

Session C01

NCF (Network Compression Facility)

CCF (Command Control Facility)

ETO (Extended Terminal Option Support)

Dan Shea, Bob Allscheid, and Marilyn Rasheed



St. Louis, MO

Sept. 30 – Oct. 3, 2002

Introduction





IMS at SBC

- ❑ Major IMS applications

- Billing

- Equipment Inventory

- Work Orders

NCF



Network Compression Facility



NCF

- ❑ Reduces the size of IMS 3270 data streams.
- ❑ It utilizes standard 3270 data stream commands and conventions.



NCF Components

- ❑ IMS
- ❑ APPC MVS
- ❑ TSO ISPF



NCF - IMS Component

- ❑ Runs with IMS versions 5.1, 6.1, 7.1, & 8.1 (with UQ64522)
- ❑ NCF load modules reside in an APF authorized library.
- ❑ Uses IMS DFSPPE0 interface.
- ❑ No application program changes are required.



NCF - IMS Component con't

- ❑ IMS PROCLIB member CFNPXXXX must be present for NCF to be initialized, where XXXX is the 4 letter IMS ID.
 - Compression options reside in this PROCLIB member.



NCF - IMS Component con't

- ❑ NCF supports 4 categories of compression (SBC's setup).
 - Compress is always set to YES.
 - Field Merge is **ALWAYS** set to NO.
 - Blank Elimination is always set to YES.
 - Non-Display Fields is always set to YES.
- ❑ You only need to indicate the exception list under the Compress=YES section.



NCF - IMS Component con't

- ❑ NCF needs to be in control if other products use DFSPUE0. This can be accomplished by specifying PPUE0=DFSPUE1 in the CFNPXXXX member in the IMS PROCLIB along with renaming the DFSPUE0 module in the companion product.
- ❑ If ETO is installed, SLU2 devices must have an OUTBUF=4096.



Sample PROCLIB Member

```
***** Top of Data *****
*
* IMS NETWORK COMPRESSION FACILITY PARAMETER SPECIFICATIONS
*
* ACTION FOLLOWING AN INITIALIZATION FAILURE (ABEND OR BACKOUT)
INIT ERROR = BACKOUT          DEFAULT BACKOUT
*
* ACTION FOLLOWING A PARAMETER ERROR (BACKOUT, CONTINUE, OR ABEND)
PARAM ERROR = BACKOUT        DEFAULT BACKOUT
*
* USER DFSPUE0 EXIT ROUTINES TO INVOKE AT STARTUP (1 EXIT PER LINE)
* PPUE0=DFSPUE1              EXIT FOR IMF
* PPUE0=DFSPUE2              EXIT FOR EDP
*
* -----
*
* COMPRESSION CONTROL STATEMENTS. EXCEPTION LISTS FOR EACH COMPRESSION
*COMPONENT(COMPRESS=,FIELD MERGE=) MUST FOLLOW THE COMPRESSION
* COMPONENT SPECIFICATION.
*
* EXCEPTION LISTS MAY SPECIFY MULTIPLE VALUES ON EACH LINE, BUT THE
* VALUES MUST BE SEPERATED BY ONLY A COMMA (NO BLANKS).
*
* -----
*
```



Sample PROCLIB Member con't

* COMPONENT SPECIFICATION.

*

* EXCEPTION LISTS MAY SPECIFY MULTIPLE VALUES ON EACH
LINE, BUT THE

* VALUES MUST BE SEPERATED BY ONLY A COMMA (NO BLANKS).

*

* -----

*

* ENABLE DATA COMPRESSION FOR CRT (DISPLAY) DEVICES?
(YES OR NO)

COMPRESS=YES DEFAULT YES

EXCEPT NODE = OV4D0001

EXCEPT NODE = OV5E0001

* EXCEPT TRAN = IOPMPP

* EXCEPT LTERM = MASTER

* EXCEPT USERID = USERID1

* EXCEPT USER = USERNAME

* EXCEPT FORMAT = MODNAME

*

* MERGE FIELDS? (YES OR NO)

FIELD MERGE = NO DEFAULT YES

* EXCEPT NODE = NODE1

* EXCEPT TRAN = IOPMPP

* EXCEPT LTERM = MASTER

* EXCEPT USERID = USERID1

* EXCEPT USER = USERNAME

* EXCEPT FORMAT = MODNAME

*

Sample PROCLIB Member con't

* ELIMINATE BLANKS? (YES OR NO)
BLANK ELIMINATION = YES DEFAULT YES

* EXCEPT NODE = NODE1
* EXCEPT TRAN = IOPMPP
* EXCEPT LTERM = MASTER
* EXCEPT USERID = USERID1
* EXCEPT USER = USERNAME
* EXCEPT FORMAT = MODNAME

*

* SUPRESS SENDING NON-DISPLAY FIELDS? (YES OR NO)
NON-DISPLAY FIELDS = YES DEFAULT YES

*EXCEPT NODE = NODE1
* EXCEPT TRAN = IOPMPP
* EXCEPT LTERM = MASTER
* EXCEPT USERID = USERID1
* EXCEPT USER = USERNAME
* EXCEPT FORMAT = MODNAME

*

* TRACE SPECIFICATIONS. TRACE SPECIFICATIONS SHOULD
NORMALLY BE DONE

* ONLINE SO THEY CA BE DISABLED. THE OPTION TO INCLUDE
TRACE

* SPECIFICATIONS HERE IS INCLUDED IN THE EVENT IT IS
REQUIRED.

*

* -----

*

* TRACE INFO
* TRACE NODE=NODE1



NCF - Initialization

As seen in the control region:

```
CFN1040I IMS NETWORK COMPRESSION FACILITY INITIALIZING - VERSION 1.1.0 NSDN
CFN1129I IMS NETWORK COMPRESSION FACILITY USER SPECIFICATIONS NSDN
CFN1130I  INIT ERROR = BACKOUT                      NSDN
CFN1130I  PARM ERROR = BACKOUT                      NSDN
CFN1130I  COMPRESS = YES                            NSDN
CFN1131I  NODE EXCEPTION LIST FOR COMPRESS          NSDN
CFN1130I    M00438*                                NSDN
CFN1131I  FORMAT EXCEPTION LIST FOR COMPRESS        NSDN
CFN1130I    VOSWSIGN VGSWSIGN YXSWSIGN VOMTRM VOMTRE NSDN
CFN1130I    YXMTRM YXMTRE VGTRRE VOPAY VGPAY NSDN
CFN1130I    YXPAY DISTPL STPLI CCSTPL DIPERS NSDN
CFN1130I    DIALRM DICREQ DIREQ YXMTR DIPWM NSDN
CFN1130I    DIPW DIPRC DISTEP DIUSER DIUPAGE NSDN
CFN1130I    DIESC DILOG                            NSDN
CFN1130I  FIELD MERGE = NO                          NSDN
CFN1130I  BLANK ELIMINATION = YES                   NSDN
CFN1130I  NON-DISPLAY FIELDS = YES                 NSDN
DFS2360I 02:32:23 XCF GROUP JOINED SUCCESSFULLY. NSDN
CFN1042I IMS NETWORK COMPRESSION FACILITY INITIALIZATION SUCCESSFUL NSDN
DFS994I WARM START COMPLETED. NSDN
```



NCF - Initialization with a companion product.

As seen in the control region:

```
CFN1040I IMS NETWORK COMPRESSION FACILITY INITIALIZING - VERSION 1.1.0 WFON
CFN1129I IMS NETWORK COMPRESSION FACILITY USER SPECIFICATIONS WFON
CFN1130I  INIT ERROR = BACKOUT                WFON
CFN1130I  PARM ERROR = BACKOUT                WFON
CFN1130I  COMPRESS = YES                      WFON
CFN1130I  FIELD MERGE = NO                   WFON
CFN1130I  BLANK ELIMINATION = YES            WFON
CFN1130I  NON-DISPLAY FIELDS = YES          WFON
CFN1042I IMS NETWORK COMPRESSION FACILITY INITIALIZATION SUCCESSFUL WFON
CFN1045I INVOKING USER SPECIFIED DFSPUE0 EXIT ROUTINE DFSPUE1 WFON
DFS0800I AWAITING NOTIFICATION FROM SUBSYS EY7A  WFON
BMC90489W CHANGE RECORDING FACILITY COMPONENT NOT INSTALLED
BMC90489I CHANGE RECORDING FACILITY INITIALIZATION COMPLETED
```



APPC MVS Component

- ❑ Requires APPC MVS LU to be defined.
 - An APPC IMS LU is not required.
 - Your APPC environment must be set up properly for NCF to echo compression statistics for an IMS.
 - Visit your friendly MVS system programmer in your shop to gain further APPC details.



The TSO ISPF Interface

- ❑ NCF ISPF can be accessed in several ways. Consult with your NCF installer to see what your shop standards are.



NCF ISPF Primary Menu

----- IMS Network Compression Facility Primary Options Menu -----

Option ==>

- | | |
|--|----------------|
| Set Up | Date: 02.077 |
| 0 - IMS Systems | Time: 15:46 |
| | Sysid: AA00 |
| Statistics | Node: MASTER |
| 1 - Display Compression Statistics for an IMS System | Plex: SYSPLEXA |
| 2 - Display Compression Statistics for a Node | |
- Options
- 3 - Display Options Currently in Use
 - 4 - Dynamic Options Update
 - 5 - Edit Permanent Options Definitions
- Traces
- 6 - Work with Network Compression Traces
- Messages
- M - IMS Network Compression Facility Messages
- Exit
- X - Exit IMS Network Compression Facility



NCF ISPF option 0

----- IMS Network Compression Facility IMSID Tab Row 1 to 11 of 12
Command ==> Scroll ==> CUR

Primary Commands:

ADD - Add a New IMSID

Line Commands:

D - Delete an IMSID

A - Add an IMSID

S - Edit an IMSID's APPC Symdest

	APPC	
CMD	IMSID	SYMDEST
---	----	-----
	IA1A	NCFAD
	IA1B	NCFAD
	IA1C	NCFAD
	IA2A	NCFAA
	IA3A	NCFAA
	IA4A	NCFAA
	IA6A	NCFAA
	IMA0	NCFAA
	IMA5	NCFAH
	IMA7	NCFAA
	IMA8	NCFAH

NCF ISPF option 1

----- IMS Network Compression Facility IMS System Status -----

Command ===>

IMSID ===> IMA0 (Specify the IMSID of an active IMS system)

IMS Restart Date: 2002.077 IMS Active for 000 Days and 10:05:55
IMS Restart Time: 5:52:55 Dynamic PARM Version: 1

Number of 3270 Sessions - Current: 36 Max Concurrent: 39

	Original	Compressed	Percentage
Number of Messages	80,482	76,913	95.5%
Number of Output Characters (Total)	74,447,166	49,746,779	33.1%
Compressed Messages	67,805,841	43,105,454	36.4%
Uncompressed Messages	6,641,325	6,641,325	0.0%
Average Output Message Size	925	618	33.1%

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: 23

Data Stream Characters Not Supported:

PT: 3,546 Unknown Character(s): 0



NCF ISPF option 2 screen 1

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

Command ==>

IMSID ==> IMA0 (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.

NCF ISPF option 2 screen 2

----- IMS Network Compression Facility IMS Terminal Statu Row 1 to 1 of 1

Command ==>

Scroll ==>

IMSID ==> IMA0

(The IMSID of an active IMS system)

Node Name ==> CXVT8665

(Optional Node Name Mask)

S

E	Node		Number	Original	Compressed	Percent	
L	Name	LTERM	Userid	Messages	Bytes	Bytes	Reduced
	CXVT8665	DS813600	DS8136	6	3,213	2,264	29.5

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



NCF ISPF option 3/4 screen 1

----- IMS Network Compression Facility Options Update -----

Command ==>

IMSID ==> IMA0 (Specify the IMSID of an active IMS system)

Enter an IMSID above to Update system options defined for that IMS system.

NCF ISPF option 3/4 screen 2

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

IMSID ==> IMA0

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 - 0 Defined - Select Here to View Nodes ==>

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

Option	Active?	Node	Tran	LTERM	Userid	User	Format
-----	-----	-----	-----	-----	-----	-----	-----
COMPRESSION	YES	118	0	0	0	0	0
FIELD MERGE	NO	0	0	0	0	0	0
NON-DISPLAY FIELDS	YES	0	0	0	0	0	0
BLANK ELIMINATION	YES	0	0	0	0	0	0
***** Bottom of data *****							



NCF ISPF option 6 screen 1

----- IMS Network Compression Facility Trace -----

Command ==> STRACE

IMSID ==> IMA0 (Specify the IMSID of an active IMS system)

Enter an IMSID above to display trace information for that IMS system.



NCF ISPF option 6 screen 2

----- IMS Network Compression Facility Trace -----

Command ==>

Enable Trace for a New Entry Name and Type:

Name ==>

Type ==> (Node, LTERM, User, Userid)

Press the Enter Key to Enable the Trace

Press the End Key to Cancel



NCF Benefits

- ❑ Reduction in data stream sizes which will decrease response time.
- ❑ No IMS application program changes are required.

CCF



IMS Command Control Facility

Session ID=C01



About CCF

- ❑ Performs batch processing of IMS commands across multiple IMS regions
- ❑ Has ISPF interface which can be used to issue commands interactively to an IMS subsystem
- ❑ Can run as an IMS BMP, IMS DL/I or as a standard MVS batch job (SBC uses MVS batch jobs)



CCF Requirements

- ❑ APPC/MVS
- ❑ APPC/IMS (to process commands on a remote IMS system)



CCF Supported Configurations

- ❑ APPC/IMS - Issue command directly to IMS using the APPC/IMS AOI (recommended - used by SBC)
- ❑ APPC/STC - Issue commands to IMS through the APPC/STC using the ICMD/RCMD AOI (recommended for DBCTL regions)
- ❑ LOCAL/BMP - Issue commands to the local IMS where the BMP is attached



CCF - DFS0488I Processing

- ❑ IMS returns message DFS0448I to indicate status of /STA, /STO, /DBD, or /DBR issued for AREAs or databases
- ❑ CCF can retry unsuccessful command a specified number of times
- ❑ Normal DFS0488I analysis is performed when using APPC/IMS AOI



CCF - DFS0488I Processing

con't

- ❑ When using the APPC/STC option, CCF analyzes the AREA or database control blocks to determine the success of the command
- ❑ For the LOCAL/BMP options, no analysis is done for AREA or database commands



CCF - Database Level Sharing

- ❑ CCF can determine the correct access for `/STA DB DBDNAME ACCESS =` commands
 - determine access from MODSBLKS data set
 - or the database definition in DBRC (sharelvl 3 means `ACCESS=UP` on all systems)



CCF - DBNAME Wildcarding

- ❑ The use of an “*” as a wildcard in the dbname parameter is available with APAR PQ60883 and PQ61802
- ❑ Wildcarding is support for dbname in the /DBD, /DBR, /DIS, /STA and /STO commands



CCF - Predefined Procedures

- ❑ Perform coordinated on-line change across multiple systems
- ❑ Dead Letter Queue cleanup



CCF - Options Data Set

- ❑ VSAM KSDS
- ❑ Contains user-customized processing characteristics



CCF - Global Options Record

- ❑ Options for every batch job
- ❑ Options that can be used unless a matching jobname record is found



CCF - Jobname Options Record

- ❑ Options for a job that can override those in the global options record



CCF - IMS System Record

- ❑ Every IMS target of a CCF command must have an IMS system record defined



CCF - TSO ISPF Interface

- ❑ Used to define global and job specific options
- ❑ Used to define the IMS systems
- ❑ Used to define CCF IMS groups to which IMS systems can belong

CCF - Primary Option Menu

CCF Primary Option Menu
Option ===>

CCF VSAM Options Data Set:

Data Set Name . . . IMSUPTA.CCF.OPTIONS

- | | | |
|---|--------|------------------------|
| 1 | Global | Specify Global Options |
| 2 | Job | Specify Job Options |
| 3 | IMS | Define IMS Systems |
| 4 | Group | Define CCF Group |
| C | CMD | Issue IMS Commands |
| X | Exit | Terminate Dialog |

CCF - Global Options

```
-----  
                                CCF Global Options  
Command ===>                                Scroll ===> CSR  
  
CCF Input DDNAME : CCFSYSIN                Edit Global Options? (Y/N): N  
CCF Output DDNAME: CCFLIST  
  
Command Retry Options:  
  Attempts ..... 05                Database CMD WTO? (Y/N) ...: N  
  Interval (Sec) .... 002  
  
Valid DFS0488I Return Codes:                Abend/RC Failure Settings: /START DB ACCESS  
00 00 00 00 00 00 00 00 00 00                Abend Code .... 0024                2 1 Use SYSGEN  
00 00 00 00 00 00 00 00 00 00                Return Code ... 0020                2 Use DBRC  
                                           3 As coded  
  
DBRC Failures:                APPC Failures:                DFS0488I Failures:                General Failures:  
2 1 ABEND                2 1 ABEND                2 1 ABEND                2 1 ABEND  
2 Return Code                2 Return Code                2 Return Code                2 Return Code  
3 Issue WTOR                3 Issue WTOR                3 Issue WTOR                3 Issue WTOR  
4 NODBRC                4 Ignore                4 Ignore                4 Ignore  
  
APPC/STC TPName: CCF.CCFRRC00
```

CCF - Jobname Options

```
-----  
-  
                                CCF Job Options  
Command ===>                                Scroll ===> CSR  
  
Jobname/JobMask .....: XXXXJOB  
  
Command Retry Options:  
  Attempts ..... 05  
  Interval (Sec) .... 002  
  
Database CMD WTO? (Y/N) ....: N  
  
Abend/RC Failure Settings: /START DB ACCESS  
  Abend Code .... 0024      2 1 Use SYSGEN  
  Return Code ... 0020      2 Use DBRC  
                             3 As coded  
  
Valid DFS0488I Return Codes:  
00 00 00 00 00 00 00 00 00 00  
00 00 00 00 00 00 00 00 00 00  
  
DBRC Failures:      APPC Failures:      DFS0488I Failures:  General Failures:  
2 1 ABEND           2 1 ABEND           2 1 ABEND           2 1 ABEND  
2 Return Code       2 Return Code       2 Return Code       2 Return Code  
3 Issue WTOR        3 Issue WTOR        3 Issue WTOR        3 Issue WTOR  
4 NODBRC            4 Ignore            4 Ignore            4 Ignore
```

CCF - IMS System List

Row 1 to 11 of 54

CCF IMS System List

Command ==>

Scroll ==> CSR

Specify a list action or enter a command.

Actions: E - Edit B - Browse C - Copy D - Delete

Commands: A - Add

List	Default		
Action	IMSID	CCFGroup	SYMDEST Partner LU

''''''''	CR11		STNET.CR11LU62
''''''''	CR14		STNET.CR14LU62
''''''''	DI53		USAICN01.ALU6DI53
''''''''	IA2A		STNET.APPCIMA2
''''''''	IA3A		STNET.APPCIMA3
''''''''	IA4A		STNET.APPCIMA4
''''''''	IA6A		STNET.APPCIMA6
''''''''	IC20		STNET.APPCIC20
''''''''	IC25		STNET.APPCIC25
''''''''	IC28		STNET.APPCIC28
''''''''	IC60		STNET.APPCIC60

CCF - IMS System Information

```
-----  
                          CCF IMS System Information  
Command ==>                               Scroll ==> CSR  
IMSID ..... CR11      Release 0710  
APPC Enabled? (Y/N).. Y  
IMS SYMDEST .....          PLU: STNET.CR11LU62      MODE: SYSTOSYS  
ALT SYMDEST .....          PLU:                      MODE:  
Default CCF Group ...  
DFSVNUC Suffix ..... 0  
MODBLKS DSNAME ..... IMCR11.MODSBLK
```

CCF - Group List

```
-----  
                                CCF Group List  
Command ==>                                Scroll ==> CSR  
  
Specify a list action or enter a command.  
  Actions:   E - Edit      B - Browse   C - Copy      D - Delete  
  Commands:  A - Add  
  
List      CCF  
Action    Group      IMSID List  
-----  
'|'|'|'|'|'|'|' SMS800P  IE1B IE1C IE1D  
'|'|'|'|'|'|'|' SMS800T  IE0B IE0C IE0D  
'|'|'|'|'|'|'|' IOFVSTAT  DI27 PI52 PI55  
***** Bottom of data *****
```

CCF - Group IMSID List

```
-----  
                                CCF Group IMSID List  
Command ==>                                Scroll ==> CSR  
  
CCF Group ..... SMS800P  
Shared RECONS (Y/N) .... Y  
  
    IMS  
    ----  
  
1. IE1B  
2. IE1C  
3. IE1D  
4.  
5.  
6.  
7.  
8.  
9.  
10.  
11.  
12.  
  
More:      +
```


CCF - IMS Command Panel

Row 1 to 15 of 75

CCF IMS Command Panel

Option ==>

Scroll ==> CSR

IMSID/GROUP: IMC5

Command:

/DIS A

REGID	JOBNAME	TYPE	TRAN/STEP	PROGRAM	STATUS	CLASS
21	IC5AR18C	TPE			WAITING	4, 5, 6
49	IC5AR26C	TPE			WAITING	6, 4, 5
75	IC5AR16C	TPE			WAITING	6, 5, 4
66	IC5AR32C	TPE	VOS042T1	VOS042T	ACTIVE	2, 1
13	IC5AR20C	TPE			WAITING	5, 4, 6
42	IC5AR22C	TPE			WAITING	4, 5, 6
19	IC5AR44C	TPE			WAITING	5, 6, 4, 3
16	IC5AR24C	TPE			WAITING	5, 4
48	IC5AR46C	TPE			WAITING	1, 2, 3, 5
4	IC5AR15C	TPE			WAITING	2, 1
27	IC5AR33C	TPE			WAITING	2, 3
52	IC5AR23C	TPE			WAITING	4, 5, 6
67	IC5AR45C	TPE			WAITING	1, 2, 3, 6
10	IC5AR14C	TPE			WAITING	2, 1



CCF - Batch JCL (IMSID)

```
//RA8287B JOB (SISS,AAAA), 'CCF BATCH',MSGCLASS=E,  
// NOTIFY=&SYSUID,CLASS=A  
//STEP01 EXEC PGM=CCFCMD00,PARM='IMSID=IMA0'  
//STEPLIB DD DISP=SHR,DSN=IMIMA0.UTIL.LOADLIB  
// DD DISP=SHR,DSN=IMIMA0.SDFSRESL  
//SYSABEND DD SYSOUT=*  
//CCFLIST DD SYSOUT=*  
//CCFOPTS DD DUMMY  
//CCFSYSIN DD *  
/DIS OLDS  
/*  
//
```

CCF - Batch Execution (IMSID)

```
CCF6010I JOB=RA8287B  MASK=-GLOBAL-  IMSID=IMA0
CCF6010I ERRORS  .: ABEND=U0024 RC=0020
CCF6010I ERRORS  .: DBRC=SETRC  APPC=SETRC  DFS488=SETRC  GENERAL=SETRC
CCF6010I MISC   . . . : RETRYATT=05 RETRYSEC=002  WTODBCMD=N  DBACCESS=DBRC
CCF6010I DFS0488I: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
```

```
CCF0150I - FOLLOWING RECORD READ FROM: CCFSYSIN
/DIS OLDS                                         0000000
```

```
CCF0329I - COMMAND EXECUTING ON: IMA0
/DIS OLDS
```

. OLDS-DDNAME	% FULL	RATE	ARCH-JOB	ARCH-STATUS	OTHER-STATUS.
*DFSOLP02	71	6			IN USE.
*DFSOLS02	71	6			IN USE.
DFSOLP01				AVAILABLE	.
DFSOLS01				AVAILABLE	.
DFSOLP00				AVAILABLE	.
DFSOLS00				AVAILABLE	.
DFSOLP03				AVAILABLE	.
DFSOLS03				AVAILABLE	.

```
. DUAL OLDS LOGGING, DUAL WADS LOGGING.
AUTOMATIC ARCHIVE = 01.
WADS = *DFSWADS0 *DFSWADS1 DFSWADS2 DFSWADS3.
*02192/085249*.
```

CCF - Batch JCL (GROUP)

```
//RA8287B JOB (SISS), 'CCF BATCH', MSGCLASS=E,  
// NOTIFY=&SYSUID, CLASS=X  
//STEP01 EXEC PGM=CCFCMD00, PARM='GROUP=IOVFSTAT'  
//STEPLIB DD DISP=SHR, DSN=IMDI26.UTIL.LOADLIB  
// DD DISP=SHR, DSN=IMDI26.SDFSRESL  
//SYSABEND DD SYSOUT=*  
//CCFLIST DD SYSOUT=*  
//*CCFLIST DD DSN=RA8287.CCF.OUTPUT, DISP=(NEW, CATLG), UNIT=TESTPOOL,  
//* SPACE=(CYL, (1, 1), RLSE)  
//CCFOPTS DD DUMMY  
//CCFSYSIN DD *  
/DIS AREA XYACTV01 IOVF  
/*  
//
```

CCF - Batch Execution (GROUP)

CCF0150I - FOLLOWING RECORD READ FROM: CCFSYSIN
/DIS AREA XYACTV01 IOVF 0000000

CCF0329I - COMMAND EXECUTING ON: DI27
/DIS AREA XYACTV01 IOVF

AREANAME	EQECT	TOTAL UNUSED	TOTAL UNUSED	DBNAME	EEQECT	CONDITIONS
DDNAME	REMAIN	SEQ DEPENDENT	DIR ADDRESSABLE			
XYACTV01	N/A	N/A	N/A 31445 29228-CI	XYACTVDE	0	.
XYACTV01	10	N/A	N/A N/A	N/A		

02192/100622.

CCF0329I - COMMAND EXECUTING ON: PI52
/DIS AREA XYACTV01 IOVF

AREANAME	EQECT	TOTAL UNUSED	TOTAL UNUSED	DBNAME	EEQECT	CONDITIONS
DDNAME	REMAIN	SEQ DEPENDENT	DIR ADDRESSABLE			
XYACTV01	N/A	N/A	N/A 9996 8653-CI	XYACTVDE	0	.
XYACTV01	10	N/A	N/A N/A	N/A		

02192/110524.

CCF0329I - COMMAND EXECUTING ON: PI55
/DIS AREA XYACTV01 IOVF

AREANAME	EQECT	TOTAL UNUSED	TOTAL UNUSED	DBNAME	EEQECT	CONDITIONS
DDNAME	REMAIN	SEQ DEPENDENT	DIR ADDRESSABLE			
XYACTV01	N/A	N/A	N/A 11929 11182-CI	XYACTVDE	0	.
XYACTV01	10	N/A	N/A N/A	N/A		

02192/110524.



CCF - QUESTIONS?????

ETO Support



Extended Terminal Option Support for
IMS/ESA

Session ID - C01



ETO Support - General Info

- ❑ ETO environment managed through CSA tables containing customization options
- ❑ Tables can be dynamically refreshed using the ETO Support batch or online refresh program.
- ❑ Any number of IMS systems can share the ETO database.



Components of ETO Support

- ❑ IMS
- ❑ MVS/APPC



ETO Support - IMS Component

- ❑ ETO Support 2.1 operates with the following IMS/ESA versions and releases:

IMS/ESA Version 5 Release 1 (5695-176)

IMS/ESA Version 6 Release 1 (5655-158)

IMS Version 7 Release 1 (5655-B01)



ETO Support - Install Tips

- ❑ Install ETO Support Function into the IMS SMP/E GLOBAL CSI.



ETO Support - Install Tips

❑ SYSGEN Information:

IMSCTRL

ETOFEAT=Y,

DATABASE DBD=DBIZT1,ACCESS=UP

APPLCTN PSB=IZTRAN,PGMTYPE=TP

TRANSACTION INQ=NO,MODE=SNGL,CODE=IZTRAN, C

MSGTYPE=(MULTSEG,NONRESPONSE,3), C

SCHD=3,SEGNO=65535, C

PROCLIM=(3,10),PRTY=(8,10,5)



ETO Support - Install Tips

❑ DBDGEN Information:

```
DBD  NAME=DBIZT1,ACCESS=SHISAM
```

```
  DATASET DD1=DBIZT1
```

```
    SEGM  NAME=IZTSEGM,PARENT=0,BYTES=120
```

```
      FIELD NAME=(IZTKEY,SEQ),BYTES=9,START=1
```

```
DBDGEN
```

```
FINISH
```

```
END
```



ETO Support - Install Tips

❑ PSBGEN Information:

PCB TYPE=TP,MODIFY=YES,EXPRESS=YES,PCBNAME=ALTPCB1

PCB TYPE=DB,DBDNAME=DBIZT1,PCBNAME=DBIZT1, X

PROCOPT=A,KEYLEN=9

SENSEG NAME=IZTSEGM,PARENT=0

PSBGEN PSBNAME=IZTRAN,LANG=ASSEM

NOTE: An ACBGEN is needed for PSB IZTRAN.



ETO Support - Install Tips

- ❑ Define ETO database DBIZT1
- ❑ Initialize ETO database DBIZT1 with Global Options and SLU2 Device Option.
- ❑ SBC used the following Global Options:

```
ZG LOGON=ETOS DFS3649=ETOS DFS3650=MOD MOD3650=IZTSIGNA  
ZG QNAMING=SUFFIXED ASOT=0470 ALOT=0010 STATIC=Y SOCLEAN=Y
```

```
ZG SRCHSEQ=USERID UIDSUF=HEX3
```

- ❑ SBC used the following SLU2 Device Option:

```
ZD DEVICE=$SLU2002 RESP=TRANRESP
```



ETO Support - Install Tips

- ❑ See Figure 1 for batch load jcl
- ❑ To view options online connect to the IMS and type IZTRAN and hit enter



ETO Support - Primary Menu

IZTRAN

COMMAND ==> **A**

IMS ETO-SUPPORT

VERSION - 02.01.00

PRIMARY MENU

IMSID: DI24

RELEASE: 7.1.0

CUSTOMIZE OPTIONS

- A - GLOBAL OPTIONS
- B - DEVICE TYPE OPTIONS
- C - LU NAME SPECIFIC OPTIONS
- D - USER SPECIFIC OPTIONS
- E - COMMAND SECURITY OPTIONS
- F - COMMAND/KEYWORD SECURITY
- G - SECURITY GROUP COMMANDS
- H - PRINTER LTERM DEFINITIONS

VIEW OPTIONS

- 1 - GLOBAL OPTIONS
- 2 - DEVICE TYPE OPTIONS
- 3 - LU NAME SPECIFIC OPTIONS
- 4 - USER SPECIFIC OPTIONS
- 5 - COMMAND SECURITY OPTIONS
- 6 - COMMAND/KEYWORD SECURITY
- 7 - SECURITY GROUP COMMANDS
- 8 - PRINTER LTERM DEFINITIONS

TEST FACILITIES

- T - TRANSLATION TABLE LOOKUP

TABLE REFRESH OPTIONS

- Y - CUSTOMIZE REFRESH ROUTING DATA
- Z - PERFORM TABLE REFRESH

ETO Support - Global Options

IZTRAN
COMMAND ==>

IMS ETO-SUPPORT
VERSION - 02.01.00
GLOBAL OPTIONS

IMSID: DI24
RELEASE: 7.1.0

LOGON PROCESS

- 1 1 - ETO-SUPPORT
- 2 - USER DFSLGNX1
- 3 - AUTO SIGNON

DFS3649

- 3 1 - IMS DEFAULT
- 2 - DFS2002 MESSAGE
- 3 - ETO-SUPPORT
- 4 - USER DFSGMSG1
- 5 - USER MOD

DFS3650

- 5 1 - IMS DEFAULT
- 2 - DFS058 MESSAGE
- 3 - BLANK SCREEN
- 4 - USER DFSGMSG1
- 5 - USER MOD IZTSIGNA

LTERM/USER NAMING OPTIONS:

- 4 1 - IMS DEFAULT
- 2 - NODE=USER=LTERM
- 3 - USERID FROM TABLE
- 4 - SUFFIXED USERID
- 5 - USER DFSSGNX1

IDLE NODE TIMEOUT: (BLANKS, 0000, 0010-1440)

ASOT 0470

ALOT 0010

PROCESS STATIC TERMINALS Y (Y OR N)

SIGNOFF CLEANUP Y (Y OR N)

TABLE SEARCH SEQUENCE

- 1 1 - USERID BEFORE LUNAME
- 2 - LUNAME BEFORE USERID

USERID SUFFIXING TECHNIQUE

- 2 1 - 0-9, A-Z
- 2 - 000-FFF

ETO Support - Device Options

IZTRAN
COMMAND ==>

IMS ETO-SUPPORT
VERSION - 02.01.00
DEVICE OPTIONS FOR SLU2/3270

IMSID: DI24
RELEASE: 7.1.0

LOGON PROCESS

DFS3649

DFS3650

- 1 - ETO-SUPPORT
- 2 - USER DFSLGNX1
- 3 - AUTO SIGNON

- 1 - IMS DEFAULT
- 2 - DFS2002 MESSAGE
- 3 - ETO-SUPPORT
- 4 - USER DFSGMSG1
- 5 - USER MOD

- 1 - IMS DEFAULT
- 2 - DFS058 MESSAGE
- 3 - BLANK SCREEN
- 4 - USER DFSGMSG1
- 5 - USER MOD

LTERM/USER NAMING OPTIONS:

- 1 - IMS DEFAULT
- 2 - NODE=USER=LTERM
- 3 - USERID FROM TABLE
- 4 - SUFFIXED USERID
- 5 - USER DFSSGNX1

IDLE NODE TIMEOUT: (BLANKS, 0000, 0010-1440)
ASOT
ALOT

RESPONSE OPTIONS:

- 3 - 1 - NORESP
- 2 - FORCRESP
- 3 - TRANRESP

MSGDEL OPTIONS:

- 1 - SYSINFO
- 2 - NOTERM
- 3 - NONIOPCB

DEVICE MODEL \$SLU2002
SECURITY GROUP



ETO Support - Install Tips

- ❑ Create a dynamic allocation member.
- ❑ Set ETO=Y and APPC=Y in DFSPBxxx member in proclib.
- ❑ Copy ETO Logon Descriptors into the DFSDSCM0 member in PROCLIB. Logon Descriptors are created when IMS STAGE2 gen is run.
- ❑ Recommendation: Use OUTBUF=4096 for SLU2 Logon Descriptors if using NCF.

ETO Support - DFSDSCM0

*** COMMON LOGON DESCRIPTORS ***

L DFSFIN UNITYPE=FINANCE

L DFS3270 UNITYPE=3270 FEAT=(NOCD,NOPEN)

L DFS32700 UNITYPE=3270 FEAT=(NOPFK,NOCD,NOPEN)

L DFS32701 UNITYPE=3270 OUTBUF=2400 FEAT=(NOCD,NOPEN)

L DFSSLU2 UNITYPE=SLUTYPE2 OUTBUF=4096 FEAT=(NOCD,NOPEN)

L DFSSLU2 OPTIONS=NOCOPY

L DFSSLU20 UNITYPE=SLUTYPE2 OUTBUF=3840 FEAT=(NOCD,NOPEN)

L DFSSLU20 OPTIONS=NOCOPY

L DFSSLU21 UNITYPE=SLUTYPE2 OUTBUF=1536 FEAT=(NOCD,NOPEN)

L DFSSLUP UNITYPE=SLUTYPEP

L DFSLU61 UNITYPE=LUTYPE6

L \$SLU1PRT UNITYPE=SLUTYPE1 COMPT1=(PRINTER1,MFS-SCS1)

L \$3270PRT UNITYPE=3270 UNIT=3286 PTRSIZE=132 OUTBUF=2000

*** DEFAULT USER DESCRIPTOR ***

U DFSUSER LTERM=(DFSUSER,ULC) OPTIONS=(SYSINFO,NORESP)



ETO Support - Initialization

□ As seen in the control region:

IZT1002I - E/CSA ANCHOR ESTABLISHED AT 28BA3000 DI24
IZT1008I - IMSID ANCHOR ESTABLISHED AT 28BA3A10 DI24
IZT1011I - ETO-SUPPORT INITIALIZATION COMPLETE DI24



MVS/APPC Component

- ❑ To make APPC definitions.

Type APPC on any ISPF Command Line.

Select either

TP Profile Administration `SYS1.APPCTP`

Side Information Administration `SYS1.APPCSI`

or use batch JCL (see Figure 2)



MVS/APPC Component

APPC Administration

Command ==>

Select one of the following with an "S". Then Enter.

Type information. Then Enter.

_ TP Profile Administration

Current TP Profile

System file .. SYS1.APPCTP_____

_ Side Information Administration

Current Side Information

System file .. SYS1.APPCSI_____

_ Database Token Administration

Current Database Token

System file .. SYS1.APPCTP_____



ETO Support - User Exits

- ❑ DFSINTX1 (Initialization user exit)
- ❑ DFSGMSG1 (Greetings Messages user exit)
- ❑ DFSLGNX1 (Logon user exit)
- ❑ DFSCCMD1 (Command Authorization user exit)
- ❑ DFSSGNX1 (Signon user exit)



ETO Support - Warnings

- ❑ Printers that are hard coded in the IMS gen connect without checking VTAM bind parameters
- ❑ ETO checks the bind parameter in VTAM compares it with the bind from IMS and gives error message if they do not match.
- ❑ LU-3 devices will not work without a usermod supplied by IBM

ETO Support - Examples

□ Figure 1 Batch Database Update

```
//DI24ETOC JOB (SISS),'DI24ETO TEST',  
//  NOTIFY=&SYSUID,CLASS=X,MSGCLASS=H,USER=&SYSUID  
//*****  
//STEP1 EXEC PGM=IMFSUBEX,  
//  PARM='SS(*) EXEC(DBRETO) TARGET(SIDI24CT) ORIGIN(RACF)'  
//STEPLIB DD DISP=SHR,DSN=SYS1.OPERTOOL.LINKLIB  
//SYSUDUMP DD SYSOUT=*  
//*****  
//STEP2 EXEC PGM=DFSRRRC00,  
//  PARM=(DLI,IZTUD1U0,IZTRAN,7,  
//  0000,,0,NOMSG681,N,0,T,,,N,N,,Y)  
//STEPLIB DD DISP=SHR,DSN=IMDI24.UTIL..LOADLIB  
//  DD DISP=SHR,DSN=IMDI24.SDFSRESL  
//  DD DISP=SHR,DSN=IMDI24.DYNLIB  
//DFSRESLB DD DISP=SHR,DSN=IMDI24.UTIL.LOADLIB  
//  DD DISP=SHR,DSN=IMDI24.SDFSRESL  
//IMS DD DISP=SHR,DSN=IMDI24.PSBLIB  
//  DD DISP=SHR,DSN=IMDI24.DBDLIB  
//IEFRDER DD DSN=DSI48.ETO.IMSLOG.T%%%%%%%%.D%%%%%%%%,  
//  DISP=(NEW,DELETE),UNIT=SYSDA,
```

ETO Support - Examples

□ Figure 1 Batch Database Update - cont.

```
//          DCB=(RECFM=VB,LRECL=26620,BLKSIZE=26624,BUFNO=20),
//          SPACE=(CYL,(5,5),RLSE)
//SYSUDUMP DD SYSOUT=*
//IMSMON   DD DUMMY
//IZTPRINT DD SYSOUT=*
//DFSVSAMP DD DISP=SHR,DSN=IMDI24.PROCLIB(DFSVSAMP)
//IZTIN    DD DISP=SHR,DSN=PSTIC.DI24.ETO.CNTL(ETOINPUT)
//*****
//STEP3 EXEC PGM=IZTLOAD
//STEPLIB  DD DISP=SHR,DSN=IMDI24.UTIL.LOADLIB
//          DD DISP=SHR,DSN=IMDI24.SDFSRESL
//          DD DISP=SHR,DSN=IMDI24.DYNLIB,DISP=SHR
//SYSUDUMP DD SYSOUT=*
//*****
//STEP4 EXEC PGM=IMFSUBEX,
//          PARM='SS(*) EXEC(STAETO) TARGET(SIDI24CT) ORIGIN(RACF)'
//STEPLIB  DD DISP=SHR,DSN=SYS1.OPERTOOL.LINKLIB
//SYSUDUMP DD SYSOUT=*
//*****
```

ETO Support - Examples

❑ Figure 2 Batch jcl for MVS/APPC

```
//IMSAPPCA JOB (SISS),'EZETO SIADD',NOTIFY=&SYSUID,  
//  CLASS=A  
//STEP1 EXEC PGM=ATBSDFMU  
//SYSPRINT DD SYSOUT=*  
//SYSSDLIB DD DISP=SHR,DSN=SYS1.APPCSI  
//SYSSDOUT DD SYSOUT=*  
//SYSIN DD *  
SIDELETE  
  DESTNAME(IMSAA)  
SIADD  
  DESTNAME(IMSETO)  
  TPNAME(STAETECH_EZETO_REFRESH)  
  MODENAME(SYSTOSYS)  
  
PARTNER_LU(MVSLUAA)
```

ETO Support - Examples

❑ Figure 2 Batch jcl for MVS/APPC -cont

```
//IMSAPPCA JOB (SISS),'EZETO TPADD',NOTIFY=&SYSUID,  
// CLASS=A,  
//STEP1 EXEC PGM=ATBSDFMU  
//SYSPRINT DD SYSOUT=*  
//SYSSDLIB DD DISP=SHR,DSN=SYS1.APPCTP  
//SYSSDOUT DD SYSOUT=*  
//SYSIN DD DATA,DLM='QT'  
    TPDELETE  
    TPNAME(STAETECH_EZETO_REFRESH)  
    TPADD  
    TPNAME(STAETECH_EZETO_REFRESH)  
    ACTIVE(YES)  
    TPSCHED_DELIMITER(DLM1)  
    KEEP_MESSAGE_LOG(ERROR)  
    MESSAGE_DATA_SET(IMSUPTA.APPC.LOG)  
    DATASET_STATUS(MOD)  
    CLASS(A)  
    JCL_DELIMITER(DLM2)  
//IMSAPPCA JOB (SISS),'IZTAPPC9'  
//STEP01 EXEC PGM=IZTAPPC9  
//STEPLIB DD DISP=SHR,DSN=IMDI24.UTIL.LOADLIB  
//SYSUDUMP DD DISP=OLD,DSN=IMSUPTA.APPC.SYSUDUMP  
//APPCERR DD DISP=OLD,DSN=IMSUPTA.APPC.ERRORLOG  
DLM2  
DLM1  
QT
```



ETO Support Summary

- For additional information, please contact any of the following:

Hans Castro - hc1949@sbc.com

Tim Brigner - tb7896@sbc.com

Ed Visocky - ev9165@sbc.com