Problem Determination under z/VSE

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First word

Source of information

All hints and tips given in this handbook can be read more in detail in the following documentation.

z/VSE

z/VSE System Control Statements, SC33-8225
z/VSE Diagnosis Tools, SC33-8229
z/VSE V4R1.0 Diagnosis Tools SC33-8313
Hints and Tips for z/VSE

VSE/POWER

VSE/POWER Adminstration and Operation, SC33-8247

CICS/VSE 2.3

CICS/VSE System Definition and Operation Guide, SC33-0706
CICS/VSE Supplied Transactions, SC33-0710
CICS/VSE Problem Determination Guide, SC33-0716

TCP/IP

TCP/IP for VSE Commands (can be downloaded at http://www-03.ibm.com/servers/eserver/zseries/zvse/documentation/#tcpip)

CICS/TS 1.1.1

CICS Problem Determination Guide, GC33-1663
CICS Operation and Utilities Guide, SC33-1654
CICS System Definition Guide, SC33-1651
CICS Supplied Transactions, SC33-1655

WebSphere MQ for z/VSE 3.0.0

System Management Guide, GC34-6981

ACF/VTAM

VTAM Operation, SC31-6435

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Prolog

This handbook is intended to be used by customers, to prepare their z/VSE system for problem determination. Gather useful and complete documentation is important for any problem case and depends mainly on the parameter setting described in this handbook. If you need more information about the parameters please read the z/VSE books for details.

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Preparation of z/VSE system

Standalone dump

Creating the Stand-Alone Dump Program

The stand-alone dump program is mainly used in case of a hard or soft wait or if a system loop occurred. You can generate the stand-alone dump program to reside on magnetic tape or disk (a virtual disk, or a card or diskette unit is not valid as program residence.)
It is recommended to create the stand-alone dump program on tape or on a work disk. If you create the stand-alone dump program on your SYSRES disk, then any IPL request first causes a stand-alone dump to be taken. When the dump program has completed execution, it transfers control to the IPL program. If a dump is not needed, you can avoid the time consuming stand-alone dump processing by selecting the option CLEAR on the program load panel. The option CLEAR defines a fast path through the stand-alone dump program which will immediately transfer control to the IPL program of z/VSE.
If you create the stand-alone dump program on disk, two data sets (IJSYSDI and IJSYSDU) are required (Details can be found in z/VSE Diagnosis Tools , chapter 'Dump Program File and Dump Data Set') .

For processing the dump see ' Printing a Dump Stored on Tape or Disk ' in z/VSE Diagnosis Tools.

To generate a stand-alone dump program, invoke DOSVSDMP by entering

```
// EXEC DOSVSDMP
```

The program, once it receives control, prompts you for further control information as shown here:

Prompt Message

```
4G01D SELECT ONE OF THE FOLLOWING FUNCTIONS:
1 CREATE STAND ALONE DUMP PROGRAM
2 SCAN DUMP TAPE/DISK
3 PRINT DUMP TAPE/DISK
4 PRINT SDAID TAPE
5 PRINT IPL DIAGNOSTICS
R END DOSVSDMP PROCESSING
```

Enter **1** to create a stand alone dump program on tape or disk. The DOSVSDMP utility responds with

Prompt Message

4G04D SPECIFY ADDRESS OF DUMP DEVICE (CUU OR SYSNNN)

The device defined with `SYSNNN` or `CUU` can be a tape or disk.

Note: Neither the utility DOSVSDMP nor the generated stand-alone dump program supports streaming mode on tape devices.

If the specified device address is that of a disk unit, DOSVSDMP responds with

Prompt Message

4G02D CREATE THE STAND ALONE DUMP PROGRAM 1 ON A WORK DISK 2 ON A SYSRES DISK R END DOSVSDMP PROCESSING

Enter **1** if you want to create the stand-alone program on a (non-SYSRES) work disk. In this case DOSVSDMP creates a VTOC entry for a dump program file IJSYSDI, for which you have to specify labels (see z/VSE Diagnosis Tools, Chapter "Dump Program File and Dump Data Set") .

Enter **2** if you want to create the stand-alone program on a SYSRES disk. In this case, no labels are required for IJSYSDI. DOSVSDMP creates the dump program within the disk extent reserved for the system library. Note, however, that if you create the stand-alone dump program on the SYSRES disk, a new stand-alone dump is taken with every subsequent IPL (unless you specify CLEAR). In both cases you have to specify labels for a dump data set IJSYSDU (see z/VSE Diagnosis Tools , chapter 'Dump Program File and Dump Data Set'). You can remove the stand-alone dump program from the system disk by entering option 3 (Remove Stand-Alone Dump Program from a SYSRES disk) from the **Dump Program Utilities** panel of the Interactive Interface.

The completion message

Completion Message

4G09I DUMP PROGRAM HAS BEEN CREATED

indicates the successful generation of the dump program.

If the dump file is on disk, the completion message is followed by a message indicating the dump file capacity:

Capacity Message

4G27I DUMP FILE CAPACITY IS nnnnnnn K BYTES

Note: If the stand-alone dump program was created on the DOSRES or SYSWK1 disk, you have to recreate it after indirect service application. This is because during service application, the stand-alone dump program is overwritten by IPL records.

The description of how the stand-alone dump program is executed can be found in z/VSE Diagnosis Tools, Chapter "The Stand-Alone Dump (SADUMP) Program" .

A SADUMP to disk or tape should be available for each installed z/VSE release, before the problem occurs !!!!

Option SADUMP

Within partition JCL you can activate the SADUMP option, which controls whether the partition will be dumped during SADUMP processing or not.

// Option SADUMP=(n,m,o)
n=controls the priority of partition
m=controls the priority of owned data spaces
o=controls the priority of the memory objects (Option 'o' is valid starting with z/VSE Version 5.1)

Rules for SYSDUMP Library handling

Please respect the following rules for SYSDUMP library, to prevent library corruption:

- Use unique Library and Dump management file for each VSE system, file sharing is not allowed.
- Use only INFOANALYSIS utility to manage dumps, don't use LIBR to delete the entries or anything else. Using LIBR leads to unpredictable results.
- Rely on the naming convention **BG, F1-FB, DYN** for the SUBLIBs, other names will not be accepted by IUI Dialog 43 .

Prerequisites for SYSDUMP Library

To ensure that SYSDUMP lib is used, check that

- SYSDUMP lib is defined.
- SYSDUMP lib is large enough (test it with your largest CICS partition by giving CEMT P SNAP command).
- Submit LIBDEF DUMP,CATALOG=SYSDUMP.Fx statement in each JOB or partition startup.

If these points are not fulfilled, the dump will be send to assigned SYSLST.
SYSLST dumps are not useful, because of missing data.
If SYSLST is not assigned, the dump is lost.

SYSLST dumps are not accepted by the support team !!

Increase and move your SYSDUMP library

For large CICS partitions it is useful to move and increase the SYSDUMP library.
(With z/VSE 4.3.1 1425 tracks are standard, recommendation increase
to at least 3000 tracks.)

Following procedure is one way to increase and move SYSDUMP lib:

- Define new library with LIBR

```
* $$ JOB JNM=SYSDMP,DISP=D,CLASS=4
* $$ LST CLASS=A,DISP=D
// JOB DEFINE
// DLBL SERDUMP,'SER.DUMP.LIBRARY',1999/365,SD
* for z/VSE 4.x and later use at least 3000 tracks
// EXTENT ,SYSWK1,1,0,9194,1200
// EXEC LIBR
DEFINE L=SERDUMP
DEFINE S=SERDUMP.BG -
SERDUMP.F1 -
SERDUMP.F2 -
SERDUMP.F3 -
SERDUMP.F4 -
SERDUMP.F5 -
SERDUMP.F6 -
SERDUMP.F7 -
SERDUMP.F8 -
SERDUMP.F9 -
SERDUMP.FA -
SERDUMP.FB -
SERDUMP.DYN REUSE=IMM
/*
/&
* $$ EOJ
```

- Change Standard Label entries, filename must be ‘SYSDUMP’

```
* // DLBL SYSDUMP,'VSE.DUMP.LIBRARY',1999/365,SD
* // EXTENT ,SYSWK1,1,0,3150,600
// DLBL SYSDUMP,'SER.DUMP.LIBRARY',1999/365,SD
// EXTENT ,SYSWK1,1,0,9194,1200
```

- Activate the new label
  IPL the system to activate the new labels and initialize the new area

- Initialize the DUMP Library

```
* $$ JOB JNM=DMPUTIL,DISP=D,CLASS=4
* $$ LST CLASS=4,DISP=D
// EXEC PROC=DTRINFOA
// EXEC INFOANA,SIZE=300K
SELECT DUMP MANAGEMENT
UTILITY
RETURN
SELECT END
/*
/&
* $$ EOJ
```

Offload Dumps from SYSDUMP Library

All abend dumps will be written to SYSDUMP library.

Sample Job to offload DUMP to tape:

```
// JOB DOFFLOAD OFFLOAD DUMP TO TAPE
* PLEASE MOUNT TAPE DUMPTA ON UNIT 180 TO OFFLOAD
* DUMP SYSDUMP.F2.name
// PAUSE
// ASSGN SYS018,180
// EXEC PROC=DTRINFOA
// EXEC INFOANA,SIZE=300K
SELECT DUMP MANAGEMENT
DUMP NAME SYSDUMP.F2.name
RETURN
SELECT DUMP OFFLOAD
VOLID DUMPTA SYS018
ERASE NO
RETURN
SELECT END
/*
// MTC RUN,SYS018
/&
```

ABEND Dump

- Use **STDOPT DUMP=YES** or **// OPTION DUMP** to produce DUMP at ABEND situations.
- Use **STDOPT SYSDUMP=YES** or **// OPTION SYSDUMP** to make use of the Sysdump Library.
- Use **STDOPT DSPDUMP=YES** or **// OPTION DSPDUMP** for the dataspaces belonging to the partition.
- Add **// LIBDEF DUMP,CATALOG=SYSDUMP.Fx** (Fx=Partition-id) to partition JCL or **// LIBDEF DUMP,CATALOG=SYDUMP.DYN** (for dynamic partitions).

Wait/Hang/Loop Situations

Complete System Wait/Hang/Loop

Take SADUMP on VSE Native System

- Store Status (via Hardware console functions)
- Ready the SADUMP tape
- IPL NORMAL (without Clear) to tape unit

Take SADUMP under z/VM

- Store Status (in CP mode on VSE console)
- Ready the SADUMP tape
- IPL NORMAL (noclear) to tape unit

Partition Wait/Hang/Loop

Attention Routine Dump

DUMP partition-id,000000-7FFFFFFF,cuu
cuu = tape unit address
7FFFFFFF=high used storage address
This includes shared areas (Supervisor,SVA-24 & SVA-31)

DUMP DSPACE,dspname,partition-id,cuu

Has to be used in addition, if dataspace are in use for the partition (f.e. VTAM).
Dspname can be found with command **QUERY DSPACE,all** in AR.

CICS

Recommended Options for CICS 2.3 and CICS/TS Startup

// OPTION SADUMP=4
// OPTION DUMP
// OPTION DSPDUMP
// OPTION SYSDUMPC
// LIBDEF DUMP,CATALOG=SYSDUMP.Fx (Fx=Partition ID)
or // LIBDEF DUMP,CATALOG=SYSDUMP.dyn (dyn= Dynamic Partition)

CICS/VSE 2.3 settings

DFHSIT CICS/VSE 2.3 Parameter

ABDUMP=YES System dump will be build for ASRB transaction abends. DFHPCT must have FDUMP=ASRB for transaction. Can be replaced with CEMT SET DUMPOPTIONS.

PCDUMP=YES SYSTEM DUMP will be build for ASRA transaction abends. Prerequisite: DFHPCT FDUMP=ASRA is defined for transaction. That can be changed by CEMT SET DUMPOPTIONS.

AUXTR=(ON,DISK) Auxtrace function can be activated with this parameter at CICS start up. Auxtrace will be deactivated with CEMT SET AUXT OFF CLO, and activated with CEMT SET AUXT ON OPE. Condition is: TRACE=ON in DFHSIT.

DUMP=YES If requested IDUMP will be build.

DUMPDS={AUTO'A'B} Gives the opportunity which transaction dump dataset will be opened on CICS startup.

SVD=YES Dump will be build for every storage violation. If possible, storage recovery will be made.

TRACE=(2000,ON) Internal trace table with 2000 lines will be produced. Internal trace is activ. Trace can be deactivated with CEMT SET TRACE OFF and activated with CEMT SET TRACE ON

Print CICS/VSE 2.3 Dump Dataset

Following Job will print the CICS Dump Dataset
The Dump Dataset has to be closed before printing: **CEMT SET DUMP CLO**

Sample JOB to print DUMP DATASET A:

```
* $$ JOB JNM=PRTDUMPA,CLASS=A,DISP=D,PRI=3
// JOB PRTDUMPA PRINT THE CICS DUMP DATASET A
// DLBL DFHDUMP,'CICS.DUMPA',0,VSAM,CAT=VSESPUC,DISP=(OLD,KEEP)
// EXEC DFHDUP,SIZE=80K,PARM='SINGLE,TRANSLATE=FOLD'
/*
/&
* $$ EOJ
```

Sample JOB to print DUMP DATASET B:

```
// JOB PRTDUMP PRINT DUMP DATA SET
// DLBL DFHDUMP,'CICS.DUMPB',0,VSAM,CAT=VSESPUC,DISP=(OLD,KEEP)
// EXEC DFHDUP,SIZE=80K,PARM='TRANSLATE=FOLD,SINGLE'
/*
/&
```

CICS/VSE 2.3 Auxtrace

To start CICS Auxtrace use: **CEMT SET AUX ON OPE**

To stop CICS Auxtrace use: **CEMT SET AUX OFF CLO**

Following Job will print the CICS Auxtrace Dataset:

```
// JOB PRTAUX PRINT AUXILIARY TRACE DATA SET A
// LIBDEF *,SEARCH=(PRD1.BASE)
// DLBL DFHAUXT,'CICS.AUXTRACE',0,VSAM, x
CAT=VSESPUC,RECSIZE=4096,DISP=(OLD,KEEP),RECORDS=(200,0)
// EXEC DFHTUP,SIZE=80K
DEVICE=DISK
/*
/&
```

CICS/TS 1.1.1

DFHSIT CICS/TS 1.1.1 Parameter

- **DUMP=YES** enable CICS system Dumps unless suppressed in CICS system dump table

- **CICS DUMP TABLES** has to be defined. Query of current setting with:
  CEMT Inquire SYDumpcode
  CEMT Inquire TRDumpcode

- Important Entries:
  AP0001 and SR0001 = ASRA and ASRB in CICS-KEY and USER-KEY
  SM0102 = Storage Violation

- **CEMT** can be used to modify **CICS DUMP TABLES** to produce messages or abends
  f.e.: **CEMT S TRD(AKEB) SYS ADD** produces System Dump for AKEB abend in addition to the transaction Dump
  f.e..: **CEMT S SYD(AP0001) NOSYS ADD**
  Will suppress the System Dump for ASRA and ASRB in User-key.
  This setting is recommended for normal production CICS for AP0001 and SR0001.
  See Problem Determination Guide Chapter 15.: Using dumps in problem determination

- **DUMPDS=AUTO** define the initial transaction dump ds

- **DUMPSW=NEXT** enable dumpds autoswitch facility

- **Internal Trace Control:**
  INTTR=ON internal trace on
  STNTR=1 standart level of tracing set to 1
  STNTRDS=OFF stop dispatcher tracing (fills tracetable)
  (You can code the STNTRxx parameters in PARM, SYSIPT, or CONSOLE only).
  SYSTR=ON master system trace on
  TRTABSZ=500K tracetable size (~6000 entries)
  USERTR=ON handle user tracing requests

- **Auxtrace Control:**
  AUXTR=(OFF,**ON**) auxtrace off default
  AUXTRSW=(NO/**ALL**/NEXT) switching of auxtrace ds

- **Internal Tracing** can be
  Stopped with **CEMT SET INTTRACE STOP** (CEMT S IN STO)
  Started with **CEMT SET INTTRACE START** (CEMT S IN STA)
- **Auxilary Tracing** use the same syntax
  CEMT SET AUXTRACE STOP ALL (CEMT S AUX STO A)
  CEMT SET AUXTRACE START ALL (CEMT S AUX STA A)
  CEMT SET AUXTRACE PAUSE ALL (CEMT S AUX P A)

- With **CETR** Transaction you can configure the internal Trace and Auxtrace.

```
CETR                    CICS Trace Control Facility          CIC1 DBDCCICS
Type in your choices.
Item                          Choice          Possible choices

Internal Trace Status    ===> STARTED         STArted, STOpped
Internal Trace Table Size ===> 256    K       16K - 1048576K

Auxiliary Trace Status   ===> STOPPED         STArted, STOpped, Paused
Auxiliary Trace Dataset  ===> A               A, B
Auxiliary Switch Status  ===> NO              NO, NExt, All

Master System Trace Flag ===> ON              ON, OFf
Master User Trace Flag   ===> ON              ON, OFf

When finished, press ENTER.

PF1=Help    3=Quit    4=Components    5=Ter/Trn    9=Error List
```

Use PF4 (Components) to switch and control Component tracing

- **CETR** also allows to use selective Trace for one transaction on a definite terminal.
  See Problem Determination Guide Chapter 14.: Using traces in problem determination

```
CETR                    Transaction and Terminal Trace       CIC1 DBDCCICS
Type in your choices.
Item                          Choice          Possible choices

Transaction ID           ===>                 Any valid 4 character ID
Transaction Status       ===>                 STandard, SPecial, SUppressed

Terminal ID              ===>                 Any valid Terminal ID
Netname                  ===>                 Any valid Netname
Terminal Status          ===>                 STandard, SPecial

Terminal ZCP Trace       ===>                 ON, OFf

When finished, press ENTER.

PF1=Help    3=Quit              9=Error List
```

Print CICS/TS 1.1.1 AUXILARY TRACE Datasets

See ICCF Library 59 Member **DFHAUXPR**

```
* $$ JOB JNM=DFHAUXPR,DISP=D,CLASS=0
// JOB DFHAUXPR PRINT CICS AUXILIARY TRACE DATASET CONTENTS
*
* THIS JOB CAN BE USED FOR CICS RELATED PROBLEM DETERMINATION
*
* STEP1: ACTIVATE INTERNAL TRACE VIA: 'CEMT SET INTTRACE START'
* STEP2: ACTIVATE AUXTRACE OPERATING: 'CEMT SET AUXTRACE START
* STEP3: RUN EVENT TO BE TRACED
* STEP4: STOP TRACING VIA: 'CEMT SET INTTRACE STOP'
* STEP5: STOP TRACING VIA: 'CEMT SET AUXTRACE STOP'
* STEP6: REPLY 'END/ENTER' TO RUN THIS JOB ANALYZING TRACED DATA
*
* FOR PRINT OPTIONS REFER TO THE CICS MANUALS.
* POSSIBLE OPTIONS ARE E.G. 'ALL,FULL' OR 'ALL,ABBREV'
// PAUSE ---> PLEASE FOLLOW GENERAL INSTRUCTIONS ABOVE !!
// DLBL DFHAUXT,'CICS.AUXTRACE',0,VSAM, X
CAT=VSESPUC,RECSIZE=4096, X
DISP=(OLD,DELETE),RECORDS=(200,0)
// EXEC DFHTU410,SIZE=1880K,OS390
ALL,ABBREV,TIMESTAMP
/*
/& *
$$ EOJ
```

DFHTU410 = **T**race **U**tility Programm is described in CICS Operations andUtilities Guide

- OPTION **ABBREV** will produce a small Trace like was in CICS/VSE 2.3, but without time stamp.
- OPTION **TIMESTAMP** will show time stamp in addition.
- OPTION **FULL** produce Fulltrace, which contains a lot of useful storage information.

Print CICS/TS 1.1.1 Transaction DUMP Datasets

Use **CEMT SET DUMP CLO** before printing

Following Job produces Index listing of all Dumps in Dump Dataset.

```
// JOB PRTDUMPB PRINT THE CICS DUMP DATASET A
// ASSGN SYS009,SYSLST
// DLBL DFHDUMP,'CICS.DUMPA',0,VSAM,CAT=VSESPUC,DISP=(OLD,KEEP)
// EXEC
DFHDU410,SIZE=DFHDU410,PARM='SINGLE,TRANSLATE=FOLD,SI',OS390
SELECT TYPE=SCAN
END
/*
/&
```

Following SYSLST Output will be created:

```
            INDEX OF DUMPS ON DATASET
  DUMPID APPLID DATE TIME TRANID DUMP CODE
  37/0008 DBDCCICS 09282008 11:21 MP01 ASRA
  37/0009 DBDCCICS 09282008 11:22 MP01 AEI9
  37/0010 DBDCCICS 09282008 11:22 MP01 ASRA
  37/0011 DBDCCICS 09282008 11:25 MP11 ASRA
```

With next Job you can print selective Dumps from the above listing:

```
// JOB PRTDUMPA PRINT THE CICS DUMP DATASET A
// ASSGN SYS009,SYSLST
// DLBL DFHDUMP,'CICS.DUMPA',0,VSAM,CAT=VSESPUC,DISP=(OLD,KEEP)
// EXEC
DFHDU410,SIZE=DFHDU410,PARM='SINGLE,TRANSLATE=FOLD',OS390
SELECT TYPE=AND
TRANID=MP01
DUMPCODE=ASRA
END
/*
/&
```

This job results in printout of first and third Dump from the listing.
Options can be found in:
CICS/TS Operations and Utilities chapter 12: Dump Utility Programs

VSE/POWER

Power Abend

Power Abends are shown up by Message 1Q2CI, message text contains phase name, offset, type of program check and other useful information.
System asked with Message 1Q30D, provided that SET 1Q30D=YES is defined in POWER settings, for dumping or not. If SYSDUMP lib is full message 1QC5D asked for printer or tape address.

Power Task dispatch trace

Start trace:

```
PSTART TASKTR,ENABLE,12
```

Stop trace:

```
PSTOP TASKTR
```

Dump trace area into SYSDUMP lib at full condition:

PSTART DUMPTR

PNET/RJE trace

Start trace for RJE:

```
PSTART RJE,lineaddr,passwort,TRACE
```

Start trace for PNET, BSC or CTCA:

```
PSTART PNET,node-id,node-pw,lineaddr,line-pw,TRACE
```

Start trace for PNET SNA:

```
PSTART PNET,node-ide,node-pw,,,TRACE
```

Dump trace area into SYSDUMP lib at full condition:

```
PSTART DUMPTR
```

IPW$$DD of POWER files

IPW$$DD produce a dump of POWER LST/RDR/PUN/XMT entries.
Most usage is to verify carriage control character, subsections and so on.

Sample job to start IPW$$DD dialogue on system console:

```
// JOB IPW$$DD
// EXEC PROC=DTRPOWR   ASSGN for VSE/POWER files
// EXEC IPW$$DD
/*
/&
```

Prompt on VSE system console:

```
DUMP FUNCTION=
```

Reply with A,D,Q or S for a dump of complete file.

- A (Dump Account file)
- D (Dump Data file)
- Q (Dump Queue File)
- S (Dump Control Area only for shared spooling)

Reply with **jobname,jobnumber,queue** to produce dump of one entry.

- L For LST queue (default)
- P For PUN queue.
- R For RDR queue.
- X For XMT queue.

End the utility with

```
EOJ
```

Note: For a complete dump of the Data File SYSLST must be assigned to a VM virtual printer or to a tape drive!

Language Environment

Language environment handling

How to get a CEEDUMP

A **CEEDUMP** is written whenever your program runs into an error condition of severity 3 or higher and the **ABTERMENC** setting is **ABEND** and the **TERMTHDACT** setting is **DUMP or UADUMP**.

The CEEDUMP is written to SYSOUT or to whatever you defined as CESE TD Queue in CICS.

The support team may ask for this DUMP during problem analysis, so please keep the dump. If you are interested in diagnose of CEEDUMPs please read LE/VSE Debugging Guide and Run-Time Messages.

How to change/verify runtime options

Use CEEUOPT module to verify the active runtime options.
Modify the CEEUOPT Z-book and link it into your application.
Delete all entries in CEEUOPT, except RPTOPTS=(on):

```
CEEUOPT CSECT
CEEUOPT AMODE ANY
CEEUOPT RMODE ANY
CEEXOPT RPTOPTS=(ON)
END
```

After assembly and linkage an option report will be printed to SYSOUT, whenever you run the application.
CEEUOPT can also be used to change other runtime options for the individual program.

More information can be found in chapter 5.3 LE/VSE Run-Time Options of LE/VSE Installation and Customization guide.

CEECOPT Z-book is used to change the global runtime options for CICS and
CEEDOPT Z-book is used the change the global runtime options for batch.

ROPC transaction lists/reports the active LE runtime options in CICS .

VTAM

VTAM BUFFER TRACE

Start of VTAM BUFFER trace with

F NET,TRACE,TYPE=BUF,ID=netname

Sample:

```
F NET,TRACE,TYPE=BUF,ID=IVLTA0B2
AR 015 1C39I COMMAND PASSED TO ACF/VTAM
F3 053 IST097I MODIFY ACCEPTED
F3 053 IST513I TRACE INITIATED FOR NODE IVLTA0B2
F3 053 IST504I VTAM TRACE SUBTASK STARTED
F3 066 4933D EQUAL FILE ID IN VTOC TRFILE SYS001=520 SYSWK1
VTAM.TRACE.FILE
F3-066
66 delete
F NET,NOTRACE,TYPE=BUF,ID=IVLTA0B2
AR 015 1C39I COMMAND PASSED TO ACF/VTAM
F3 053 IST097I MODIFY ACCEPTED
F3 053 IST512I TRACE TERMINATED FOR NODE = IVLTA0B2
```

VTAM Internal Trace

Two modes are available MODE=INT and MODE=EXT
MODE=INT is default, trace will be written into storage and can be found in dump.
MODE=EXT uses the VTAM Trace file, must be formatted with TPRINT EXEC.
OPTION is used to define the trace points.

VIT can be started via ATCSTRxx or via MODIFY command.

VTAM START OPTION:

```
TRACE TYPE=VTAM
```

VTAM Modify command:

```
F NET,TRACE,TYPE=VTAM,MODE=INT,OPTION=(PIU,API,APPC,MSG)
```

Stop trace with:

```
F NET,NOTRACE,TYPE=VTAM,OPTION=END
```

TPRINT

TPRINT is used to print the TRACE.

Sample Job to print VTAM Trace:

```
// JOB TRACEPR
// DLBL TRFILE,'VTAM.TRACE.FILE',0,SD
// EXTENT SYS004,SYSWK1,1,0,9060,15
// ASSGN SYS004,DISK,VOL=SYSWK1,SHR TRACE FILE ASSIGNMENT
// LIBDEF *,SEARCH=(PRD1.BASE),PERM
// EXEC TPRINT,SIZE=AUTO
/*
/&
```

Sample dialog on console:

```
R RDR,TRACEPR
AR 015 1C39I COMMAND PASSED TO VSE/POWER
F1 001 1R88I OK
F1 001 1Q47I BG TRACEPR 02407 FROM VSEESA13(RICH) , TIME=11:51:05
BG 000 // JOB TRACEPR
DATE 03/31/95,CLOCK 11/51/05
BG 000 IST900I TRACE PRINT UTILITY STARTED
BG 000 IST907A SNAPSHOT MODE TPRINT? ENTER Y OR N
BG-000
0 n
BG 000 IST905A ENTER TRACE PRINT OPTIONS OR 'CANCEL'
BG-000
0 print clear=yes
F3 053 IST505I VTAM TRACE SUBTASK ENDED
BG 000 IST915I TRACE RECORDING SUSPENDED FOR ONLINE TPRINT
F3 053 IST504I VTAM TRACE SUBTASK STARTED
BG 000 IST910I TRACE PRINT UTILITY ENDED
BG 000 EOJ TRACEPR
DATE 03/31/95,CLOCK 11/51/22,DURATION 00/00/16
F1 001 1Q34I BG WAITING FOR WORK
F3-066 4933D EQUAL FILE ID IN VTOC TRFILE SYS001=520 SYSWK1
VTAM.TRACE.FILE
66 delete
```

VSE TRACE FUNCTIONS

SDAID

With z/VSE SDAID can also be used for more than one CPU.

SDAID supplies us with many possibilities and trace points. The following job will only show a sample. The support team will send you a SDAID JOB which belongs to your problem case.

```
// JOB SDAID
* ---------------------------------------------------------
* after R RDR, start the SDAID with command STARTSD in AR
* use tapeaddress in field CUU
* ---------------------------------------------------------
// EXEC SDAID
OUTDEV T=CUU
TRACE IO UNIT=086 OUTP=(CCW CCWD=256 IRB)
TRACE SIO UNIT=086 OUTP=(CCW CCWD=256 IRB)
TRACE SVC=25 AREA=ALL OUTP=(DUMP REG=1:100)
READY
/*
/&
```

Printing an SDAID or DUMP Command Produced Tape

You may specify that the SDAID trace information is to be recorded on tape. DOSVSDMP can be used to retrieve this information from tape and to print it on SYSLST. This is done by responding to DOSVSDMP prompts as shown in the Figure 12. Always use this option of DOSVSDMP to print dumps produced in response to the attention routine command

DUMP BUFFER,cuu

When the utility gets control, it prompts you for further definitions via SYSLOG, as shown in the.

// JOB SDAID
// EXEC DOSVSDMP
DOSVSDMP prompts you to define the operation you want to perform:

Prompt Message

```
4G01D SELECT ONE OF THE FOLLOWING FUNCTIONS:
1 CREATE STAND ALONE DUMP PROGRAM
2 SCAN DUMP TAPE/DISK
3 PRINT DUMP TAPE/DISK
4 PRINT SDAID TAPE
5 PRINT IPL DIAGNOSTICS
R END DOSVSDMP PROCESSING
```

Enter 4 to invoke DOSVSDMP Print SDAID Tape processing.

The DOSVSDMP utility responds with:

Prompt Message

```
4G05D SPECIFY ADDRESS OF SDAID TAPE (CUU OR SYSNNN)
```

Enter 280, for example, if the SDAID output tape is mounted on the device 280.

The DOSVSDMP utility now responds with:

Prompt Message

```
4G30D SPECIFY FILE NUMBER
```

Enter 2, for example, if the second file contains the SDAID output
you want to print.
The file number is determined by the number of STOPSD commands
given in the SDAID session. (Every STOPSD command writes a tapemark
on the tape if there was any trace event.)
If, for example, you issue three times STARTSD/STOPSD within an
SDAID session, you get three trace files on your trace output tape.
DOSVSDMP prints the tape on the device assigned to SYSLST.
After print completion, control is returned to Job Control.

Interactive Trace Function

The interactive trace function can be compared to the CP trace function under VM.
Trace will be activated in the EXEC statement of the program that needs to be traced.

```
// EXEC programname,TRACE
```

Console prompt occurs, where user can activate the trace options.
Possible Trace options are:

```
BRANCH
INSTRUCTION
STORAGE ALTERATION
ABEND TRACE
```

Some other useful trace commands are:

```
QUERY
DISPLAY
ALTER
GO
```

Trace will be ended with command:

```
TRACE END ALL
```

If you are asked to start the interactive trace function, support team will inform you in detail about the parameter setting.

Batch Trace Example

```
0 exec testtrac,trace
BG 0000 4I01I TRACE STARTED FOR PROGRAM TESTTRAC
BG-0000 00400078  BALR  0530       CC 0
0
BG-0000 0040007A  B     47103024 -> 0040009E  CC 0
0
BG-0000 0040009E  NOPR  0700       CC 0
0
BG-0000 004000A0  BAL   4510303E -> 004000B8  CC 0
0
BG-0000 004000B8  LR    1801       CC 0
0
BG-0000 004000BA  SVC   0A26       CC 0
0
BG-0063 004001A4  LA    41603313  = 0040038D  CC 0
63 go output=syslst
BG 0000 4I20I TRACING TERMINATED
BG-0000 1I00D  READY FOR COMMUNICATIONS.
```

```
***** START OF BATCH TRACE *****
0063 004001A8  STCM  BE67359F >> 00400619  CC 0
0063 004001AC  LA    41600020  = 00000020  CC 0
0063 004001B0  STC   426035A5 >> 0040061F  CC 0
0063 004001B4  L     58103606    00400680  CC 0
0063 004001B8  SVC   0A00        CC 3
0063 004001BA  L     58103606    00400680  CC 0
0063 004001BE  TM    91801002    004005DE  CC 0
0063 004001C2  BO    4710314E    004001C8  CC 0
0063 004001C6  SVC   0A07        CC 0
0000 004000BC  LTR   1211        CC 2
0000 004000BE  BM    47403104    0040017E  CC 2
0000 004000C2  NOPR  0700        CC 2
0000 004000C4  BAL   45103062 -> 004000DC  CC 2
0000 004000DC  LR    1801        CC 2
0000 004000DE  SVC   0A26        CC 2
0064 0040020C  LA    41603333  = 004003AD  CC 2
0064 00400210  STCM  BE6735AF >> 00400629  CC 2
0064 00400214  LA    41600020  = 00000020  CC 2
```

The sample shows a program with sub tasks attached.
The main task and the sub tasks have different reply identifications (0000, 0063, 0064).
After the instruction at location 4001A4 has been executed,
the operator issues the command go output=syslst to switch from the
interactive tracing mode into the batch tracing mode.
A fragment of the batch output on SYSLST is shown in the second part of the figure.

DEBUG Function

DEBUG trace is an internal trace which is written into storage.
DEBUG trace is often used to analyze WAIT/HANG/LOOP situation. DEBUG can also be used to STOP system at special events, like storage alterations.
Trace area is contained in DUMP, normally it is a SADUMP. DEBUG area can also be dumped with AR Command: **DUMP DEBUG,cuu** (cuu = printer or tape).

Please use DEBUG only if you are advised by support team to activate it.
DEBUG needs some performance, about 5% depending on mixture of workload, e.g. a CPU utilization of 60% will increase to approximately 63%

Activate DEBUG:

```
DEBUG ON
```

Check status of DEBUG:

```
DEBUG
```

Deactivate DEBUG:

```
DEBUG OFF
```

TCP/IP

General commands for debugging

- First of all it is important to know the current installed service level of TCP/IP.

QUERY VERSIONS shows service level of TCP/IP.

- **SEGMENT** command is used to close the current printlog of TCP/IP. JOB log is closed and written into LST Queue. All diagnose information, messages and dumps are written into this LST entry.

- **DUMP** command is used to dump TCP/IP control blocks and storage areas into the LST entry. Many parameters are available which can be found in TCP/IP Commands.

- **DIAGNOSE** command is used to produce more messages and traffic information for each daemon. Parameters are also described in TCP/IP Commands.

IP Trace

Trace is started for specified IP address:

```
DEFINE TRACE,ID=name,IP=x.xxx.xxx.xxx
```

ID must be a unique name, which allows to define more than one trace concurrently.

To check which traces are active use:

```
QUERY TRACES
```

To print the trace use:

```
DUMP TRACES
```

Delete a specified trace with:

```
DELETE TRACE,ID=name
```

MQSeries z/VSE

Using WebSphere MQ trace

WebSphere MQ for z/VSE relies on the CICS auxiliary trace for problem determination. To reduce overhead in a production environment, the trace points are not issued unless specified using the 'Log and Trace Settings' screen. Tracing should only be used when requested by IBM service personnel.

Queue Manager Log and Trace Settings: Press PF10 (Log) on the Global System Definition screen to display the Queue Manager Log and Trace Settings screen:

```
12/24/2008        IBM WebSphere MQ for z/VSE Version 3.0.0        TSMQ300
11:11:23                    Global System Definition              CIC1
MQWMSYS                     Log and Trace Settings                A001

          Log Settings          Q C          Trace Settings

          Informational . . . :  Y N         MQI calls . . . . . :   N
          Warning . . . . . :    Y N         Communication . . . . : N
          Error . . . . . :      Y Y         Reorganization . . . :  N
          Critical . . . . . :   Y R         Data conversion . . . :  N
                                             System . . . . . :      N
          -    and/or –
          -
          Communication . . . : Y N
          Reorganization . . :  Y N
          System . . . . . :    Y N

Requested record displayed.
PF2=Queue Manager details PF3=Quit PF4/Enter=Read PF6=Update
```

Logging, in this sense, refers to the type or severity of messages written to the SYSTEM.LOG. Tracing refers to entries written to the CICS auxiliary trace. Configurability is intended to reduce certain processing overhead involved with logging and tracing under WebSphere MQ for z/VSE. It is expected that many customers, in a production environment, will reduce logging to error and critical messages only, and switch tracing off altogether. You can also view log and trace settings from MQMT option 1.5.

Log Settings: Log settings involve a choice between logging by the severity of messages and/or the general type of message. For example, it is possible to select logging for error and critical messages only, along with, for example, general system messages. This is possible with the following log settings:

Informational	N
Warning	N
Error	Y
Critical	Y
and/or	
Communication	N
Reorganization	N
System	Y

With this configuration, all general system messages would be written to the SYSTEM.LOG (including informational and warning messages), otherwise, only error and warning messages would be written to the log.
Log settings are made under the column labeled "Q" (for Queue). Valid values include:

N Suppress messages of this severity/type.

Y Send messages of this severity/type to the system log queue.

Diagnostic and error messages can optionally be sent to the z/VSE console. A message cannot be sent to the console unless it is also sent to the system log queue. Consequently, for example, it is not possible to suppress informational messages and also have them sent to the z/VSE console.

Settings for optional logging to console are made under the column labeled "C" (for Console). Valid values include:

N Do not send messages of this severity to the console.

Y Send messages of this severity to the console.

R Send messages of this severity to the console and prompt for an operator reply.

Messages sent to the console are prefixed with the generic WebSphere MQ message identifier MQI0200I, followed by the message identifier and text of the message written to the system log queue. The MQI0200I message is truncated to a single console line if necessary.

Messages sent to the console requiring an operator reply are highlighted and

remain on the z/VSE console until an operator reply is registered, or the system OPERTIM expires. The text "...awaiting reply" is appended to messages sent to the console that require an operator response.

Care should be taken not to flood the z/VSE console with messages (particularly messages requiring an operator response). To avoid flooding the console, it is recommended that a setting of ″R″ (for Reply) is only used for Critical messages.

Trace Settings*:* Trace settings involve selection by general type. For example, it is possible to trace communications programs and general system programs, and exclude tracing for MQI calls, reorganization and data conversion. This example is possible with the following trace settings:

MQI calls	N
Communication	Y
Reorganization	N
Data conversion	N
System	Y

Normally, tracing is only required when a serious system problem has been encountered, and IBM service personnel have requested a trace of MQ system activity. Since tracing involves some system overhead, it is recommended that during normal operation, tracing is deactivated (that is, set all selections to "N").

MQPUTIL program

The MQPUTIL program performs the following functions:

- Prints the system, queue, and channel definitions from a configuration file.
- Prints the SYSTEM.LOG file in a formatted report.
- Prints the SYSTEM.MONITOR queue in a formatted report.
- Updates all channels with a new starting MSN.
- Updates a configuration file for dual queues. It makes all dual queues into a primary queue.
- Prints new Help Facility error information.
- Prints code pages recognized by MQSeries for VSE.
- Updates system configuration constants.

Sample JCL to print the log (switch parameters and it will print the config)

```
* ** JOB JNM=MQJUTILY,DISP=D,CLASS=A
* ** LST DISP=H,CLASS=Q,PRI=3
// JOB MQJUTILY - Execute VSE/ESA MQ/Series Batch Utility Program.
/* ------------------------------------------------------------------*
/* I M P O R T A N T I M P O R T A N T I M P O R T A N T *
/* *
/* Please change : *
/* "* ** JOB" to "* $$ JOB" *
/* "* ** LST" to "* $$ LST" *
/* "* ** EOJ" to "* $$ EOJ" *
/* *
/* ------------------------------------------------------------------*
/* This job executes MQPUTIL to access the CONFIGURATION file *
/* *
/* This file is a sample and needs modification to suit the *
/* users environment. *
/* *
/* ------------------------------------------------------------------*
/* Licensed Materials - Property of IBM *
/* *
/* 5686-A06 *
/* Copyright IBM Corp. 1998, 2006. *
/* *
/* US Government Users Restricted Rights - Use, duplication or *
/* disclosure restricted by GSA ADP Schedule Contract with IBM Corp. *
/* ------------------------------------------------------------------*
/* SELECT ONE OF THE FOLLOWING SYSIPT CARD OPTIONS *
/* & INSERT IT AFTER // EXEC MQPUTIL ... *
/* ------------------------------------------------------------------*
/* col 1.....20..... *
/* RESET MSN 00000002 *
/* PRINT MESSAGES *
/* PRINT CONFIG *
/* PRINT LOG *
/* PRINT LOG FROMQ system.log *
/* PRINT MONITOR *
/* PRINT MONITOR FROMQ system.monitor *
/* UPDATE *
/* UPDATE UPPERCASE *
/* UPDATE FROM MQFSSET *
/* UPDATE FROM MQFSSET UPPERCASE *
/* ------------------------------------------------------------------*
// LIBDEF PHASE,SEARCH=(PRD2.MQSERIES,PRD2.SCEEBASE)
// ASSGN SYS005,SYSLST
// DLBL CONFIG,'MQSERIES.MQFCNFG',,VSAM,CAT=MQMCAT
// DLBL INLOG,'MQSERIES.MQFLOG',,VSAM,CAT=MQMCAT
/. C
/. C if using PRINT MONITOR then change following /. DLBL INLOG
/. C to // DLBL INLOG with fileid of monitor's queue VSAM file
/. C
/. DLBL INLOG,'MQSERIES.MQFMON',,VSAM,CAT=MQMCAT
/. C
/. C if using PRINT LOG FROMQ or PRINT MONITOR FROMQ then ensure
/. C following SETPARM is set to the batch interface id of the
/. C required queue manager
/. C
// SETPARM MQBISRV='mqbiserv'
// EXEC MQPUTIL,SIZE=MQPUTIL
/*
/&
* ** EOJ
```

Information around Dump Delivery/Dump Transfer

Accepted DUMP formats

- Transfered in binary format via TCP/IP FTP
- SADUMP tapes/cartridges
- ARDUMP tapes/cartridges
- SDAID tapes/cartridges
- POFFLOAD tapes/cartridges (not segmented !!!!)
- INFO/ANA OFFLOAD tapes/cartridges
- VSE spool tapes/cartridges (DISP=T in * $$ LST Card)

Download DUMPs from SYSDUMP library

Sometimes we are asked to receive dumps via FTP or as E-MAIL attachment.
To download dumps from SYSDUMP Library you can use IND$FILE or FTP.
For E-Mail attachment please use ZIP program to compress the dump.

Transfer a Dumpfile from VSE-SYSDUMP-Library via IND$FILE

NOTE: DFT CICS Terminal (ExtentedDataStream) required for IND$FILE
(run INWQ on CICS Terminal for Terminal Status !)

- get Dump name to be downloaded from VSE by IUI Dump handling Screen
  for this example here : SYSDUMP.F4.DF400014

- set CICS Terminal to "blank" Screen (PF6 !!)

- STEP 1 on PC Site:

```
RECEIVE pc-target sess_id: dumpname DUMP ( FILE=LIB BINARY NOCRLF
L=sysdump S=sublib
```

Pc_target = D:\WORK\ANYNAME.DMP

Dumpname = DF400014 <- see SAMPLE DUMP

Sess_id = F: <- HostSessionID: A/B/C/...

sublib = F4 <- see SAMPLE DUMP

- STEP 2 on PC Site:
  Transfer files in ZIPPED format from PC to PC (E-mail,FTP,etc,..)

Receive a Dumpfile from VSE-SYSDUMP-Library via FTP

FTP DUMP from VSE dump library to PC

```
D:\>mkdir dumpfiles

D:\>cd dumpfiles

D:\dumpfiles>ftp powerct3          <== connect to your VSE system, TCP/IP must be running and  accept FTP
requests

Connected to powerct3.boeblingen.de.ibm.com.
220-TCP/IP for VSE Internal FTPDAEMN 01.05 F 20080229 09.58
   Copyright (c) 1995,2006 Connectivity Systems Incorporated
220 Ready for new user
User (powerct3.boeblingen.de.ibm.com:(none)): xxxx          <== a user id on your system with System Admin
authority
331 User name okay, need password
Password:
230 User logged in, proceed
ftp> dir
200 Command okay
150 File status okay; about to open data connection
CICS            <Directory>
CU37XX          <Directory>
DFHTEMP          Entry Seq VSAM
IJSYSCT         <VSAM Catalog>
IJSYSRS         <Library>
INFO            <Directory>
POWER           <Power Queues>
PRD1            <Library>
PRD2            <Library>
PRIMARY          <Library>
PTF             <Directory>
SCRT            <Directory>
SYS             <Directory>
SYSDUMP          <Library>                          <== if SYSDUMP is missing, you need to define it in TCP/IP
DEFINE FILE,PUBLIC='SYSDUMP',DLBL=SYSDUMP,TYPE=LIBRARY

VSAM            <Directory>
VSE             <Directory>
VSESP           <Directory>
VSESPUC         <VSAM Catalog>
VTAM            <Directory>
226 Closing data connection
ftp: 610 bytes received in 0,41Seconds 1,50Kbytes/sec.
ftp> cd sysdump
250 Requested file action okay, completed
ftp> dir
200 Command okay
150 File status okay; about to open data connection
BG      <Sub Library>       2         340  09/12/08  11:39
F1      <Sub Library>       3         565  09/12/08  11:39
F2      <Sub Library>       2      24,079  09/12/08  11:39
F3      <Sub Library>       0           1  09/12/08  11:39
```

```
F4       <Sub Library>          0          1  09/12/08  11:39
F5       <Sub Library>          0          1  09/12/08  11:39
F6       <Sub Library>          0          1  09/12/08  11:39
F7       <Sub Library>          0          1  09/12/08  11:39
F8       <Sub Library>          0          1  09/12/08  11:39
F9       <Sub Library>          0          1  09/12/08  11:39
FA       <Sub Library>          0          1  09/12/08  11:39
FB       <Sub Library>          0          1  09/12/08  11:39
DYN      <Sub Library>          0          1  09/12/08  11:39
226 Closing data connection
ftp: 871 bytes received in 0,41Seconds 2,15Kbytes/sec.
ftp> cd f1
250 Requested file action okay, completed
ftp> dir
200 Command okay
150 File status okay; about to open data connection
DF100000.DUMP         279616       284  09/18/08  15:07              SN
DF100001.DUMP         275504       279  09/18/08  15:10              SN
HSKMEM.DUMP              100         1  09/18/08  15:07              SN
226 Closing data connection
ftp: 240 bytes received in 0,41Seconds 0,59Kbytes/sec.
ftp> bin                                                    <== binary transfer, no record length
200 Command okay
ftp> get DF100001.DUMP 31771.379.000.DF100001.BIN           <== prefix dump with complete PMR number
200 Command okay
150-About to open data connection
   File:SYSDUMP.F1.DF100001.DUMP
   Type:Binary Recfm:S Lrecl:  4096
   CC=ON UNIX=OFF RECLF=OFF TRCC=OFF CRLF=ON NAT=NO CONT=OFF
   MODE=Stream  STRU=File
150 File status okay; about to open data connection
226-Bytes sent: 275,504
   Records sent: 9
   Transfer Seconds:         .04 (  6726K per second)
   File I/O Seconds:         .02 ( 13452K per second)
226 Closing data connection
ftp: 275504 bytes received in 1,00Seconds 275,50Kbytes/sec.
ftp> quit
221 FTPDaemn closing control connection
```

FTP PMR Documentation

Types of File

1. Tape dump
2. SYSDUMP library member
3. Spool job (segment)
4. Auxtrace dasd dataset

FTP Tape

INFOANA ONLOAD, then FTP SYSDUMP member.

```
* $$ JOB JNM=ONLOAD,CLASS=0,LDEST=(UKCPSG,USER)
// JOB DMPONL96
// ASSGN SYS018,182
// MTC REW,SYS018
// PAUSE
// EXEC PROC=DTRINFOA
// EXEC INFOANA
  SELECT DUMP MANAGEMENT
   DUMP NAME SYSDUMP.DYN.PMRDUMP
       DELETE
       RETURN
  SELECT DUMP MANAGEMENT
   DUMP NAME SYSDUMP.DYN.PMRDUMP
       RETURN
  SELECT DUMP ONLOAD
       VOLID 123456 SYS018
       RETURN
  SELECT END
/*
/&
* $$ EOJ
```

FTP SYSDUMP member

```
* $$ JOB JNM=FTPB,CLASS=0
* $$ LST DEST=(UKCPSG,USER)
// JOB FTPB
// EXEC FTPBATCH
LOPEN
LUSER user
LPASS xxxxxxxx
OPEN 9.79.14.96
USER user
PASS xxxxxxxx
BIN
LSITE LRECL 4112
PUT SYSDUMP.BG.DBG00080.DUMP CDUMP
QUIT
/*
/&
* $$ EOJ
```

FTP Spool

```
* $$ JOB JNM=FTPB,CLASS=0
* $$ LST DEST=(UKCPSG,USER)
// JOB FTPB
// EXEC FTPBATCH
LOPEN
LUSER user
LPASS xxxxxxxx
OPEN 9.79.14.96
USER user
PASS xxxxxxxx
PUT POWER.LST.A.COMSZCCA.40068 LST1.txt
QUIT
/*
/&
* $$ EOJ
```

FTP Auxtrace

```
* $$ JOB JNM=FTPB,CLASS=0
* $$ LST DEST=(UKCPSG,USER)
// JOB FTPB
// EXEC FTPBATCH
LOPEN
LUSER user
LPASS xxxxxxxx
OPEN 9.79.14.96
USER user
PASS xxxxxxxx
BIN
LSITE FIX 4096
PUT AUXTRACI AUXTRACE
QUIT
/*
/&
* $$ EOJ
```

Access IBMs FTP Server

Please transfer the dump in binary format from VSE dump lib to the PC ,
ZIP'ed and upload it to ECUREP (binary) .

FTP to 'ftp.ecurep.ibm.com'
login as 'anonymous'
enter the email ID as password
cd to /toibm/
use ls to check the available directories
use cd zzzzz to enter one directory
Type put xxxxx.bbb.ccc.yyy.zzz to upload the data

Customers must use the appropriate naming conventions as shown in the
examples below:

xxxxx.bbb.ccc.yyy.zzz
where the parts have the meaning:

xxxxx	PMR number
bbb	Branch Office (if known)
ccc	IBM Country Code (e.g. Germany 724)
yyy	Short description for the file type, e.g. DUMP
zzz	File type , e.g. bin

Address of DUMP CENTER MAINZ

This address is valid for Germany, for Austria, for Switzerland and for EMEA Back Office Support.
All other countries will get the appropiate address from the responsible support team.

IBM Informationssysteme GmbH
AS SW Programmsteuerung
Abt. 7949 DUMP CENTER
Gebaeude 12
Problemnummer.....
Hechtsheimer Str. 2
55131 MAINZ
GERMANY

Install VSE PTF's from Disk

PTF's can be ordered via internet .
See http://www-03.ibm.com/servers/eserver/zseries/zvse/support/order.html for more information.

Prepare your system to install PTFs from disk

In ICCF Library 59 you find SKUNDEF skeleton, use this to define the PTF file:

```
// JOB DEFINE
// EXEC IDCAMS,SIZE=AUTO
DELETE (PTF.FILE) CL NOERASE PURGE -
CATALOG(VSESP.USER.CATALOG)
SET MAXCC = 0
DEFINE CLUSTER ( -
NAME (PTF.FILE) -
RECORDS(50000 50000 ) -
SHAREOPTIONS (1) -
RECORDSIZE (80 10320 ) -
RECORDFORMAT (FIXBLK (80 )) -
VOLUMES (DOSRES SYSWK1 ) -
REUSE -
NONINDEXED -
FREESPACE (15 7)) -
DATA (NAME (PTF.FILE.§D§ )) -
CATALOG(VSESP.USER.CATALOG)
/*
/&
```

INWMUTIL

With z/VSE INWMUTIL is delivered as standard utility.
INWMUTIL enables you to transfer entries in HTF file to VSAM file via BATCH Job, that means better performance than under CICS.
Now you are prepared to install PTFs from disk.

Install PTFs from Disk for IND$FILE user

- Download PTFs from Service Link (binary format)
- Upload PTF's to host transfer file with Options:

```
FILE=HTF LRECL=80 BINARY
```

- Move PTF from HTF to VSAM file

Now you will use INWMUTIL !!

```
// JOB INWMUTIL UNLOAD
// DLBL UD50465,'PTF.FILE',0,VSAM,CAT=VSESPUC
// EXEC INWMUTIL,SIZE=AUTO
UNLOAD,FILENAME=UD50465,USERID=BERG
/*
/&
```

- Modify the APPLY PTF Job (prepare the JOB using Fastpath 1423)
  Remove the // PAUSE statement for tape loading (Step 3B)
  Remove the assignment for PTF Tape (Step 3B)
  Remove the MTC statements for PTF tape (Step 3B)
  Change the **INSTALL SERVICE SD TAPES=1** to
  INSTALL SERVICE FROMDISK SD

- Run the modified APPLY PTF JOB

Install PTFs from disk for TCP/IP FTP user

- Download PTFs from Service Link or XXSERV (binary format)
- Transfer the PTFs to VSAM file via FTPBATCH

Sample JCL for FTP of PTF to IJSYSPF:

```
// JOB FTPBATCH TCPIP BATCH FILE TRANSFER FOR PTF
// OPTION SYSPARM='00'
// LIBDEF *,SEARCH=(PRD2.CONFIG,PRD1.BASE,TCPTEAM.HTML)
// DLBL IJSYSPF,'PTF.FILE',,VSAM,CAT=VSESPUC
// EXEC FTPBATCH,SIZE=FTPBATCH
LOPEN
LUSER uuuu
LPASS xxxx
OPEN x.xx.xx.xxx
USER uuuu
PASS xxxx
binary
GET E:\VSESYS\PTFS\UQ32439.DAT %IJSYSPF,ESDS,F,80
QUIT
/*
/&
```

- Modify the APPLY PTF Job (prepare the JOB using Fastpath 1423)
  Remove the // PAUSE statement for tape loading (Step 3B)
  Remove the assignment for PTF Tape (Step 3B)
  Remove the MTC statements for PTF tape (Step 3B)
  Change the **INSTALL SERVICE SD TAPES=1** to
  INSTALL SERVICE FROMDISK SD

- Run the modified APPLY PTF JOB