IBM Language Environment for z/VSE

CEETRACE Version 1 Release 2.0

CEETRACE Feature

Installation and Users Guide

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CEETRACE Feature

Disclaimer

Use of the CEETRACE feature is solely at the users discretion and responsibility. IBM Corporation has no warranty, implied or otherwise, nor liability for this feature. FIXPACK service and updates will be provided as a complete replacement. No APARs will be accepted nor any PTFs provided for this feature.

CEETRACE Maintenance History

The following history lists the enhancements and changes to CEETRACE since V1.0 and the associated z/VSE and LE z/VSE required levels :

z/VSE 4.2 – CEETRACE V1.1.1

- Correction to partition exclude list parsing code
- Syntax updates to the installation and users guide documentation.

z/VSE 4.2 – CEETRACE V1.1.1a

- Improve DT/VSE detection code in the CEETRACE reporter - CEL4RPRT. Eliminate potential OC4 if CEL4RPRT called and DT/VSE is active.

z/VSE 4.3 – CEETRACE V1.1.2

- All the updates from V1.1.1 and V1.1.1a
- New option available in the CEETRACE.INI file " include_part=" (see Pg 18). Partitions not included in the list but that experience a failure where the CEETRACE reporter (CEL4RPRT) is invoked will issue console warning message CELT047W if WARN_MSGS=ON is set.
- The "Program Execution" trace report heading now includes both the CEETRACE and LE z/VSE version information. See Pg 10.
- PL/1 multitasking and other miscellaneous documentation updates.
- COBOL/VSE Source Code Extraction utility includes beta code available to comment out any COBOL COPY statements found between the IDENTIFICATION DIVISION and PROCEDURE DIVISION paragraphs. See Pg18 for more information.

z/VSE 5.1 – CEETRACE V1.2.0

- All previous updates.
- Mini Dump feature. When a statement execution history report is produced in response to an application failure, provide a formatted dump of the condition information block and , if present, the machine state information at the time of the failure. Note – LSTQ destination is not supported by mini-dump.
- Auto Reporting feature. Allows the production of an execution statement history report based upon some simple entry-point-name, statement number or statement execution count criteria.
- HLL statement exit. Provide a user exit point at each HLL statement executed within a CEETRACE enabled application. See sample CELHLLXT.Z in your LE z/VSE installation library.

CEETRACE Feature System Requirements

The following z/VSE system requirements are needed to successfully use the LE z/VSE CEETRACE feature tool and any of the other documented utilities included :

- Language Environment for z/VSE 1.4.6 and z/VSE 4.2 or above.
- Correctly installed and activated LE/VSE Attention Routine – refer to the LE/VSE Debugging Guide and Run-Time Messages for further information.
- The default supplied CEEBXTAN and CEECXTAN modules or a modified version including CEL4RPRT as a pre-dump exit. See the LE z/VSE supplied samples CEEBXTAN.A and CEEXCTAN.A
- Applications using the CEETRACE feature tool will require approximately a further 50K for the tracing and reporting tool programs, approximately a further 32K of stack anywhere storage and 8K Heap anywhere storage (up to ~4K of this will be required for the trace table itself). SYSDEBUG file support will require further HEAP storage depending upon COBOL program source size. These requirements are subject to change at any time due to service or development requirements.
- APARs (or their superseded versions) PQ74143 and supporting language APARs (PQ74144 – English or PQ74145 – Japanese) and appropriately compiled COBOL/VSE programs if you wish to use the CEETRACE or utilities support for the COBOL/VSE compilers SYSDEBUG (side-file) file.

CEETRACE Feature Overview

CEETRACE is not intended to replace the LE z/VSE dump information or the Debug Tool for VSE/ESA. Instead it is designed to complement the already available LE z/VSE dump information to aid in application problem analysis by providing an execution statement history prior to any subsequent application failure similar to the previously available READY TRACE facility of DOS/VS COBOL.

Applications that do not abend will not *automatically* produce an execution statement report. Unless the new Auto-Report feature is being used (see the “CEETRACE Auto Report Feature” section) or the application specifically calls the CEETRACE reporting module.

CEETRACE Feature Performance Impact

Activating the CEETRACE feature will have a negative impact on application performance. The significance of this impact can be controlled by some of the available CEETRACE feature options. In general there will be a minimum of approximately 10% CPU (estimated) overhead with this increasing relative to the language constructs being executed and the CEETRACE feature options active.

CEETRACE options such as the environment validation can substantially increase CPU consumption and should only be used in a non-production environment where possible.

CEETRACE Feature Installation Instructions

Welcome to the CEETRACE feature! There is nothing further to download. Everything you require is already included in the base installation of your z/VSE 4.2 or above system. There are just a few simple steps to follow and jobs to submit.

- Ensure CEL4CMDR is loaded in the SVA if not already.
- Ensure the LE z/VSE Attention Routine Interface is activated – see the LE z/VSE Debugging and Run-Time Messages Guide for more information.
- Punch out and then tailor member CEETRACE.Z supplied in your LE z/VSE installation library.
  1. Set LELIB to your LE z/VSE installation sub-library
  2. Set INSTALL parameter to Y if this the first run of this job, use N if you have already installed the feature.
  3. Review and modify any of the options included in the job that fit your requirements. Be sure to read carefully all the performance notes for any applicable options.
  4. Continuing from this point on in the installation process will override any previously installed dynamic LE/VSE High Level Language user exits you may have developed or installed. Only one dynamic LE/VSE HLL exit (CEEBINT) should be used on a system at a time.
  5. Ensure you have a PRD2.SAVE sub-library defined. The installation job will use this as a temporary storage area.
  6. Tailor the JCL in preparation for submission as required for your system layout.
  7. Submit the tailored job to your VSE system. This will create a CEETRACE.INI librarian member containing all your specified option values in the LE z/VSE installation library and install the feature. Verify message CEL4052I is issued. Review the console status report and ensure the CEETRACE feature is set to your specified state.
- Punch out member CEEWTRCE.Z from the LE z/VSE installation library. Tailor this JCL as required for your system and then submit to a class that can be used at any time and that is of at least 3MB in size. **This job is not intended to run now but only remain resident on the VSE/POWER RDR queue.**
- Ensure the class that contains CEEWARC has a partition allocated to it that is at least 3MB in size.
- If the CEETRACE status is ON you can issue console command D CEE,CEETRACE and review the options report produced matches the options you set in the CEETRACE member previously.

The CEETRACE feature is now installed and if set to ON will now produce a program execution report at the defined destination whenever a severity 2 or greater condition occurs and goes unhandled within an appropriately compiled LE z/VSE HLL application.

Refer to the "Preparing a Application for use with the CEETRACE feature" section on pg 10 for information on using the CEETRACE feature with your LE z/VSE applications.
Execution of the supplied installation verification program(s) (IVP) can now be performed. For COBOL users, job CELTCIVP.Z is supplied and for PL/1 VSE users job CELTPIVP.Z in your LE z/VSE installation library.

Uninstalling the CEETRACE Feature

To remove the CEETRACE feature from your system execute the following JCL on the system you wish to un-install the feature from :

```
* $$ JOB JNM=UNINSTAL,CLASS=0,DISP=D
* $$ LST DEST=*
* $$ PUN DEST=*
// JOB UNINSTAL – Deactivate and Uninstall the CEETRACE Feature
// EXEC DTRIATTN,PARM='S CEE,CEETRACE=OFF'
// EXEC LIBR,SIZE=256K,PARM='MSHP'
 ACC S=PRD2.SCEEBASE
 RENAME CEEBINT.PHASE:CEL4TRCE.PHASE
 RENAME CEEBINT.DEFAULT:CEEBINT.PHASE
/*
// UPSI 01000000
// LIBDEF *,SEARCH=PRD2.SCEEBASE
// EXEC CEL4VNDR,SIZE=CEL4VNDR
/*
// PWR R RDR,CEEWARC
/&
* $$ EOJ
```

The CEETRACE feature has now been deactivated and removed from the system.

CEETRACE Feature Usage Information

CEETRACE Feature AR operator commands

- D CEE,CEETRACE Display a console report of the active CEETRACE options.
- S CEE,CEETRACE=RELOAD Reload the CEETRACE options from the CEETRACE.INI file.
- S CEE,CEETRACE=OFF Immediately de-activate the CEETRACE feature
- S CEE,CEETRACE=ON Immediately activate the CEETRACE feature
- S CEE,CEETRACE=(option=new value) Over-ride specified CEETRACE option (see pg 18).

Notes:

1. Setting an over-ride value for a CEETRACE option is only temporary. Any RELOAD commands, execution of the CEEWARC job (usually performed automatically during IPL) or system IPL's will reset the CEETRACE options back to the installation default values contained in the CEETRACE.INI member. To remove any operator over-rides for CEETRACE, issue the S CEE,CEETRACE=RELOAD command.
2. Only a single option over-ride can be specified within the enclosing brackets per Attention Routine command invocation.

CEETRACE Feature Customization after installation

After installation you can optionally customize the CEETRACE options to your requirements. To do this follow these simple steps :

- Edit the created (from the previous installation procedure) CEETRACE.INI member in your LE/VSE installation library using your preferred editor. DITTO/ESA for VSE's online "Library Member Edit" option is available with your z/VSE base installation.
- Carefully read the "NOTES" section at the start of the member before making any changes.
- Make any desired changes to the member. Always remember that the CEETRACE feature will be used in any appropriately compiled LE z/VSE application in both CICS and BATCH environments and for any partition(s) not explicitly excluded or included. Pay careful attention to all the performance notes and warnings associated with any of the CEETRACE feature options.
- Save the modified CEETRACE.INI member.
- Issue the reload command (S CEE,CEETRACE=RELOAD) on the console. Confirm the message "CEETRACE options reload complete" is issued.
- Issue the command "D CEE,CEETRACE" and confirm the report correctly reflects your CEETRACE feature options.

Note – if using the supplied CEETRACE.Z sample member to re-catalog your default CEETRACE options it is recommended that you set INSTALL=N unless you require re-installation of the CEETRACE feature. Re-installation is not required if you are only tailoring the CEETRACE options.

CEETRACE and Debug Tool for VSE Users

Those users that have Debug Tool for VSE/ESA installed on the same system as CEETRACE will need to ensure that any applications being debugged using the Debug Tool for VSE/ESA product do not use CEETRACE. To do this you can exclude/include certain partitions from CEETRACE using the CEETRACE.INI file and use Debug Tool in the excluded partitions. For system-wide deactivation you can issue the CEETRACE=OFF command (see pg 7) which will completely deactivate CEETRACE from the entire system. If for some reason an application is run using Debug Tool for VSE/ESA and the CEETRACE feature at the same time, CEETRACE will detect this and automatically deactivate itself in that partition.

CEETRACE V1.1.2 (z/VSE 4.3) and above only : CEETRACE can be used on PL/1 subroutines running as subtasks in a PL/1 multitasking environment at the same time as the PL/1 “main” program is using Debug Tool for VSE/ESA.

CEETRACE After z/VSE System FSU or Upgrade

After installing a new z/VSE system or performing an FSU you should re-run the installation job CEETRACE.Z with the INSTALL=Y parameter set. This will then re-instate the CEETRACE exit routine as a system-wide default and re-catalog your CEETRACE options. Verify message CEL4052I is issued. Review the console status report and ensure the CEETRACE feature is set to your specified state.

Preparing an application for use with the CEETRACE Feature

Compile all the modules in the application with the compilers appropriate TEST compile option specifying ALL,SYM as the sub-options. For COBOL/VSE applications that you wish to use the SYSDEBUG file with CEETRACE use the SEP sub-option and the related “SD” compiler parameter also. C/VSE and PL/I for VSE/ESA compilers and run-times do not support the SYSDEBUG side file and so are currently limited to a statement number trace report only.

When the appropriately compiled applications are executed in a partition that is not excluded on a system that has the CEETRACE feature installed and activated any severity 2 or greater unhandled conditions experienced will result in a program execution report at the CEETRACE options specified destination.

A report similar to the following COBOL and C ILC sample will be produced at the specified destination :

```
-------------------------------------------------------------------------------------------------------------------------------
CEETRACE V01.02.00 - Program Execution Trace Report Begins.   CEETRACE Using LE z/VSE Version 01 Release 04.08
-------------------------------------------------------------------------------------------------------------------------------

  Date          Time       Program_Name  Entry_Name  Stmt#  Stmt Offs  Stmt_Lang     Statement Source Code
10/18/2011 08:12:57.65   CELTCIVP      Ent/Ext/Par  N/A.  +000005E8    COBOL    External Entry/Exit point, End clause or Paragraph
10/18/2011 08:12:57.65   CELTCIVP      CELTCIVP     689   +000005EC    COBOL  DISPLAY 'CELTCIVP  Begins '.
10/18/2011 08:12:57.67   CELTCIVP      CELTCIVP     693   +000005FE    COBOL  Call 'CELTVLIB'.
10/18/2011 08:12:57.67                 celtvlib     36    +00000064      C    This Language does not support the SYSDEBUG file
10/18/2011 08:12:57.76                 celtvlib     37    +00000082      C    This Language does not support the SYSDEBUG file
10/18/2011 08:12:57.76                 celtvlib     38    +0000009A      C    This Language does not support the SYSDEBUG file
10/18/2011 08:12:57.76                 celtvlib     39    +000000AE      C    This Language does not support the SYSDEBUG file
10/18/2011 08:12:57.76                 celtvlib     40    +000000C2      C    This Language does not support the SYSDEBUG file
10/18/2011 08:12:57.76                 celtvlib     42    +000000D2      C    This Language does not support the SYSDEBUG file
10/18/2011 08:12:57.76                 celtvlib     43    +000000E6      C    This Language does not support the SYSDEBUG file
10/18/2011 08:12:57.76                 celtvlib     47    +00000108      C    This Language does not support the SYSDEBUG file
10/18/2011 08:12:57.76                 celtvlib     54    +0000019E      C    This Language does not support the SYSDEBUG file
10/18/2011 08:12:57.76                 celtvlib     57    +000001E4      C    This Language does not support the SYSDEBUG file
10/18/2011 08:12:57.76                 celtvlib     58    +00000206      C    This Language does not support the SYSDEBUG file
10/18/2011 08:12:57.76                 Ent/Ext/Par  N/A.  +00000636    COBOL    External Entry/Exit point, End clause or Paragraph
10/18/2011 08:12:57.76   CELTCIVP      CELTCIVP     695   +00000638    COBOL  Display 'Call the CEETRACE feature reporting tool to
10/18/2011 08:12:57.76   CELTCIVP      CELTCIVP     696   +0000064A    COBOL  Display 'produce a report of where execution has been
10/18/2011 08:12:57.76   CELTCIVP      CELTCIVP     697   +0000065C    COBOL  Display 'at this point.'.
10/18/2011 08:12:57.76   CELTCIVP      CELTCIVP     699   +0000066E    COBOL  Call 'CEL4RPRT'.
10/18/2011 08:12:58.04   CELTCIVP      Ent/Ext/Par  N/A.  +000006A6    COBOL    External Entry/Exit point, End clause or Paragraph
10/18/2011 08:12:58.04   CELTCIVP      Ent/Ext/Par  N/A.  +000006A8    COBOL    External Entry/Exit point, End clause or Paragraph
10/18/2011 08:12:58.04   CELTCIVP      CELTCIVP     706   +000006AC    COBOL  MOVE 8 TO Vstring-length of IN-DATE.
10/18/2011 08:12:58.04   CELTCIVP      CELTCIVP     707   +000006B6    COBOL  MOVE '19/11/08' TO Vstring-text of IN-DATE(1:8).
10/18/2011 08:12:58.04   CELTCIVP      CELTCIVP     708   +000006E4    COBOL  MOVE 8 TO Vstring-length of PICSTR.
10/18/2011 08:12:58.04   CELTCIVP      CELTCIVP     709   +000006EE    COBOL  MOVE 'DD/MM/YY' TO Vstring-text of PICSTR(1:8).
10/18/2011 08:12:58.04   CELTCIVP      CELTCIVP     710   +0000071C    COBOL  CALL 'CEEDAYS' USING IN-DATE, PICSTR,
10/18/2011 08:12:58.06   CELTCIVP      Ent/Ext/Par  N/A.  +0000077A    COBOL    External Entry/Exit point, End clause or Paragraph
10/18/2011 08:12:58.06   CELTCIVP      CELTCIVP     714   +0000077C    COBOL  IF  CEE000 of FC  THEN
10/18/2011 08:12:58.06   CELTCIVP      Ent/Ext/Par  N/A.  +00000790    COBOL    External Entry/Exit point, End clause or Paragraph
10/18/2011 08:12:58.06   CELTCIVP      CELTCIVP     715   +00000792    COBOL      DISPLAY Vstring-text of IN-DATE
10/18/2011 08:12:58.06   CELTCIVP      Ent/Ext/Par  N/A.  +00000818    COBOL    External Entry/Exit point, End clause or Paragraph
10/18/2011 08:12:58.06   CELTCIVP      CELTCIVP     727   +0000081A    COBOL  CALL 'CEEDYWK' USING LILIAN , DAYNUM , FC.
10/18/2011 08:12:58.06   CELTCIVP      Ent/Ext/Par  N/A.  +00000870    COBOL    External Entry/Exit point, End clause or Paragraph
10/18/2011 08:12:58.06   CELTCIVP      CELTCIVP     729   +00000872    COBOL  IF CEE000 of FC  THEN
10/18/2011 08:12:58.06   CELTCIVP      Ent/Ext/Par  N/A.  +00000886    COBOL    External Entry/Exit point, End clause or Paragraph
10/18/2011 08:12:58.06   CELTCIVP      CELTCIVP     732   +00000888    COBOL      EVALUATE DAYNUM
10/18/2011 08:12:58.06   CELTCIVP      Ent/Ext/Par  N/A.  +00000904    COBOL    External Entry/Exit point, End clause or Paragraph
10/18/2011 08:12:58.07   CELTCIVP      CELTCIVP     740   +00000906    COBOL         Move 'Wednesday.' to DOW
10/18/2011 08:12:58.07   CELTCIVP      Ent/Ext/Par  N/A.  +00000978    COBOL    External Entry/Exit point, End clause or Paragraph
10/18/2011 08:12:58.07   CELTCIVP      CELTCIVP     748   +0000097A    COBOL      DISPLAY 'Lilian day ' LILIAN
10/18/2011 08:12:58.07   CELTCIVP      Ent/Ext/Par  N/A.  +000009DC    COBOL    External Entry/Exit point, End clause or Paragraph
10/18/2011 08:12:58.07   CELTCIVP      CELTCIVP     756   +000009DE    COBOL  DISPLAY '                  '.
10/18/2011 08:12:58.07   CELTCIVP      CELTCIVP     757   +000009F0    COBOL  DISPLAY 'CELTCIVP is now complete.'.
10/18/2011 08:12:58.07   CELTCIVP      CELTCIVP     758   +00000A02    COBOL  DISPLAY 'CELTCIVP will now force a Data Exception to
10/18/2011 08:12:58.07   CELTCIVP      CELTCIVP     759   +00000A14    COBOL  DISPLAY '         the CEETRACE program execution repo
10/18/2011 08:12:58.07   CELTCIVP      CELTCIVP     760   +00000A26    COBOL  DISPLAY '                  '.
10/18/2011 08:12:58.07   CELTCIVP      CELTCIVP     764   +00000A38    COBOL  ADD 1 TO REPLY-RED.

CEETRACE      Total CPU time consumed for this job step : 571.264  Milliseconds.
CEETRACE      Message associated with current condition is :
CEE3207S The system detected a data exception.

CEETRACE      Program Execution Trace Report Complete
```

The active condition message and CPU consumption information is only displayed if the report is produced in response to an unhandled LE/VSE condition and the CEETRACE option TIMER=ON is set. When the reporting feature is called from an application program or due to the automatic reporting feature no condition message or CPU consumption information is included even if TIMER=ON is set.
Source code lines displayed from a COBOL/VSE SYSDEBUG file may be truncated in comparison to the compiler produced listing. This is simply due to reporting space limitations and does not indicate that only part of the source code line was actually executed.

Understanding the CEETRACE Program Execution Report

The CEETRACE execution report is divided into columns. Starting from the left-most side the first two columns indicate the date and time (to tenths of a second) that the shown program statement was executed. Statements with longer than a 1 second elapsed time will be indicated by an asterisks (*).

The next two columns titled "Program_Name" and "Entry_Name" show the currently executing program name and when available, the currently executing entry name. The Entry Name is most relevant to PL/1 VSE and C/VSE applications. In some situations the "Program_Name" field may be blank. This usually indicates an ILC (cross language) static-type call has been made and the new language is not currently aware of the PHASE name. Since the call is most likely to be static the PHASE name would actually be the same as the preceding language statement.

After these two columns is the "STMT#" column. When available from the application program and language run-time, it will show the currently executing statement number. When the statement number is not available, the characters "N/A" (not available or not applicable) will be displayed.
With C/VSE applications the "Line Number" in the compiler listing will more accurately represent the CEETRACE reported statement number.

The next column is titled "Stmt Offs" which is short for "Statement Offset". This is the calculated program statement offset from the currently executing entry point. It may be one of a number of possible offsets for this statement number if reviewed using the applications compiler listing.

The following column displays the current statements number or offsets programming language.

The final column titled "Statement Source Code" is only applicable to COBOL/VSE programs that have been compiled with the SEP option and have an available SYSDEBUG file. If available, this column will display the source code executed at the displayed statement number. When no statement number or source code line information is available then information may be displayed in the column to indicate some possible explanation for this result. In the situation where there is a problem with the SYSDEBUG file or with accessing it, an error message will be displayed in this column with the return code received from the language run-time. This return code can then be used with the information in message CELR008W to determine what was the nature of the failure.

On processors that support the BEAR (Breaking-Event Address Register) feature that have CEETRACE activated, when a failure occurs any information available in BEAR is extracted by LE z/VSE at interrupt time and then displayed by CEETRACE in a supplementary message :

```
CEETRACE     Message associated with current condition is :
CEE3201S The system detected an operation exception

CEETRACE     Breaking Event Address Reg : 00500468
CEETRACE     Program Execution Trace Report Complete
```

The displayed BEAR information is the address of the instruction that generated the last successful branch before the interruption occurred.

The reported address can then be used to assist with the diagnosis of the reported failure. See the “z/Architecture Principles of Operation” book (SA22-7832-05) for more information on BEAR.

CEETRACE Trace Table

The CEETRACE feature keeps an application execution table up to a maximum of 63 entries in a wrap-around format in LE managed HEAP storage. Each application statement executed is stored in a table entry immediately after the proceeding statement along with information such as the programming language of the statement, its offset relative to the program entry point and date/time information.
If a call is made to the report generator and then a subsequent severity 2 or greater condition occurs trace table entries reported in the first report may appear again in the abend report. This is because no deletion of entries occurs until the table is full.
Statement time information can also be used to indicate statements that may be taking an excessive amount of time to execute. Statements with longer than a 1 second elapsed time will be indicated by an asterisks (*) in the “Time” column.

CEETRACE with COBOL/VSE Application Source Code Notes

For COBOL/VSE applications, if a few simple source code rules are followed, the CEETRACE feature's accuracy may be enhanced. To ensure correct statement number reporting and source line extraction the following COBOL source coding techniques should be followed :

- The "PROGRAM-ID" field should name both the program and the SYSDEBUG member. Do not enclose the name in quotes or speech marks or use any special characters that are not valid for librarian member names (ending period excluded). The LE/COBOL run-time must validate the program name in the SYSDEBUG member (taken from the PROGRAM-ID field) matches the one executing when trying to extract the source code for a particular statement number.
- Program ending verbs such as "GOBACK" or "STOP RUN" should be followed by an "Exit Program" statement if they are the last source code statement in the program. Paragraphs that are at the end of the program source should end with a closing paragraph statement only. These recommendations will improve the statement number lookup from program execution offsets and reduce the possibility of trace table reports showing a statement number "0" where a valid source code statement number should be.

The above recommendations are optional only to improve the CEETRACE features accuracy when using the COBOL/VSE SYSDEBUG file. The feature will still function without the above COBOL source code changes.

CEETRACE Application Programming Interface

Programmers can call the reporting feature during program execution from their own LE z/VSE applications to get an execution report up to the calling statement in the program. The report feature can be called either dynamically or statically.
Following are some examples in each LE z/VSE HLL showing how to do this :

COBOL

```
Statically          Call "CEL4RPRT".
Dynamically         01      Trace-Rprt              Pic X(8).
                            ..........................
                            Move "CEL4RPRT" to Trace-Rprt.
                            Call Trace-Rprt.
```

PL1

```
Dcl     cel4rprt external entry options(assembler);
.............................
Call cel4rprt;
```

The use of PL/1's FETCH is also supported.

C/VSE

```
#pragma linkage (cel4rprt,os)
#pragma map (exec_report,"CEL4RPRT")
int main() {
        .............
        exec_report();
}
```

The use of C's fetch() function is also supported.

The reporting feature can also be called from an LE z/VSE conforming Assembler program but only to report on any entries in the trace table for previously executed HLL programs. Be aware that if the HLL programs are no longer active or loaded that features such as the COBOL source code extraction may not be available. The reporting feature can be called statically or via the CEEFETCH/CEERELES macros. It cannot be called from non-LE conforming assembler programs or non-LE High level languages.

CEETRACE HLL Statement Exit

(CEETRACE V1.2.0 / z/VSE 5.1 and above only)

The exit_mod option allows the specification of a user exit module that is to be called for each HLL statement executed in a CEETRACE enabled application. The name cannot be longer than 8 characters and if longer truncation will occur. Only supported z/VSE PHASE name characters are accepted.

This exit will be passed a set of parameters. These parameters are mapped using a supplied DSECT macro called CELHLLDS.A which is available in the LE z/VSE installation library. A sample HLL user exit, CELHLLXT.Z, is also supplied in the LE z/VSE installation library and demonstrates how to use the exit to count a number of HLL statements executed and then issue a simple console message.

The user exit is only supported as a LE z/VSE conforming (MAIN=NO) assembler PHASE. The exit should not modify any of the provided parameters as this could cause unpredictable results. The exit, however, can copy or reference these parameters and perform specific processing based upon these parameters.

During initialization of the CEETRACE environment at the HLL program execution, CEETRACE will attempt to load the specified EXIT_MOD= option requested program exit module. If this load fails and WARN_MSGS=ON is set then a console message (CELT050W) will be issued stating that the exit program was not able to be loaded.

If the load completes successfully then as CEETRACE traps each HLL statement executed it will call the exit program with the following parameters :

	Passed As	**Contents**	**IN/Out/Opt**
Parm 1 :	Half-word Integer	Number of parameters provided	IN
Parm 2 :	Statement Language	Halfword indicating language	IN
Parm 3 :	Statement Number	Currently executing Stmt Num.	IN
Parm 4 :	Exit_Storage_Addr	A(8-byte) work area	IN
Parm 5 :	Return-Code	Exit Return Code	OUT
Parm 6 :	Program-Name	Halfword prefix Char String	Opt
Parm 7 :	Entry-Name	Halfword prefix Char String	Opt

Optional parameters contents will be unpredictable if PARM #1 count does not indicate they are provided. The above layout is provided in the macro – CELHLLDS.A - available in the LE z/VSE installation library.

Parm #1 value will always be in the range of 4 -6.

See the CELHLLDS.A macro provided in your LE z/VSE installation library for more information.

To activate a created HLL exit routine using the attention routine commands, the following console command would set the supplied sample CELHLLXT as an active exit :

```
s cee,ceetrace=(exit_mod=celhllxt)
```

CEETRACE LE z/VSE Run-Time Option Requirements

For the CEETRACE feature to function correctly, the following LE/VSE run-time options need to be set :

- Trap ON,MAX (ON,MIN is accepted but not recommended)
- Abtermenc ABEND (RETCODE is accepted but not recommended)
- Storage 00,NONE,CLEAR,32K (BATCH recommendation)
  00,NONE,CLEAR,0K (Required under CICS)

CEETRACE Feature Restrictions

- There is **NO NATIONAL LANGUAGE SUPPORT** for this feature. All CEETRACE feature messages both printed and console are available in English only.
- Both BATCH and CICS environments are supported with the following restrictions -
  1. DOS/VS COBOL or VS/COBOL II compiled subroutines link edit with LE/VSE are not supported but will be tolerated. Main programs will cause CEETRACE to be deactivated.
  2. DOS/VS COBOL or VS/COBOL II sub or main programs link edited with a non-LE/VSE runtime are not supported nor tolerated.
  3. LE-enabled Assembler is not supported but is tolerated. LE HLLs invoked via the CEEFETCH macro from LE-enabled assembler that conform to the CEETRACE requirements on Pg 10 are supported.
  4. DOS/PL1, RPG, C/370 and System Programmer /C are not supported nor tolerated.
  5. Non-LE enabled assembler is not supported but will be tolerated so long as standard S/390 linkage conventions are followed.
  6. When using PL/1 for VSE or C/VSE as a “main” program the C/VSE or PL/1 for VSE program must be compiled with at least TEST(ALL,SYM). Subroutines can be a mix of TEST and NOTEST.
  7. CEETRACE and Debug Tool for VSE cannot be used at the same time in the same LE enclave. Except for the PL/1 Multi-Tasking exception noted on Pg 9.
  8. Use of the LE/VSE run-time option TRAP(OFF) is not supported.
  9. CEETRACE feature output reports and messages are NOT supported as programming interfaces and may be changed at any time.
  10. The CEETRACE feature uses an installation-wide LE z/VSE High Level Language exit (CEEBINT) to perform its functions. If your environment already makes use of this exit point (or a statically linked version) then it cannot be used in conjunction with the CEETRACE feature.
  11. Calling CEE5ABD with timing = 0 (no cleanup processing) will cause the CEETRACE feature exit not to be called. Resulting in no CEETRACE execution report.
  12. Using a registered condition handler, or language provided handlers, will result in no CEETRACE report when any conditions handled by the user handler are “resumed”. However, the user condition handler can call the CEETRACE reporting tool (CEL4RPRT) to generate a CEETRACE program execution report.
  13. C/VSE applications need to be compiled with the OPT(0) compiler option as well as the other requirements (see Pg 10) for CEETRACE to be able to produce a statement execution report.
  14. COBOL run-time issued user abends resulting from I/O errors do not invoke the LE abnormal termination exit so no CEETRACE report will be automatically produced in these situations.

CEETRACE and Pre-Initialised Run-Time Environments

- CEETRACE can be used with any supported LE/VSE applications invoked via CEEPIPI.
- The LE z/VSE supplied ILBDSET0 is supported when correctly compiled (see pg 10) COBOL/VSE programs are executed in the environment. Mixed non-LE assembler and/or other HLLs with COBOL, are not supported by CEETRACE in this environment.
- IGZERRE is supported for correctly compiled (see pg 10) COBOL/VSE programs if using the LE z/VSE 1.4.6 (or above) supplied IGZERRE module. Previous versions of IGZERRE are not supported and may cause CEETRACE to be deactivated if used. Mixed non-LE assembler and/or other HLLs are also not supported by CEETRACE in this environment.

CEETRACE and CICS Considerations

CEETRACE and EXEC CICS LINK calls to correctly compiled applications are supported. When COBOL/VSE applications are the target of EXEC CICS LINK calls and the execution report is produced after an EXEC CICS RETURN (or GOBACK) from the LINK'ed to program the side-file and source code information may no longer be available. An appropriate message will be displayed in the execution trace report.

Even if the TIMER option is set to “ON”, no CPU time information will be reported in CICS CEETRACE abend reports.

CEETRACE use with Database and SORT Product Considerations

If TRAP(ON,MIN) is set when using DL/1, DB2 or SORT with CEETRACE the program execution report may not be produced if the database or sort product takes control of any application failures. This can result in LE's abnormal termination exit not being called to ensure any required database back-out processing is performed. It is recommended that TRAP(ON,MAX) be used instead.

CEETRACE and PL/1 Multi-Tasking Applications

(CEETRACE V1.1.2 / z/VSE 4.3 and above only)

PL/1 multitasking applications (eg those PL/1 “main” programs compiled with the “task” option) are supported by CEETRACE. Individual execution report(s) will be produced for each individual task enabled for CEETRACE use. A single execution report cannot be combined over multiple PL/1 tasks.
If the parent task terminates before any underlying child task(s) complete, the CEETRACE report may not be produced for those child task(s). It is the programmers responsibility to ensure correct synchronisation of parent/child task(s) and that correct task termination is performed. That is parent tasks wait for termination of any subordinate child task(s) before terminating themselves.

CEETRACE Auto Report Feature

(CEETRACE V1.2.0 / z/VSE 5.1 and above only)

This feature allows the specification of an entry point name and statement number at which to automatically produce an execution history report. An execution report can also be produced after a specified number of statements have been executed within any number of CEETRACE enabled applications.

For example -
If you have an PL/1 VSE application which has a procedure entry point of “subt2” and you want an execution history statement report to be automatically produced when statement number 413 within “subt2” is executed, you would set the following CEETRACE options using the attention routine :

```
s cee,ceetrace=(auto_rprt_epn=subt2)
s cee,ceetrace=(auto_rprt=s413)
```

Please note!

When using the attention routine over-ride commands for the auto report feature as in the previous example, the auto_rprt_epn over-ride must be issued prior to any auto_rprt options set that use the "s" prefix. This is to ensure that when a specific statement number is to be used as a trigger for an execution report that the entry point name containing that statement number is also specified.

To produce an execution history report every time after a total of 6,531 statements have been executed within a CEETRACE enabled application, you would set the following options using the attention routine :

```
s cee,ceetrace=(auto_rprt_epn=off)
s cee,ceetrace=(auto_rprt=r6531)
```

Note – In all instances the execution history report produced will be the complete current trace table. If a small repeat number is used or the application is in a tight and/or long loop this can result in duplicate trace table entries being reported multiple times.

The auto_rprt_epn option can accept a maximum of 12 characters for an entry point name. Characters accepted as the entry point name are the same as those acceptable for z/VSE PHASE names (see http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/BOOKS/iessoe60/4.5.5). The auto_rprt option can accept a statement or repeat number no greater than 65535.

The above auto report feature options can also be specified in the CEETRACE.INI file.

For the automatic reporting facility to work the application must be enabled for use with CEETRACE and be executed in a CEETRACE enabled (included or not excluded) partition.

CEETRACE Mini Dump Option

(CEETRACE V1.2.0 / z/VSE 5.1 and above only)

A small formatted dump of any associated CIB (condition information block) and Machine State Block can be included in a execution statement history report associated with an unhandled condition by specifying the mini_dump=yes option. To turn this feature off use the mini_dump=no option.

Example of a CEETRACE provided mini_dump :

```
CEETRACE requested MINI_DUMP begins.

CIB for : 0046E508

  +000000  CIB_Eye.. CIB       CIB_Back. 00000000  CIB_Frwd. 00000000  CIB_Size. 0000      CIB_Ver.. 0000
  +000010  CIB_Plat. 00000005  Reserved. 00000000  CIB_Cond. 00030C87  59C3C5C5  00000000  CIB_Mach. 0046E618
  +000028  CIB_OLDc. 00030C87  59C3C5C5  00000000  CIB_Flg1. 00        CIB_Flg2. 00        CIB_Flg3. 00
  +000037  CIB_Flg4. 00        CIB_HDsf. 00000000  CIB_HDen. 82656A80  CIB_HDrs. 00000000  CIB_RMsf. 0261D100
  +000048  CIB_RMpt. 00440CC6  CIB_RSmh. 026D0948  Reserved. 00000005  00000000  00000000  00000000  00000000
  +000064            00000000  00000000  00000000  00000000  00000000  00000000  00000000  00000000  00000000
  +000088            00000000  00000000            CIB_Vsr.. 00000000  00000000            CIB_Vsto. 00000000
  +00009C  CIB_Vpsa. 00000000  CIB_Mcb.. 00000000  CIB_Mrn.. 00000000  00000000            CIB_Mflg. 00
  +0000AD  Reserved. 000000    CIB_flg5. 40        CIB_flg6. 27        CIB_flg7. 40        CIB_flg8. 00
  +0000B4  CIB_ABcd. 00000020  CIB_ABrc. 00000007  CIB_ABnm.            CIB_Pl... 0044008C  CIB_SV2.. 0261D100
  +0000CC  CIB_SV1.. 0261D100  CIB_Int.. 00440CC0  CIB_Qdat. 00000000  CIB_FdBk. 00000000  CIB_Fun.. 00000001
  +0000E0  CIB_Toke. 0261D100  CIB_Mid.. 00000005  CIB_Stat. 0000000A  CIB_Rtcc. 00000014  CIB_Ppav. 00000001
  +0000F4  CIB_ABte. CEL4RPRT  CIB_Sdwa. 00491708

Machine State: 0046E620

  +000000  MCH_reg0. E809A950  MCH_reg1. 004550D4  MCH_reg2. 02615078  MCH_reg3. 02615070  MCH_reg4. 004403A6
  +000014  MCH_reg5. 40000008  MCH_reg6. 02615698  MCH_reg7. 40000008  MCH_reg8. 00456A70  MCH_reg9. 02615070
  +000028  MCH_regA. 00440198  MCH_regB. 0044065C  MCH_regC. 0044016C  MCH_regD. 0261D100  MCH_regE. 80440CC0
  +00003C  MCH_regF. 00000000  MCH_psw.. 07DD3000  80440CC6            MCH_ilc.. 0006      MCH_intc. 0007
  +00004C  MCH_Rsvd. 00000000  MCH_Fltp. 41100000  00000000  4BC4B865  28602000  4E000000  00025609  40404040
  +00006C            40404040  MCH_Rsvd. 00000000  00000000  00000000  00000000  00000000  00000000  00000000
  +00008C            00000000  00000000  00000000  00000000  00000000  00000000  00000000  00000000  00000000
  +0000B0            00000000  00000000  00000000  00000000  00000000  00000000  00000000  MCH_Bear. 0264C054

CEETRACE requested MINI_DUMP complete.
```

For detailed information on the CIB fields shown see the LE z/VSE Debugging and Messages Guide, section "Debugging with the Condition Information Block"

Restriction:
A mini_dump can only be produced if the report destination (see "report" CEETRACE initialization option on pg 19) specified is JOB or if using LE that the LE z/VSE TERMTHDACT run-time option is not set to the LSTQ option.

CEETRACE Initialization Options

Details for each of the CEETRACE feature options are available in the supplied CEETRACE.Z member or, if after installation, the created CEETRACE.INI librarian member in the LE/VSE installation library.

The following CEETRACE feature options are listed for reference purposes only. See the provided CEETRACE.INI file for more details.

CEETRACE Feature Option	Option Information
ceetrace=on | off	Set status of the CEETRACE feature at LE/VSE attention routine initialization time.
report=LE | JOB*	What destination is to be used for the CEETRACE Program Execution report. • LE = Use the LE TERMTHDACT runtime option setting • JOB = The execution report will be directed to LE's MSGFILE current setting.
source_code=yes | no*	COBOL/VSE only. Include the display of source code lines in the Program Execution report if a correct SYSDEBUG file is available.
trace_tabsz=52	Number of program statement execution entries to be saved in the wrapping trace table. Can be any value between 10 to 63. WARNING – forcing this value to anything less than 10 or greater than 63 will result in unpredictable errors.
warn_msgs=on | off*	Display or disable any warning messages during CEETRACE execution. Severe or error level messages are always displayed as are all levels of output report messages.
env_validation=off | min | heap | full*	What level, if any, of LE z/VSE environment checking is to be performed at each statement executed. • off = No validation • min = Minimal environment checking • heap = Heap storage validation • full = Perform all environment checking Activating this option will have a negative performance impact.
exclude_part=f1,f3,f7,y1,y2,y3,r1 include_part=**	What partitions to exclude or include from CEETRACE. Can be up to 32 (or to column 78) partitions. Wild cards are not permitted. **NOTE - include_part and exclude_part options are mutually exclusive.
timer=on | off*	Include CPU consumption time in the CEETRACE Program Execution report? Will only be displayed if the execution report is in response to a LE/VSE condition occurring. Not available under CICS. Requires SYS JA=YES set at IPL.
**mini_dump=yes | no*	Produce a small formatted dump of the active condition information block and if there is one available, the machine state information.
**auto_rprt=Rnnnn | Snnnn | off* **auto_rprt_epn=entry point name | off*	See “CEETRACE Auto Report Feature” section for more information.
**exit_mod=exit_module_name | off*	See “CEETRACE HLL Statement Exit” section for more information.

Table 1: CEETRACE Feature Initialization file Options

***Option can be over ridden using the CEETRACE Attention Routine commands.**

****Option available in CEETRACE V1.2.0 and above. If both include_part and exclude_part are specified the last option found will be used. Note – applications in partitions that do not use LE z/VSE will not invoke CEETRACE.**

CEETRACE FIXPACK Application Procedure

Before applying any updates to CEETRACE, please review the accompanying README file for any special information.

UPDATE APPLY PROCEDURE

This job can be sent via:

1. FTP to the VSE reader (FIX BIN 80) , or
2. IND$file (File Transfer) to the reader of the VSE system .... or
3. Over VM.

In case IND$file is used:

a.) IUI dialog "PC FILE TRANSFER" should be entered (fastpath: 386)

3 Operations
8 Personal Computer Move Utilities
6 PC File Transfer

The screen displayed here says:
"Please switch to PC mode to initiate a file transfer or press PF3 to quit."

b.) Then following command should be submitted in the PC command box:

```
send ceetrace.update a:ceetrace (file=rdr binary lrecl=80 nouc
```

```
a: is the session id (VSE)
```

In case VM is used:

The fixtest job should be sent via:

```
send ceetrace.update a:ceetrace update f (lrecl 80
```

```
a: is session id (VM)
```

The following commands will then suit for transfer to the VSE machine:

```
SPOOL PUN TO vse_machine
PUN / (NOH
```

On the VSE-side the reader must be started via: `S RDR,00C,A`

CEETRACE Utilities

COBOL/VSE Source Code Extraction Utility

Supplied with the CEETRACE feature is a COBOL/VSE source code extraction utility. The utility can produce original source code from a COBOL/VSE load module (BATCH or CICS) ***that had originally been compiled with the SEPARATE sub-option of the COBOL/VSE compiler TEST option which has an associated valid and available SYSDEBUG member***.
This COBOL/VSE compiler option, in combination with the "SD" IGYCRCTL parameter, will produce a SYSDEBUG (side file) member that contains both the symbol table information (for use during run-time dump production) and the compressed source code used to produce the final object code. It is this source code that the extraction utility can reproduce.
Use of the extraction utility is by a VSE BATCH job. A single parameter is required that contains the name of the COBOL/VSE load module you wish to extract the source code for using the associated SYSDEBUG member.

Input for the BATCH job requires // LIBDEF PHASE JCL statement for both the load module and the SYSDEBUG member. Alternatively you can specify a // LIBDEF * to allow searching and loading of both members. The LE/COBOL runtime will perform standard verification on the load module and associated SYSDEBUG member so as to ensure they were created together by the COBOL/VSE compiler.

Output from the utility is in two formats. The extracted source code will be included in the job print output along with the compile options used to produce the specified load module. The source code will also be punched to SYSPCH in 80 byte records. A 2520B2 punch output device is recommended. COBOL copy statements will be expanded.

Following is some sample JCL to use the utility.

```
* $$ JOB JNM=COBSRCE,CLASS=0,DISP=D
* $$ LST CLASS=A,DISP=D,DEST=*
* $$ PUN CLASS=A,DISP=D,DEST=*
// JOB COBSRCE – Extract COBOL source code from SYSDEBUG Member
// LIBDEF *,SEARCH=(PRD2.SCEEBASE,TEST.LIB)
// EXEC CEL4PLST,SIZE=CEL4PLST,PARM='/COBPROG'
/*
/&
* $$ EOJ
```

Note : If you have a BATCH COBOL SYSDEBUG exit it will be called.
TEST.LIB = library containing both the COBOL/VSE load module and the associated SYSDEBUG member. You can add more sublibraries to the search chain if your SYSDEBUG members and load modules are kept separate.
COBPROG = The COBOL/VSE program load module to extract the source code for.

CEETRACE V1.1.2 (z/VSE 4.3) and above only :
Expanded COBOL "COPY" statements presented between the IDENTIFICATION DIVISION and PROCEDURE DIVISION paragraphs can automatically be commented out by setting the // UPSI 00000100 switch.

CEETRACE Feature Messages

CELP – COBOL/VSE Source Code Extraction Utility Messages

CELP002E **Load module compiled with NOTEST.**
Explanation: The load module being requested for source code extraction has not been compiled with the TEST COBOL/VSE compiler option. This is required to produce a corresponding SYSDEBUG member where the programs source code can be extracted from.
System Action: Processing continues
Programmer Response : No source code is extracted.
Operator Response: None

CELP003E **Load module compiled with NOSEP.**
Explanation: The requested COBOL/VSE load module has been compiled with the TEST option but the SEP sub-option was not specified. Resulting in no corresponding SYSDEBUG member being available.
System Action: Processing continues
Programmer Response : No source code is extracted.
Operator Response: None

CELP004E **Load module not identifiable as COBOL/VSE.**
Explanation: The requested load module has not been compiled with a supported COBOL/VSE compiler.
System Action: Processing continues
Programmer Response : No source code is extracted. Ensure the requested load module is a valid COBOL/VSE compiled module. The entry point of the load module must point to a COBOL/VSE program.
Operator Response: None

CELP005E **Unable to continue. No parameter supplied.**
Explanation: This execution of CEL4PLST does not include a valid JCL PARM card specifying the COBOL/VSE load module to extract the source code from.
System Action: Processing continues but no source code is extracted.
Programmer Response : Correct the parameter and re-run.
Operator Response: None

CELP006E **Load for requested module failed.**
Explanation: The requested COBOL/VSE load module could not be loaded. Ensure the load module is available in the specified // LIBDEF search chain, that the partition being used is sufficient in size to load the module and that the appropriate authority has been granted.
System Action: Processing continues but no source code is extracted.
Programmer Response : Correct the COBOL/VSE load module name and re-run.
Operator Response: None

CELP007E **Parameter Load module name too long.**
Explanation: The requested COBOL/VSE load module name is greater than the allowed 8 characters.
System Action: Processing continues with no source code produced.
Programmer Response : Correct the COBOL/VSE program load module name and re-run.
Operator Response: None

CELP009E **Invalid TGT returned from COBOL program.**
Explanation: The requested COBOL/VSE load module may have been compiled with a prior version of COBOL/VSE that does not support the SYSDEBUG file.
System Action: Processing continues with no source code produced.
Programmer Response : No source code is able to be extracted.
Operator Response: None

CELP010E **COBOL Event Handler return code =**
Explanation: The LE/COBOL run-time has returned an error when extracting the source code from the available SYSDEBUG member.
System Action: Processing continues with no source code produced.
Programmer Response : Note the return code returned and contact IBM support for assistance.
Operator Response: None

CELP011S **SYSPCH open has failed. Terminating.**
Explanation: The open request for the SYSPCH device has failed.
System Action: Execution is terminated. No source code is extracted.
Programmer Response : Ensure SYSPCH is assigned to a valid device – preferably a 2520B2. If device assignment is correct then contact your IBM service center for assistance.
Operator Response: None

Messages that appear in the output report.

CELP100E **Compiler options unavailable. Load request for service failed.**
Explanation: When attempting to produce the compiler options report the required service module could not be loaded.
System Action: Processing continues with no compiler options report produced.
Programmer Response : Ensure you have a current LE/COBOL run-time release and that the job executing has sufficient authority to load modules from the LE z/VSE installation sub-library.
Operator Response: None.

CELP101W **Beta COBOL COPY source code statement removal code has been activated.**
Explanation: The COBOL “COPY” beta code to comment out expanded COPY books found between the IDENTIFICATION DIVISION and PROCEDURE DIVISION paragraphs has been activated.
System Action: Processing continues.
Programmer Response : Verify the reproduced source code COPY statements that are expanded have been commented out.
Operator Response: None.

CELR – CEETRACE reporting module messages

CELR003W **No entries in Trace Table. Check compile options used.**

Explanation: The CEETRACE table is empty. No trace information can be produced.

System Action: Processing continues

Programmer Response : Check that the application in question has been compiled with the required TEST options and that the CEETRACE facility is active.

Operator Response: None

CELR004S **Trace Table Corrupt. Report failed.**

Explanation : The trace table used for reporting on program execution flow as been overlaid or corrupted in some way.

Programmer Response : Contact your systems programmer or IBM service representative. Follow the recommendations on pg 36 “how to report a problem” when reporting this problem.

System Action : A SDUMP is taken of the active partition. Please keep this dump for analysis.

Operator Response: None

CELR008W **A Side-File Request has failed. Source code extraction unavailable. <pgmname>**

Explanation : When requesting access to the required SYSDEBUG file a failure occurred.

Response codes :

4	SYSDEBUG file could not be located
8	Storage allocation failure
12 (C)	Storage freeing failure
16 (10)	SYSDEBUG member open failure
20 (14)	SYSDEBUG member close failure
24 (18)	SYSDEBUG member read failure
28 (1C)	Decompression failure
32 (20)	Storage request failed
44 (2C)	SYSDEBUG member verification failed.
48 (30)	Unexpected EOF reached while reading SYSDEBUG
52 (34)	Program no longer available in storage.

Programmer Response: Review the produced CEETRACE report. Displayed at the end of the “STMT SRC” column may be the return code received in hex to match the above response codes.
Information relating to the problem may also be displayed in the "STMT SRC" column. You may find "Side File or Program is no longer available", "Side File request failed. Insufficient storage." or "Side File unavailable. Verification failed".
Ensure the side-file used and load module match. Consider recreating the side-file and load module for **<pgmname>**.

System Action : Processing continues without the use of the SYSDEBUG file. This may result in statement numbers and source code information missing from the CEETRACE report.

Operator Response: None

CELR009W	**Unable to locate statement number in SYSDEBUG member.**
Explanation :	When attempting to locate the source code line for a particular statement number there was no corresponding source code line found.
Programmer Response:	Ensure the correct SYSDEBUG member is being used. Re-create the SYSDEBUG member using the compiler TEST(ALL,SYM,SEP) option. Review the produced CEETRACE report and look for any statement numbers missing source code line text. Compare the statement number reported with the compiler output listing to verify valid source code is at the indicated statement number. If not, a possible mismatch between the SYSDEBUG member and load module may exist. This message may also be included in the program execution report with the return code received from the LE/COBOL run-time in response to the statement number search. Ensure the PROGRAM-ID name matches the created SYSDEBUG member name. If this message persists after verification that the SYSDEBUG member and COBOL load module are consistent then contact your IBM support center for assistance.
System Action:	The report continues to be produced without the source code for the missing statement number.
Operator Response:	None

CELR013W	**Unable to determine LE TERMTHD option. Using job log default.**
Explanation :	When attempting to extract the active LE z/VSE enclave's TERMTHDACT run-time option settings, an invalid or indeterminable value was found.
Programmer Response:	Ensure a valid TERMTHDACT destination sub-option is set.
System Action:	The report is produced to the currently default output destination set by MSGFILE.

CELR014E	**Request for LSTQ member open has failed with *retcode* rc and *reasoncode* rsncode.**
Explanation :	When attempting to communicate with VSE/POWER and open a LSTQ member to receive the CEETRACE output report, the open failed with the inserted return code and reason code.
Programmer Response:	Use the displayed return code and reason code information in conjunction with the XPCC return code and reason codes from LE/VSE to determine the failure reported.
System Action:	The creation of the LSTQ member is aborted and the CEETRACE report is written to the LE MSGFILE destination.
Operator Response:	None

CELR015E	**Request for LSTQ member put has failed with *retcode* rc and *reasoncode* rsncode.**
Explanation:	When attempting to communicate with VSE/POWER and write to a LSTQ member with the CEETRACE output report, the write request failed with the inserted return code and reason code.
Programmer Response:	Use the displayed return code and reason code information in conjunction with the XPCC return code and reason codes from LE/VSE to determine the failure reported.
System Action:	The LSTQ member is not created and the report is terminated.
Operator Response:	None

CELR018I **The CEETRACE program execution report has been written to the requested LSTQ member.**

Explanation: The LE TERMTHDACT option specifies LSTQ and the CEETRACE.INI has LE set for the "REPORT" option. This has resulted in the CEETRACE report being written to a VSE/POWER LSTQ member whose name has been constructed from the originating VSE/POWER job name and stored in the class specified in the LE/VSE LSTQ options.

Programmer Response: None.

System Action: None.

Operator Response: None.

CELR019E **Request for LSTQ member END has failed with *retcode* rc and *reasoncode* rsncode**

Explanation: During the creation of the LSTQ member containing the CEETRACE report, the END request sent to VSE/POWER has failed with the included return code and reason codes.

Programmer Response: The displayed return code and reason code should be investigated using the VSE/POWER Application Programming guide and the appropriate resolution action taken.

System Action: The LSTQ member is not created and the report is terminated.

CELR020W **Starting Language Environment for z/VSE CEETRACE report**

Explanation: The CEL4RPRT report generator module has been called due to an application failure.

Programmer Response: None.

System Action: A CEETRACE report is produced up to the statement that failed.

Operator Response: None

CELR021W **Language Environment for z/VSE CEETRACE report complete**

Explanation: The CEETRACE report is complete. This message is also issued if an explicit call to the CEL4RPRT report generator module has been made and then completed.

Programmer Response: None.

System Action: A CEETRACE report is produced to the destination specified in the CEETRACE.INI file.

Operator Response: None

CELR022W **CEETRACE has not been enabled for this application or partition.**

Explanation: The CEL4RPRT report generator module has been called to produce a trace report but the CEETRACE feature is not installed or activated correctly, the application does not meet the requirements for tracing, the partition being used is part of the exclusion list or not listed in the the inclusion list.

Programmer Response: Ensure the application has been compiled with the correct options, that the CEETRACE feature has been installed correctly, initialized and activated. Also ensure the application is being executed in a partition that is not in the CEETRACE options exclusion list.

System Action: No CEETRACE report is produced.

Operator Response: None

CELR024W **CEETRACE table not available. No report can be produced.**

Explanation: The CEL4RPRT report generator module has been called to produce a trace report but the application does has not met the requirements for tracing, the partition used has been excluded or their has been a problem during initialization of the CEETRACE feature for this application.

Programmer Response: Ensure the application has been compiled with the correct options, that the CEETRACE feature is installed and activated correctly and that there is sufficient available storage in the partition to support the CEETRACE feature. Ensure the partition being executed in is not in the CEETRACE exclude list. Verify LE runtime option TRAP(OFF) is not set.

Note This message is issued even of WARN_MSGS=OFF is set if a call (static or dynamic) has been made to the report generator routine (CEL4RPRT) from an application program.

System Action: No CEETRACE report is produced.

Operator Response: None

CELR025W **CEETRACE has not been activated. No report is produced.**

Explanation: The CEL4RPRT report generator module has been called to produce a trace report but the CEETRACE feature has not been initialized or activated.

Programmer Response: Ensure that the CEETRACE feature is installed and activated correctly. Use the D CEE,CEESTAT console command to determined the current CEETRACE feature status.

System Action: No CEETRACE report is produced.

Operator Response: None

CELR027W **Message text for the current condition is unavailable.**

Explanation: The CEL4RPRT report generator module has been called to produce a trace report but the LE message text associated with the current condition could not be retrieved.

Programmer Response: Ensure all the LE message modules are available at runtime and that the job executing has sufficient authority to load them. Check the partition for sufficient available GETVIS storage to load the LE messages modules.

System Action: No condition information is included in the CEETRACE report produced.

Operator Response: None

CELR029W **A call to CEL4RPRT was made but the LE Attention Routine Interface is not initialized.**

Explanation: An user application has called the CEETRACE reporting module, CEL4RPRT, but the LE attention routine interface has not been initialized. This is required before the CEETRACE feature can be initialized and used.

Programmer Response: Ensure that the CEEWARC job has been run since the last IPL and that it run successfully. Use the D CEE,CEESTAT console command to determined the current LE Attention Routine Interface and CEETRACE feature status.

System Action: No CEETRACE report is produced.

Operator Response: **None**

CEETRACE Execution Report Messages

These are the messages that may appear in the "Statement Source Code" column of the CEETRACE Execution Report when a problem related to extracting the source code has occurred.

Side-File or Program is no longer available. ***rc***

Explanation : The side-file or program being reported on is invalid or no longer available in storage.

Programmer Response : Possible values for "*rc*" are :

-4		Function ignored by language event handler
0		Function completed successfully by language event handler
16	(10)	Requested function failed.
32	(20)	Storage request failed
44	(2C)	SYSDEBUG member verification failed.
48	(30)	Unexpected EOF reached while reading SYSDEBUG
52	(34)	Program no longer available in storage.

For return code 16 check the program is still available in storage at the time of the report. If it is then consider recreating the SYSDEBUG member again.
For return codes 44 and 48 consider recreating the SYSDEBUG member again.
For return code 20, increase the available 31-bit GETVIS for the application.
Return code 52 indicates the COBOL program has been removed from storage.

System Action : No side-file information is displayed for this program.

Operator Response : None.

Source_code=no set or SYSDEBUG unavailable

Explanation : A previously issued message may explain the reason for the SYSDEBUG member being unavailable. The program being traced may not have been complied with the SEP sub-option of the compiler TEST option.

Programmer Response : Ensure you have Source_code=yes set in the CEETRACE.INI file if desired or a SYSDEBUG member is available for the COBOL program being traced.

System Action : No source code information is displayed for this program.

Operator Response : None.

Unable to locate statement number in SYSDEBUG member. ***rc***

Explanation : When attempting to locate the source code line for a particular statement number there was no corresponding source code line found.

Programmer Response: Ensure the correct SYSDEBUG member is being used. Re-create the SYSDEBUG member. Review the produced CEETRACE report and look for any statement numbers missing source code line text. Compare the statement number reported with the compiler output listing to verify valid source code is at the indicated statement number. If not, a possible mismatch between the SYSDEBUG member and load module may exist.
Refer to “COBOL/VSE Application Source Code Notes” on pg 10. Also see the return codes listed for message CELR008W for further explanation.
If this message persists after verification that the SYSDEBUG member and COBOL load module are consistent then contact your IBM support center for assistance.

System Action: The report continues to be produced without the source code for the missing statement number.

Operator Response: None

CELT – CEETRACE Tracing module Messages

CELT013S **Anchor is corrupt or missing. Terminating.**

Explanation: The CEETRACE anchor area allocated at initialization time has either been overlaid or failed to be created.

Programmer Response: Collect the SDUMP produced and contact your systems programmer or IBM service representative. Refer to the chapter "How to report a problem" on Pg 36.
Ensure the installation process completed without error.

System Action: CEETRACE is deactivated and is not available for this application.

Operator Response: None

CELT014S **Language Environment for z/VSE Run-Time option TRAP(OFF) is set. CEETRACE has been deactivated.**

Explanation: The CEETRACE facility requires the TRAP run-time option be set to ON.

Programmer Response: Set the TRAP run-time option to ON.

System Action: CEETRACE is deactivated for this application.

Operator Response: None

CELT018E **Called without a function code. Unable to activate for this module.**

Explanation: The LE z/VSE HLL exit (CEEBINT) has been called with an unknown or unexpected function code. This possibly indicates a logic error or a back-level version of CEETRACE has been installed.

Programmer Response: Verify you are using the latest version of CEETRACE. Collect the SDUMP produced and contact your systems programmer or IBM service representative. Refer to the chapter "How to report a problem" on Pg 30.

System Action: CEETRACE is not activated for this module.

Operator Response: None

CELT019W **CEETRACE active when Debug Tool for VSE is present. CEETRACE deactivating.**

Explanation: Debug Tool for VSE and CEETRACE cannot be used together.

Programmer Response: Deactivate CEETRACE via the AR S CEE,CEETRACE=OFF command or run the application in an excluded partition.

System Action: CEETRACE is not activated for this application.

Operator Response: None

CELT020S **CEETRACE has detected an active CEEBHOOKS routine. CEETRACE is deactivating for this load module.**

Explanation: An active hook routine (such as IBMHOOKS) has been detected. CEETRACE cannot be used in conjunction with any other hook routine exits.

Programmer Response: Deactivate CEETRACE via the AR S CEE,CEETRACE=OFF command or run the application in an excluded partition. Alternatively remove the applications use of CEEBHOOKS.

System Action: CEETRACE is not activated for this module.

Operator Response: None

CELT022I **DOS/VS COBOL module has been detected.**

Explanation: A DOS/VS COBOL module has been found to be present in the active load module. CEETRACE does not supported non-LE HLL compilers.

Programmer Response: None.

System Action: The DOS/VS COBOL module is not traced. Tracing will resume at the next LE-conforming HLL program encountered that has been compiled with the required compiler options.

Operator Response: None

CELT023W **LE-assembler detected. Tracing not supported for this module type.**

Explanation: An LE-enabled assembler program has been detected. CEETRACE does not support the tracing of non-HLL LE-compliant modules.

Programmer Response: None.

System Action: Tracing of the LE-assembler module is skipped. Tracing will resume at the next correctly compiled HLL LE-compliant module.

Operator Response: None

CELT024S **Unable to located a valid COBOL TGT. COBOL tracing not activated.**

Explanation: When trying to locate the TGT for this active COBOL program, CEETRACE was not able to find a valid one.

Programmer Response: Ensure the COBOL program in question has been compiled with an LE-conforming compiler with the correct options. If the problem continues contact your IBM support center for assistance. Refer to the chapter "How to report a problem" on Pg 30.

System Action: CEETRACE for this COBOL program is not activated.

Operator Response: None

CELT025S **Unable to locate a valid RUNCOM for this COBOL program. COBOL tracing deactivated**

Explanation: When trying to locate a RUNCOM for this active COBOL program, CEETRACE was not able to find a valid one.

Programmer Response: Ensure the COBOL program in question has been compiled with an LE-conforming compiler with the correct options. If the problem continues contact your IBM support center for assistance. Refer to the chapter "How to report a problem" on Pg 36.

System Action: CEETRACE for this COBOL program is not activated.

Operator Response: None

CELT026S **Unable to locate a valid THDCOM for this COBOL program. COBOL tracing deactivated.**

Explanation: When trying to locate the THDCOM for this active COBOL program, CEETRACE was not able to find a valid one.

Programmer Response: Ensure the COBOL program in question has been compiled with an LE-conforming compiler with the correct options. If the problem continues contact your IBM support center for assistance. Refer to the chapter "How to report a problem" on Pg 36.

System Action: CEETRACE for this COBOL program is not activated.

Operator Response: None

CELT027W **CEETRACE options area corrupt. Using default values.**

Explanation: The SVA storage area for the CEETRACE run-time options has failed verification.

Programmer Response: Ensure the CEEWARC job has run successfully and that your options in the CEETRACE.INI file have been set by using the AR command D CEE,CEETRACE. Verify CEETRACE is active by using the D CEE,CEESTAT command.

System Action: The internal default CEETRACE options are used.

Operator Response: None

CELT028W **This partition is excluded from CEETRACE. Tracing not activated.**

Explanation: The currently used partition appears in the excluded partitions option in CEETRACE.INI.

Programmer Response: None.

System Action: Tracing is not activated.

Operator Response: None

CELT031S **Language Environment for z/VSE CEETRACE feature has not been initialized. Tracing deactivated.**

Explanation: The CEEWARC job has not been run, has used an older version of LE z/VSE, or has failed to execute successfully.

Programmer Response: Run the CEEWARC job and verify its successful execution. Ensure the z/VSE 4.3 supplied LE z/VSE run-time library is used. Use of prior version of LE z/VSE on z/VSE 4.3 is not supported. Use the D CEE,CEESTAT command to verify the state of the CEETRACE facility.

System Action: CEETRACE is not activated for this program.

Operator Response: None

CELT032S **Insufficient storage to initialize CEETRACE. Tracing has not been activated.**

Explanation: There was insufficient HEAP storage available to initialized the CEETRACE facility.

Programmer Response: Increase the available HEAP storage or increase the available 31-bit GETVIS area.

System Action: CEETRACE is not activated.

Operator Response: None

CELT036S **Unable to find language list. Exiting.**

Explanation: The language list module present in LE-conforming load modules could not be located.

Programmer Response: Verify the load module in question has been link edited correctly with the LE z/VSE runtime. If it is correctly link edited collect the produced SDUMP and contact your IBM support representative. Refer to the chapter "How to report a problem" on Pg 36.

System Action: CEETRACE is not activated.

Operator Response: None

CELT038S **Language list header not found. Exiting.**

Explanation: The language list CSECT was located but did not contain the expected information.

Programmer Response: Ensure the load module has been correctly link edited with a supported LE z/VSE run-time. If it is correctly link edited collect the produced SDUMP and contact your IBM support representative. Refer to the chapter "How to report a problem" on Pg 36.

System Action: CEETRACE is not activated.

Operator Response: None

CELT044W **Unable to initialize LE/VSE heap checker**

Explanation: The specified environment validation checking level requires the LE/VSE heap checker to be initialized. This initialization process has not completed successfully.

Programmer Response: Ensure sufficient storage is available (anywhere) to support heap checking.

System Action: Heap Checking is disabled. Any other environment checking requested is still performed.

CELT045W **PL/I Program compiled without TEST(ALL,x) set.**

Explanation: The "main" PL/1 VSE program executed was not compiled with the required CEETRACE compile options.

Programmer Response: If CEETRACE support is required then re-compile at least any "main" PL/1 programs with TEST(ALL,SYM). Any fetchable PL/1 routines that are to be traced using CEETRACE also need to be compiled with TEST(ALL,SYM).

System Action: CEETRACE does not trace this or any other introduced PL/1 modules.

CELT046E **A corrupt LE z/VSE Environment detected.**

Explanation: During environment validation it was found that one or more LE z/VSE internal control blocks are corrupt or damaged.

Programmer Response: As the run-time environment is not stable the CEETRACE feature is deactivated. Check any active applications for potential overlays or turn the LE z/VSE HEAPCHK run-time option on. Consider using any compiler available validation features – such as SSRANGE(ON) for COBOL/VSE.

System Action: CEETRACE is not activated for this application.

CELT047W **This partition has not been included. Tracing not activated.**

Explanation: The include_part option has been used (see CEETRACE.INI file) and the currently used partition is not included in the partition list.

Programmer Response: If CEETRACE output is required re-run the application in a partition that is included in the include_parts option in CEETRACE.INI. If not then this warning message can be ignored.

System Action: CEETRACE is not activated for this application in this partition.

CELT048S **A back-level version of LE z/VSE is being used.**

Explanation: The currently available LE z/VSE run-time libraries being used by this application are not at the required level for this version of CEETRACE.

Programmer Response: Contact your Systems Programmer to either upgrade your z/VSE system to a later version which will upgrade the LE z/VSE level or look at installing an older level of CEETRACE.

System Action: CEETRACE is not activated for this application.

CELT050W **Fetch of specified EXIT_MOD load module failed.**

Explanation : The PHASE specified in the CEETRACE EXIT_MOD option could not be loaded.

Programmer Response : Ensure the specified load module exits and that the application being executed has permission and access to the library that the EXIT_MOD phase resides.

System Action : CEETRACE and the application continues but without the specified exit module being called. EXIT_MOD is disabled for this application execution.

CELT056E **Fetch for CEL4RPRT failed. Auto_rprt disabled.**

Explanation : CEETRACE attempted to load the statement history reporting module but that has failed.

Programmer Response : Ensure there is sufficient storage available to load the CEL4RPRT.PHASE. That no security restrictions may be causing the load request to fail.

System Action : The auto_rprt setting is disabled for this application only. No automatic statement execution history reports will be produced.

CEL4 – CEETRACE initialization and options processing related messages

CEL4047E	**Unable to open CEETRACE.INI options file. Using defaults.**
Explanation	During attention routine initialization the CEETRACE.INI file could not be opened.
Programmer Response	Retain the dump produced and provide to IBM support for analysis. Refer to the chapter "How to report a problem" on Pg 36.
Operator Response	None
System Action	The LE z/VSE CEETRACE feature is activated but using the internal default options only. See the supplied CEETRACE.Z member in the LE z/VSE installation library for a description of the internal default options.
Symbolic Feedback	None

CEL4052I	**CEETRACE options reload complete.**
Explanation	A request has been made to reload the CEETRACE.INI file options either from initialization or by an operator command request.
Programmer Response	None.
Operator Response	None
System Action	The LE z/VSE CEETRACE feature options have been reloaded.
Symbolic Feedback	None

CEL4053W	**Verification of CEETRACE feature failed. CEETRACE has been disabled**.
Explanation	During initialization of the CEETRACE feature, the tracing module was not the version or level expected and failed the verification process.
Programmer Response	Verify the correct level of CEETRACE has been installed and that all the required installation steps have been completed successfully.
Operator Response	None
System Action	The LE z/VSE CEETRACE feature is disabled.
Symbolic Feedback	None

CEL4054W	**CEETRACE Options processing has issued warnings.**
Or	
	CEL4READ has failed. Using defaults.
	Review the job output for more details.
Explanation	When reading the CEETRACE.INI file the CEL4READ module could not complete the options processing successfully.
Programmer Response	Ensure the CEETRACE.INI file is available and that all the options specified have valid values selected. Review the output from the CEEWARC job and correct any warnings or errors reported.
Operator Response	None
System Action	If options processing failed then the CEETRACE.INI file contents are not processed but the defaults are used instead. The CEETRACE feature is activated using these defaults. If warnings were issued then all options are processed but some may have been forced to defaults or inactive. Review the CEEWARC job output for further information.
Symbolic Feedback	None

CEL4055E	**Fetch of CEL4READ has failed.**
Explanation	When attempting to fetch the CEETRACE.INI processor CEL4READ the fetch could not be completed.
Programmer Response	Ensure the CEL4READ module is present and available for loading by the initialization job CEEWARC. Ensure sufficient partition size to execute CEL4READ. Recommendation if LE/C is not loaded in the SVA is at least 3MB.
Operator Response	None
System Action	The CEETRACE feature is enabled and all options set to their defaults. The CEETRACE.INI file is not processed.
Symbolic Feedback	None

CEL4057W	**CEETRACE currently set OFF. Options report taken from CEETRACE.INI**
Explanation	The CEETRACE options report has been requested while CEETRACE=OFF is set. The following options report has been taken directly from the contents of the CEETRACE.INI file.
Programmer Response	Set CEETRACE=ON to use the CEETRACE feature.
Operator Response	None.
System Action	The CEETRACE.INI file option settings are reported on.
Symbolic Feedback	None

CEL4058E	**CEEBINT module found does not verify. CEETRACE disabled.**
Explanation	The CEETRACE LE exit routine, CEEBINT, that has been found and loaded does not contain the required verification signature.
Programmer Response	Ensure CEETRACE has been installed correctly and that the LIBDEF SEARCH chain being used in the problem job includes the correct CEETRACE and LE installation library.
Operator Response	None.
System Action	CEETRACE is not activated.
Symbolic Feedback	None

CEL4063I	**Language Environment for z/VSE CEETRACE feature active**
Explanation	Informational message showing the current status of the CEETRACE feature.
Programmer Response	None.
Operator Response	None.
System Action	None.
Symbolic Feedback	None.

CEL4065I	**Language Environment for z/VSE CEETRACE feature inactive**
Explanation	Informational message showing the current status of the CEETRACE feature.
Programmer Response	None.
Operator Response	None.
System Action	None.
Symbolic Feedback	None.

CEL4067I	**CEETRACE Current Status is <*status information*>**
Explanation	Informational message is show the current status of the CEETRACE feature.
Programmer Response	None.
Operator Response	None.
System Action	Possible status information is "Not Installed", "Off" and "On".
Symbolic Feedback	None.

CEL4068I	**CEETRACE Over Ride Options Accepted**
Explanation	The operator provided CEETRACE options change has been accepted and action-ed.
Programmer Response	None.
Operator Response	None.
System Action	The entered CEETRACE option change is performed and will be action-ed the next time the CEETRACE feature is used.
Symbolic Feedback	None.

CEL4069W	**CEETRACE Keyword or Sub-option is invalid or not Supported**
Explanation	The operator entered an invalid CEETRACE sub-option or sub-option over-ride.
Programmer Response	None
Operator Response	Verify the correct option keyword has been entered and that the sub-option supplied is valid. Ensure the CEETRACE option is one allowed to be over-ridden. See pg 19 for CEETRACE options that are eligible for being over-ridden.
System Action	The over ride is ignored
Symbolic Feedback	None.

CEL4074W	**auto_rprt_epn set when auto_rprt=rxxxx requested.**
Explanation	The operator requested to set auto_rprt to use the repeat statement execution when auto_rprt_epn was not OFF.
Programmer Response	None
Operator Response	Ensure the requested change is desired.
System Action	The over ride is accepted but auto_rprt_epn is set OFF.
Symbolic Feedback	None.

CEL4101E	**Executing on an Unsupported LE/VSE Run-Time.**
Explanation	While attempting to use the CEETRACE feature, it was found that the executing LE z/VSE level is not at the level required to support the CEETRACE feature being used. A possible mismatch exists between the installed LE z/VSE level and the VSE version being used.
Programmer Response	Check that the correct LE z/VSE level is installed for the executing z/VSE level. The options reports generated by the D CEE,CEEDOPT AR command can be used to determine the currently-active LE z/VSE level The SIR AR command can be used to determine the currently-active z/VSE level. Pg 5 shows the required LE z/VSE level for CEETRACE support.
System Action	The CEETRACE feature is not activated.
Symbolic Feedback	None

How to report a problem

If you believe you have found a problem with the CEETRACE feature, please check the following items before contacting IBM support :

- Review the list of restrictions on Pg 15 and ensure your application does not violate any of them.
- Review the CEETRACE feature tool system requirements on Pg 5 and verify your environment complies.
- Ensure all the installation steps have been completed successfully (pg 6) and that the CEETRACE status is set to ON (see D CEE,CEESTAT console command report).
- Check that your application has been prepared for use with CEETRACE according to the instructions given on Pg 10.
- De-activate any non-IBM vendor software and try the application again.
- If the problem is related to the CEETRACE feature not generating a program execution report ensure you are not running the application in an excluded partition or if using the “include_part” option that you are running the application in a partition specified in the inclusion list.
- Issue the console command “S CEE,CEETRACE=(WARN_MSGS=ON)” followed by “D CEE,CEETRACE” and confirm that WARN_MSGS=ON. Re-run the application using CEETRACE again. Review all warning messages and correct as required.
- Ensure there is no application-specific CEEBINT included in the problem application other than the default version supplied with LE z/VSE.

If you continue to experience problems with the CEETRACE feature then please collect and prepare the following documentation for analysis :

- A complete console log showing all LE z/VSE and CEETRACE messages (including warnings issued from the above instructions).
- Any CEETRACE produced system dumps or LE z/VSE formatted dumps.
- Any CEETRACE output relevant to the problem.
- A complete and current compile listing and link edit map of the application being used with CEETRACE. Optionally application source code that can be compiled and executed where possible by IBM support staff.
- The console output from the LE z/VSE AR command "D CEE,CEESTAT" and the CEETRACE AR command "D CEE,CEETRACE".
- A list of all non-IBM vendor products active on your system in both the CICS and BATCH environments (eg the output from the SIR VENDOR console command).

Please then send an email to vsesupportLE@de.ibm.com describing the problem and you will be provided with instructions on how to transfer the above supporting documentation to the change team for analysis.

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Comments and Questions

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