: An IMS node trace will assist in identifying the cause of the problem. Contact the IBM support center.
Module: CFNINRTn

CFN1080E GETMAIN FAILED FOR LU BLOCK
Explanation: A GETMAIN for storage for node-related control blocks failed. The storage failure occurred for extended private area storage in the IMS control region address space.
System action: The IMS control region abends.
Programmer response: Investigate private area extended storage limits and utilization. Increase the amount of storage available.
Module: CFNLUBMG

CFN1081E CFNLUBMG ATTEMPT TO FIND LUB FAILED
Explanation: An attempt to find the IMS Network CF control block associated with a node failed. This occurred during an attempt to free the storage. The storage is not freed.
System action: IMS continues without freeing the control block or storage.

Programmer response: Contact the IBM support center.

Module: CFNLUBMG

CFN1082E

Explanation: An invalid parm was passed to the locate LUB processor.

System action: The request fails. Depending on the reason for the request, other errors could occur.

Programmer response: Contact the IBM support center.

Module: CFNLUBMG

CFN1100I

VTAM ACB INTERCEPT INSTALLED

Explanation: IMS Network CF is intercepting communication between IMS and VTAM and compressing messages.

System action: None

Programmer response: None

Module: CFNOPEN

CFN1120E

OPEN FAILED FOR PROCLIB DD

Explanation: IMS Network CF’s attempt to open the PROCLIB DD to read the options failed.

System action: IMS restart continues without IMS Network CF.

Programmer response: Contact the IBM support center.

Module: CFNPARM1

CFN1121E

FIND FAILED FOR PROCLIB MEMBER CFNPxxxx

Explanation: The member name was not found in the PROCLIB DDNAME. The member name required is CFNPxxxx, where xxxx is the IMSID of the IMS subsystem.

System action: IMS restart continues without IMS Network CF.

Programmer response: Ensure that member CFNPxxxx is in the data set referenced by the PROCLIB DD in the IMS control region.

Module: CFNPARM1

CFN1122E

xxxxxxx FAILED FOR MODULE xxxxxxxx RC=nn

Explanation: This message indicates a getmain or freemain failure for storage to be used for the identified module. RC is the return code from the getmain or freemain request.

System action: The IMS control region abends with a U4002 abend code.

Programmer response: Contact the IBM support center.

Module: CFNPARM1

CFN1123W

Explanation: There was a syntax error in the following statement near the area shown at the end of this message.

System action: Parameter analysis continues. The remainder of the statement is ignored.

Programmer response: Correct the syntax error.

Module: CFNPARM1

CFN1124W

card image

Explanation: This message shows the statement that experienced the syntax error.

System action: Parameter analysis continues. The statement is ignored.

Programmer response: Correct the syntax error.

Module: CFNPARM1

CFN1125E

LIST PROCESSING ERROR - RC=xx

Explanation: An error occurred during parameter analysis while processing an exception list.

System action: Parameter analysis continues after skipping the statement.

Programmer response: Contact the IBM support center. Provide the CFNP000 member contents to the IBM support center.

Module: CFNPARM1

CFN1126W

MULTIPLE SPECIFICATIONS OF PARM xxxxxxxxxxxxx

Explanation: The identified keyword was specified more than once in the parameter member.

System action: Parameter analysis continues after skipping the statement.

Programmer response: Remove the multiple specifications of the indicated keyword.

Module: CFNPARM1
CFN1127W LIST ENTRY EXCEEDS 8 BYTES - xxxxxxxxxxxxxxxxxxx

Explanation: A request for an exception list entry contained a name that exceeded 8 bytes in length.

System action: Parameter analysis continues after skipping the statement.

Programmer response: Correct the parameter control statement.

Module: CFNPARM1

CFN1128W LIST EXCEEDS 256 ENTRIES FOR PARM xxxxx

Explanation: More than 256 entries were requested for a single exception list. The component type and exception type are indicated in the message.

System action: Parameter analysis continues after skipping the statement.

Programmer response: Remove some entries from the parameter specifications.

Module: CFNPARM1

CFN1131I IMS NETWORK COMPRESSION FACILITY USER SPECIFICATIONS

Explanation: Messages that follow indicate the options interpreted from the parameter specifications.

System action: None.

Programmer response: None

Module: CFNPARM1

CFN1132W EXCEPTION LIST FOR xxxxxxx

Explanation: Messages that follow indicate the exception list entries read from the parameter control statements. The compression component and the exception type are indicated in the message text.

System action: None

Programmer response: None

Module: CFNPARM1

CFN1133W EXCEPT IGNORED DUE TO xxxxxxxxxxxxxxxxxxx

Explanation: An exception request was ignored for the reason stated. The reason may be a prior keyword error, a value error in the prior keyword, a duplicate occurrence of the prior keyword, or no prior keyword.

System action: The exception request is ignored.

Programmer response: Correct the syntax error.

Module: CFNPARM1

CFN1135W PPUE0 MODULE NAME LENGTH EXCEEDS 8 CHAR

Explanation: An EXCEPT control statement was encountered following a control statement that does not support exceptions.

System action: The control statement is ignored.

Programmer response: Remove the control statement, or place it in the proper location in the control statements.

Module: CFNPARM1

CFN1136E ABEND DUE TO INIT ERROR (INIT ERROR = ABEND)

Explanation: A prior initialization error caused the IMS control region to abend because the INIT ERROR parameter was specified as ABEND.

System action: The IMS control region abends with a U4002 abend code.

Programmer response: Investigate the reason for the prior initialization error.

Module: CFNPARM1

CFN1137E PPUE0 MODULE NAME LENGTH EXCEEDS 8 CHAR
Programmer response: Correct the module name.
Module: CFNPARM1

**CFN1138E**  NUMBER OF PPUE0 MODULES REQUESTED EXCEEDS MAXIMUM

Explanation: More than 10 DFSPPUE0 module names were specified.
System action: DFSPPUE0 exit names after the tenth are ignored.
Programmer response: Reduce the number of DFSPPUE0 exit routines.
Module: CFNPARM1

**CFN1150E**  IMS NETWORK COMPRESSION FACILITY INIT FAILED - IMODULE LOCATE RC=xx

Explanation: An IMODULE LOCATE call to find module DFSIDC00 failed with the indicated return code.
System action: IMS Network CF initialization fails.
Programmer response: Contact the IBM support center.
Module: CFNPINTn

**CFN1151E**  IMS NETWORK COMPRESSION FACILITY INIT FAILED - INTERCEPT FAILED

Explanation: IMS Network CF’s attempt to plant an intercept for ACB open failed.
System action: IMS Network CF initialization fails.
Programmer response: Contact the IBM support center.
Module: CFNPARM1

**CFN1160E**  IMS NETWORK COMPRESSION FACILITY DOES NOT SUPPORT THIS RELEASE OF IMS

Explanation: The base release of IMS Network CF supports IMS releases 5.1, 6.1 and 7.1. Additional maintenance or an updated release of the product may be required to support subsequent releases of IMS.
System action: IMS Network CF initialization fails.
Programmer response: Contact the IBM support center.
Module: CFNPUE0

**CFN1161E**  LOAD FAILED FOR MODULE xxxxxxx RC=xx

Explanation: An attempt to load the specified module failed with the indicated return code.
System action: IMS Network CF initialization fails.
Programmer response: Verify that the identified module name is present in the IMS control region STEPLIB.
Module: CFNPUE0

**CFN1162E**  FIND SCD FAILED IN CFNPPUE0 xxxx

Explanation: IMS Network CF was unable to find the SCD for this subsystem (the last four bytes of the message identify the IMSID).
System action: IMS Network CF initialization fails.
Programmer response: Contact the IBM support center.
Module: CFNPUE0

**CFN1164E**  UNEXPECTED RETURN CODE RECEIVED FROM CSVQUERY-RC

Explanation: The attempt to establish the TSO user’s security environment in the APPC initiator address space failed because the user’s password was expired or the user ID was not defined on the system where IMS is running. The long version of this message provides additional information, including the RACF return code and reason code, and the reason for the error.
System action: IMS continues initialization without Network Compression Facility.
User response: Review the MVS SYSLOG for an ICH408I or other RACF message that indicates the reason RACF was unable to establish the TSO user ID in the APPC initiator address space.
Module: CFNPUE0

**CFN1165W**  SECOND INVOCATION OF NCF IGNORED

Explanation: CFNPUE0 (or its alias DFSPPUE0) was called more than once during the IMS initialization process. NCF ignores the second (and any subsequent) calls.
System action: Multiple calls to initialize NCF are ignored.
User response: Review your environment to determine the reason why CFNPUE0 (or its alias DFSPPUE0) was called more than once during the IMS initialization process.
**CFN1180E** CFNSEND ATTEMPT TO FIND LUB FAILED

**Explanation:** An attempt to locate an existing control block for the node name associated with a data stream failed.

**System action:** The data stream is not compressed. The message is passed to VTAM without any changes.

**Programmer response:** Contact the IBM support center.

**Module:** CFNSENDn

**CFN1181E** IMODULE GETSTOR FAILED FOR xxxxxxxxxxxx RETURN CODE=xx

**Explanation:** An attempt to get main storage for the indicated resource failed. The storage was requested from above extended private area storage in the IMS control region address space.

**System action:** The IMS control region abends with a U4002 abend code unless the request was for trace buffers (TRACEBUF), in which case the trace fails.

**Programmer response:** Contact the IBM support center.

**Module:** CFNSENDn

**CFN1182E** CLB/LUB MISMATCH - xxx

**Explanation:** Information in the IMS node control block disagrees with similar information in the IMS Network CF control block. The source of the mismatch is indicated by xxx.

**System action:** The IMS control region abends with a U4002 abend code.

**Programmer response:** Contact the IBM support center.

**Module:** CFNSENDn

**CFN1183W** DFSPOOL XXXXXXXX FAILED RC=XX

**Explanation:** A DFSPOOL storage request failed. The GET or RELEASE function failed. The return code appears in the message text.

**System action:** For a GET request, the 3270 message is passed to VTAM without compression. For a RELEASE request, the compressed message is passed to VTAM.

**Programmer response:** For a GET request, check allocation and utilization of the HIOP pool. For a RELEASE request, contact the IBM support center for assistance.

**Module:** CFNSENDn

**CFN1200E** INTERNAL ERROR IN SOURCE TIMESTAMP TYPE SPECIFICATION

**Explanation:** Parameters passed to the time conversion routine were not valid.

**System action:** The APPC address space abends with a U4002 abend code.

**Programmer response:** Contact the IBM support center.

**Module:** CFNTIME

**CFN1201E** SOURCE IMS TIMESTAMP INDICATES AN OFFSET ERROR

**Explanation:** Parameters passed to the time conversion routine were not valid.

**System action:** The APPC address space abends with a U4002 abend code.

**Programmer response:** Contact the IBM support center.

**Module:** CFNTIME

**CFN1202E** INTERNAL ERROR ADJUSTING MINUTES IN OFFSET

**Explanation:** The time conversion routine experienced an error converting the offset to a local time.

**System action:** The APPC address space abends with a U4002 abend code.

**Programmer response:** Contact the IBM support center.

**Module:** CFNTIME

**CFN1203E** INTERNAL ERROR ADJUSTING HOURS IN OFFSET

**Explanation:** The time conversion routine experienced an error converting the offset to a local time.

**System action:** The APPC address space abends with a U4002 abend code.

**Programmer response:** Contact the IBM support center.

**Module:** CFNTIME

**CFN1204E** INTERNAL ERROR IN DESTINATION TIMESTAMP TYPE SPECIFICATION

**Explanation:** A parameter error was found in the input to the time conversion routine.

**System action:** The APPC address space abends with a U4002 abend code.

**Programmer response:** Contact the IBM support center.

**Module:** CFNSENDn
Module: CFNTIME

CFN1205E  REQUEST TO CONVERT A TIMESTAMP AFTER 2059 TO IMS 5.1 FORMAT

Explanation: A timestamp conversion error was encountered.

System action: The APPC address space abends with a U4002 abend code.

Programmer response: Contact the IBM support center.

Module: CFNTIME

CFN1206E

Explanation: A TIME macro service request failed with the indicated return code.

System action: The APPC address space abends with a U4002 abend code.

Programmer response: Contact the IBM support center.

Module: CFNTIME

CFN1220E  APPC ERROR - APPC RECEIVE FAILED RC=xx

Explanation: An APPC receive verb failed with the indicated return code.

System action: The APPC address space abends with a U4002 abend code.

Programmer response: Contact the IBM support center.

Module: CFNZMAIN

CFN1221E  APPC ERROR - APPC SEND FAILED RC=xx

Explanation: An APPC send verb failed with the indicated return code.

System action: The APPC address space abends with a U4002 abend code.

Programmer response: Contact the IBM support center.

Module: CFNZMAIN

CFN1240E  VALIDATION OF APPC HEADER FAILED

Explanation: The APPC header received in the APPC address space failed validation.

System action: The APPC address space abends with a U4002 abend code.

Programmer response: Contact the IBM support center.

Module: CFNZMAIN

Programmer response: Contact the IBM support center.

Module: CFNZSTOR

CFN1261W  UNKNOWN COMMAND CODE - DATA NOT COMPRESSED

Explanation: The data stream being compressed had an invalid 3270 character.

System action: The data stream is not compressed. It is passed to VTAM without any compression.

Programmer response: This is only a warning that a data stream was unable to be compressed. Tracing the data stream can provide information about the invalid character(s) present in the data stream.

Module: CFNCOMP1

CFN1262E

Explanation: The address of the IMS Network CF directory passed to CFNCOMP at IMS initialization was not valid.

System action: The IMS control region abends with a U4002 abend.

Programmer response: IMS will receive an error return code from VTAM, and will process the error without interference from IMS Network CF.

Module: CFNCOMP1

CFN1263E

Explanation: The RPL address passed from IMS does not contain a valid RPL. The RPL is passed to VTAM without any changes.

Programmer response: IMS will receive an error return code from VTAM, and will process the error without interference from IMS Network CF.

Module: CFNCOMP1

CFN1264E  INVALID LU CB ADDRESS - DATA NOT COMPRESSED

Explanation: The internal control block address associated with the node to which this data stream is to be sent is not valid. The data stream will not be compressed.

System action: The data stream is not compressed. The message is passed to VTAM without any changes.

Programmer response: Contact the IBM support center.

Module: CFNCOMP1
CFN1265W  UNKNOWN EXTENDED ATTRIBUTE TYPE FOUND

Explanation: During the scan of a data stream, an unknown extended attribute identifier was encountered.

System action: The data stream is not compressed. The message is passed to VTAM without any changes.

Programmer response: Contact the IBM support center.

Module: CFNCOMP1

CFN1266W  ERROR PROCESSING CHAINED RPL CMD xx x

Explanation: A data stream order was split among multiple RPLs. IMS Network CF experienced an error processing the split order. The hex order and type of error are shown at the end of the message.

System action: IMS Network CF ignores the RPL and passes it to VTAM.

Programmer response: An IMS node trace will assist in identifying the cause of the problem. Contact the IBM support center for assistance.

Module: CFNCOMP1

CFN1280W  ERROR PROCESSING A DATA STREAM ORDER SPLIT ACROSS RPLS x

Explanation: A data stream order was split among multiple RPLs. IMS Network CF experienced an error processing the split order. The type of error is shown at the end of the message.

System action: IMS Network CF ignores the RPL and passes it to VTAM.

Programmer response: An IMS node trace will assist in identifying the cause of the problem. Contact the IBM support center for assistance.

Module: CFNCOMP2

CFN1300E  UNABLE TO LOCATE TIOT ENTRY FOR DDNAME PROCLIB

Explanation: During IMS initialization, the IMS control region TIOT is scanned for the PROCLIB DD. IMS Network CF was unable to locate the PROCLIB TIOT entry.

System action: IMS initialization proceeds. The ISPF Edit Options feature will not be available.

Programmer response: Contact the IBM support center.

Module: CFNPROCn

CFN1301E  SWAREQ FAILED RC=xx

Explanation: During IMS initialization, a SWAREQ macro request to locate a JFCB failed with the indicated return code.

System action: IMS initialization proceeds. The ISPF Edit Options feature will not be available.

Programmer response: Contact the IBM support center.

Module: CFNPROCn

CFN1302E  IMODULE GETMAIN FAILED FOR CFN#PROC RC=xx

Explanation: During IMS initialization, an IMODULE GETMAIN request failed with the indicated return code.

System action: IMS initialization proceeds. The ISPF Edit Options feature will not be available.

Programmer response: Contact the IBM support center.

Module: CFNPROCn

CFN1320E  xxxxxxxx ERROR-SAF RC=xx RACF RC=xx RACF REASON=xx

Explanation: When a RACF error occurs, NCF writes this message to the MVS SYSLOG to help identify the function that was being performed. A similar message is presented to the TSO user that requested the function.

System action: A user request was rejected.

User response: A RACF error was encountered. There should be a RACF message such as an ICH408I before this message that identifies the RACF error encountered.
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