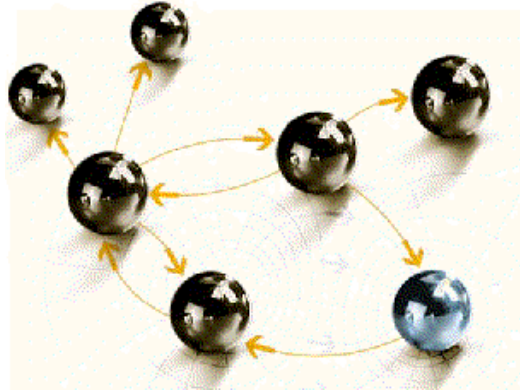




Abend-Aid / MVS

Grundlagen

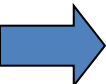
cps4it

consulting, projektmanagement und seminare für die informationstechnologie

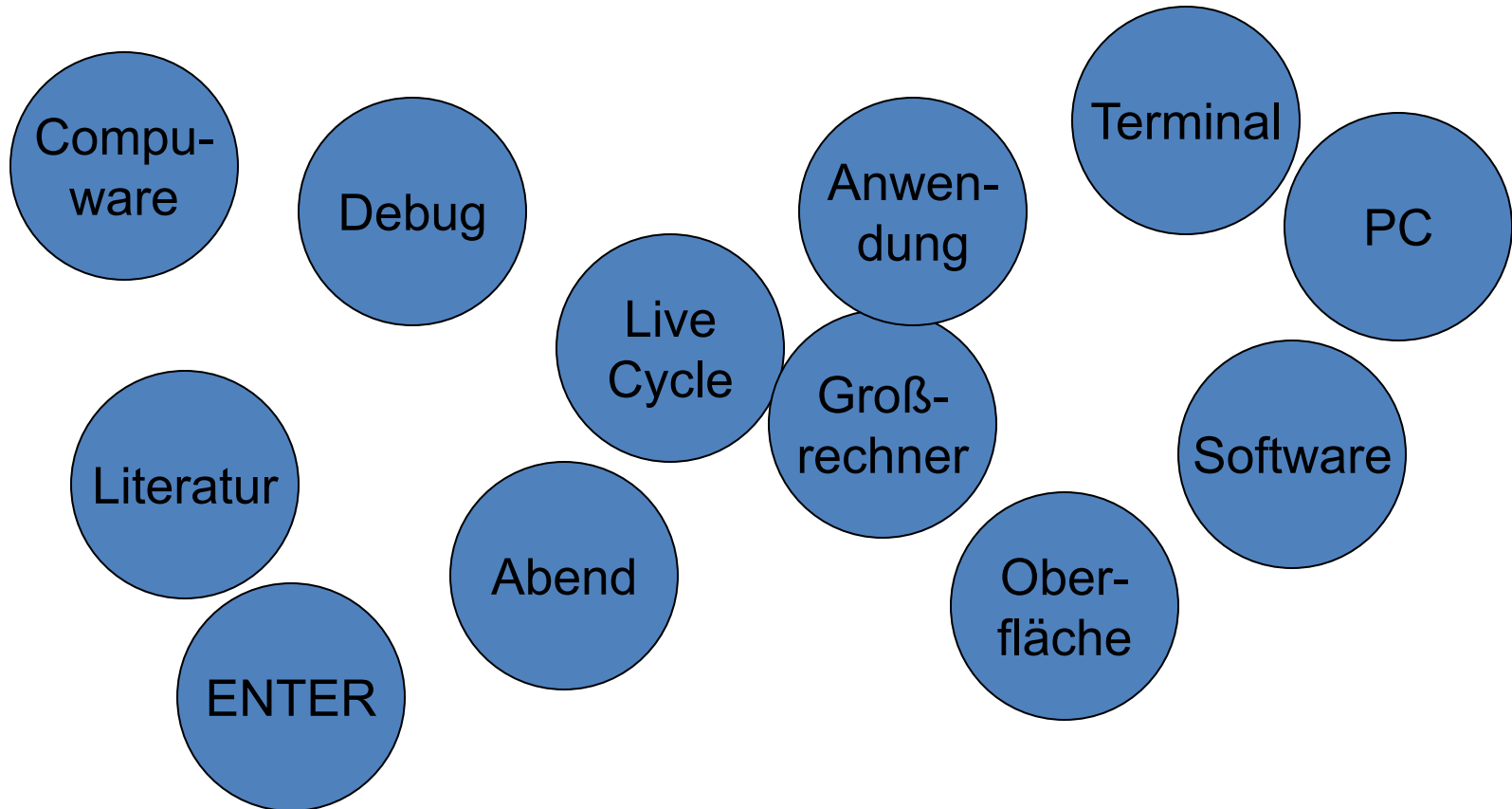
Ralf Seidler, Stromberger Straße 36A, 55411 Bingen

Fon: +49-6721-992611, Fax: +49-6721-992613, Mail: ralf.seidler@cps4it.de

Internet: <http://www.cps4it.de>

-
- 
- A blue arrow pointing to the right, highlighting the first item in the list.
- Einführung und Überblick
 - Produktüberblick
 - Abbruch-Umfeld
 - Viewing Facility

-
- Viewing Facility – weitere Benefits
 - Zusammenfassung – Diskussion – Austausch



- Abend-Aid Quick Reference - Rel. 12.1
- Abend-Aid User-Reference/Guide - Rel. 12.1
- Abend-Aid Messages and Codes - Rel. 12.1
- Abend-Aid Installation Guide - Rel. 12.1
- Bookmanager im Hause (soweit verfügbar)
- <http://frontline.compuware.com>
 - > Produkt > Abend-Aid > Documentation
 - > Produkt > Abend-Aid > Technical Reference
 - > Produkt > Abend-Aid > Events

- Abend Aid / CICS Abend Aid
- File-AID for DB2 / File-AID for IMS / File-AID MVS (Online/Batch)
- Xpediter CICS / Xpediter TSO/IMS
- Strobe
- Fault Manager
- Licence Management System
- QA Center
- Vantage-Produkte
- etc. etc. etc.

- Seit vielen Jahren auf dem Markt
- zunächst 2 Zielrichtungen
 - Batch
 - CICS
- DUMP-Output formatieren zum einfachen Lesen
- Zielumgebung Großrechner
- Zielgruppe Anwendungsentwicklung
- weitere Zielrichtungen
 - Websphere Unterstützung
 - Fault Manager Ein- / Anbindung

- Informationen auf Client verfügbar machen
 - Plug-In für Eclipse (RD/z !!)
 - Zugang vom Browser auf Dumps (na ja)
- Compuware Workbench
 - Zugang vom Client auf den Host

- Release 12.1 GA: 2010 - Oktober
- Release 11.1 GA: 2008 - Dezember
- Release 10.2 GA: 2006 - Dezember
- Release 10.1 GA: 2005 - Mai
- Release 9.5 GA: 2004 - Januar
- Release 9.4 GA: 2002 - Juli
- Release 9.3 GA: 2001 - September
- Release 9.2 GA: 1999 - Oktober
- Release 9.1 GA: 1999 - April

- Rel 9.0
 - extended language Support (XLS) für ASM
 - distributed viewing für XLS (Sysplex)
 - Formatierungen für ASM
 - IMS 6.1
- Rel 9.1
 - OS/390, LE
 - DB2 6.1
 - Jahr-2000 Unterstützungen
 - u.a. Prüfung Datenfelder
 - direkter Sprung zu File-AID

- Rel 9.2
 - Integration Fault Manager
 - aktuelle Releases von versch. Sprachen wie COBOL, PL1, Assembler, C, SAS
- Rel 9.3
 - MQ-Series
 - IMS e-business
 - LE Detailinformationen
 - DB2 RRSAF (Recoverable Resource Services Attachment Facility)
 - Dokumentation in Book Manager, pdf, html

- Rel 9.4
 - Installation über smp/e
 - erweiterter XLS-Support
 - e-COBOL, e-PL1, VA PL1
 - von sdsf direkt zur Viewing Facility, diese freundlicher
- Rel 9.5
 - Navigation Viewing Facility besser wie HOTKEY, point-and-shoot Navigation
 - File-Informationen auf Basis COBOL-Code
 - Anzeige static und ctl-Variablen in PL1
 - viele DB2 Releases unterstützt

- Rel 10.1
 - Routing Abend-Reports im Sysplex
 - eigenes Source-listing Dataset
 - Unterdrückung doppelte Dumps
 - 64-bit, XPLINK, SQL-Parser
- Rel 10.2
 - Anzeige COBOL Source-Statement (falls Listing da)
 - View von Files direkt (wenn Lesen erlaubt)
 - Anzeige Steplib
 - Anzeige nicht geöffnete Files
 - Unterstützung MQ

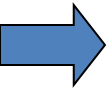
- Rel 11.1
 - gleicher Level mit Abend-AID CICS
 - Browser-Interface – auch als Plug-In in Eclipse
 - mehr Info, wenn S0C7, S0C9, S0CB (woher)
 - bessere Dump-Unterdrückung
 - besserer SQL- und Source-Support
- Rel 12.1
 - Xpediter Eclipse / Abend Aid Browser Integration
 - search verbessert
 - viiiel technisches



- 01-01 – keine

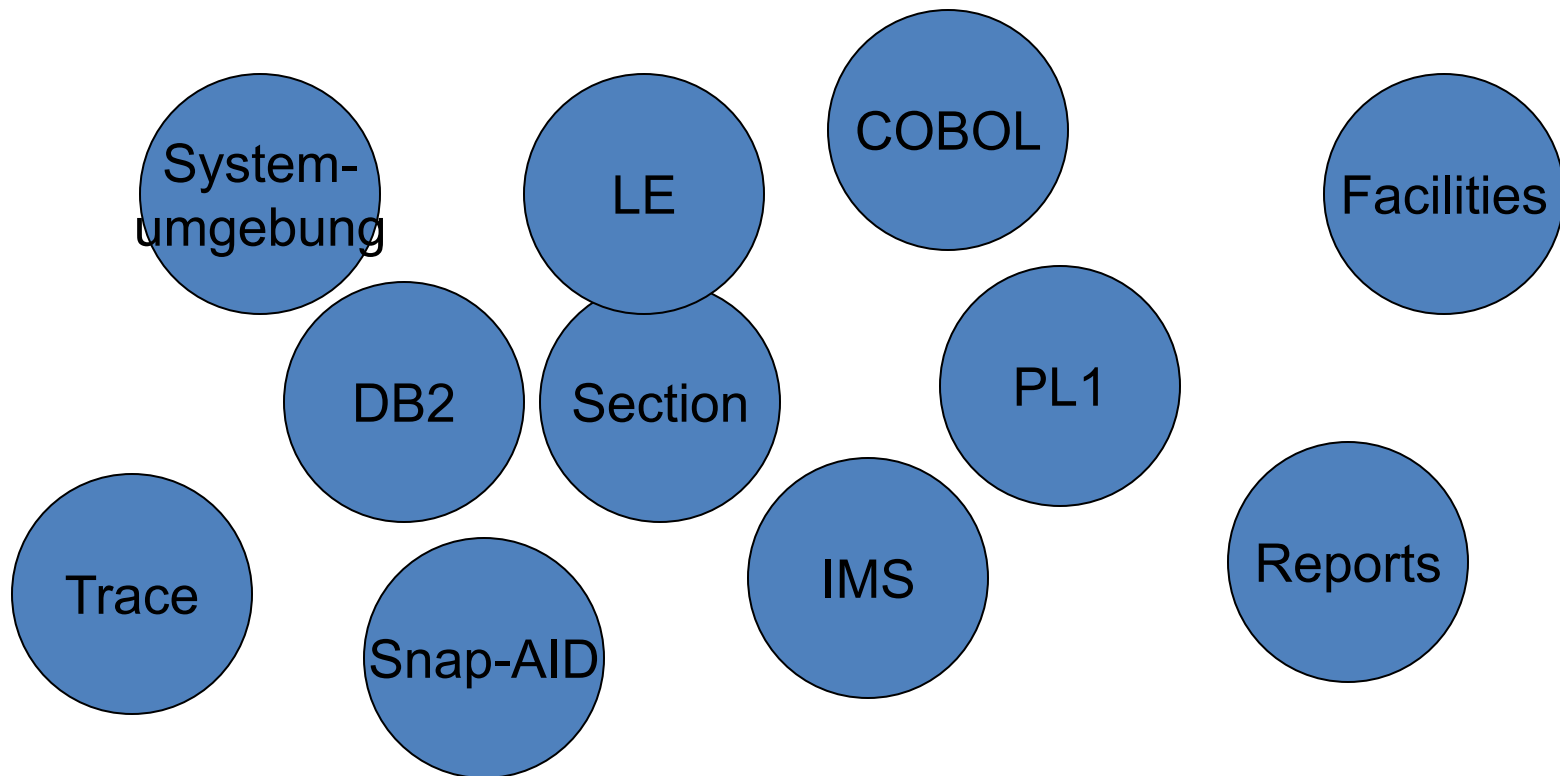


-
- Einführung und Überblick



- Produktüberblick
- Abbruch-Umfeld
- Viewing Facility

-
- Viewing Facility – weitere Benefits
 - Zusammenfassung – Diskussion – Austausch



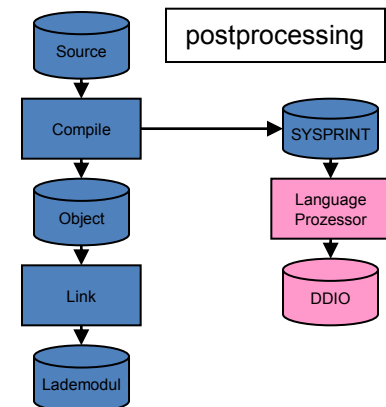
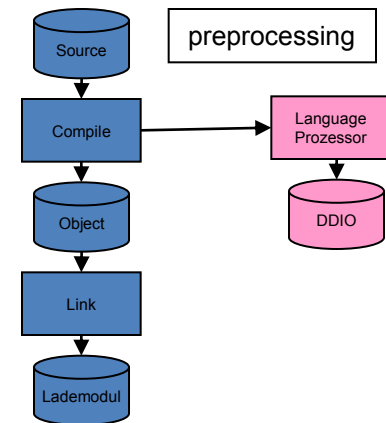
- Language Environment
- COBOL
- PL1
- Assembler
- C / C++
- Fortran
- DB2
- IMS
- IDMS

- Eclipse
- Browser
- Explorer for z

- Diagnostic Section
 - allgemeine Informationen über Abbruch
- Next Sequential Instruction Section (evtl. XLS)
 - Fehleradresse
 - bei XLS exakter Befehl
- Trace Section
 - Call-Kette
 - Attribute zum Anwendungsprogramm
- Program Storage Section
 - formatierter Storage pro Programm auf Call-Kette

Facilities – Extended Language Support (XLS)

- erstellen DDIO-File beim Compile
 - preprocessing oder postprocessing
- Error Analysis section
 - Anzeige Source Statement
 - Anzeige Feldinhalte
- Error Location section
 - letztes ausgeführtes Statement
- Program Storage section
 - alle Felder mit Inhalten
- Program Listing section
 - Code



Facilities – Snap-AID

- Ausgabe Dump-Information mit oder ohne Parameter ohne Programmabbruch

- COBOL



```
CALL 'SNAPAID' USING PARM-INTERFACE
```

- PL1



```
CALL SNAPPAID (PARM_INTERFACE)
```

- Assembler



```
                OI    ADDR0,X'80'           Set end-of-list bit
                LA     R1,PARMLIST          Point to parameter list
                B       AROUND_LIST
PARMLIST        DS    0F
ADDR0           DC    A(SNPMITR)           Address of SNAPPAID parameters
AROUND_LIST     EQU   *
                CALL  SNAPPAID
```



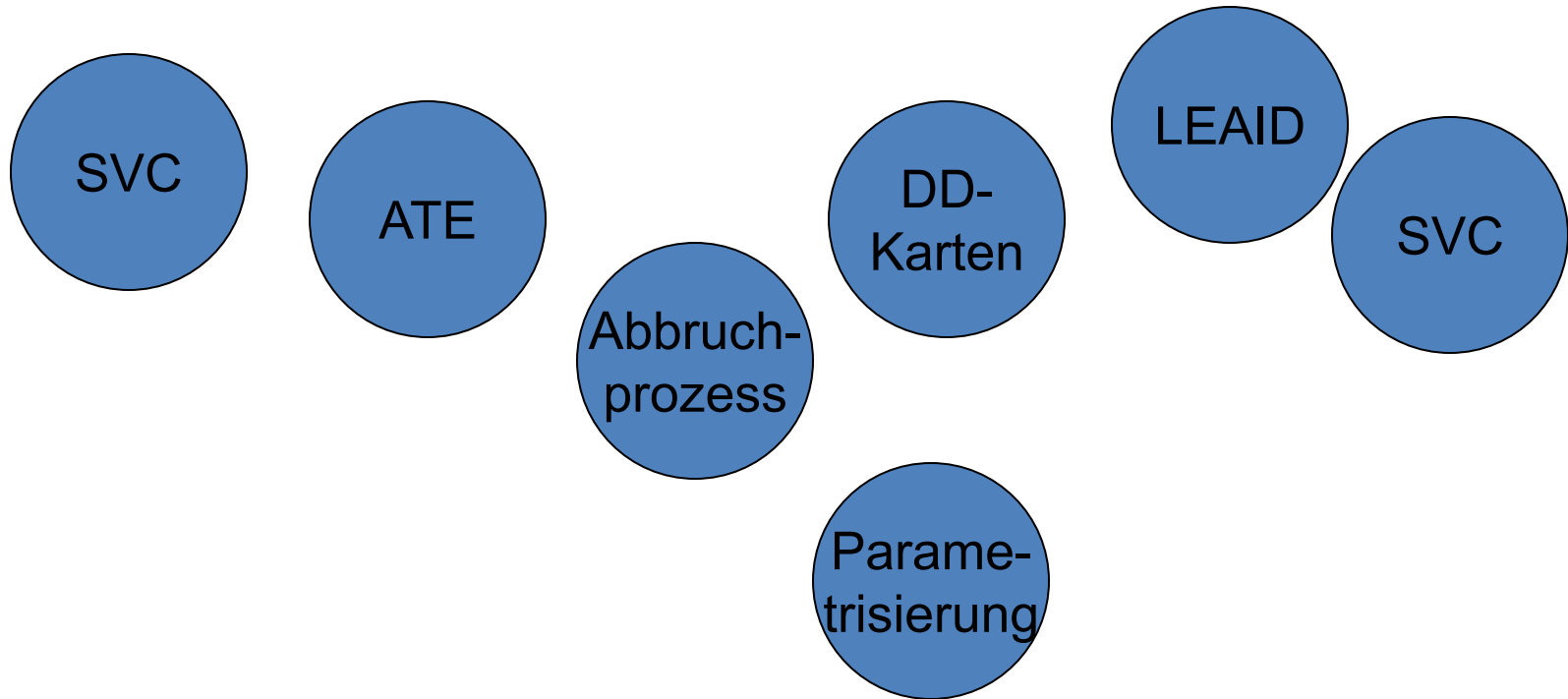
Übung(en)

- keine

-
- Einführung und Überblick
 - Produktüberblick
 - ➔ • Abbruch-Umfeld
 - Viewing Facility

-
- Viewing Facility – weitere Benefits
 - Zusammenfassung – Diskussion – Austausch

Begriffe



Ablauf

- ATE (abnormal termination exit) wird registriert
- LEAID als Schnittstelle zu Abend-AID
- SVC51 ist Dumper, Abend-AID klinkt sich ein, wenn
 - //SYSUDUMP DD ... oder
 - //SYSABEND DD ...
vorhanden oder
 - //SYSMDUMP DD ... gemeinsam mit
 - //ABENDAID DD ...
vorhanden

Parametrisierung

- 
- JCL Angabe
 - User Exit
 - Job- und Programm-Tabellen
 - Abendcode-Tabellen
 - Global site options table
 - Global routing criteria and options
 - System-wide control

//ABNLHELP DD DUMMY: erzeugen HELP-File
//ABNLALL DD DUMMY: immer formatieren Programm-Speicher

eigener Dump-Aufbau / zusätzliche Ausgabe / unterdrücken

Ein- und Ausschlusskriterien

Informationen zum Abendcode

_CWGLOBAL mit allgemeinen Optionen für Abend-AID

_CWROUTE DSN-Infos
für schreiben DUMP
(auch Teile davon)

Start und Stop von Abend-AID

- `//ABENDAID DD SYSOUT=`
 - Alternative DD-Karte für Abend-AID output; erforderlich für SNAP-AID
- `//ABNLDUMP DD DUMMY`
 - zusätzlich zum Abend-AID-Report wird der normale IBM-Dump gezogen
- `//ABNLENAB DD DUMMY`
 - aktivieren Abend-AID, wenn deaktiviert in CWGLOBAL
- `//ABNLHELP DD DUMMY`
 - erzeugt Abend-AID Helpseiten

- `//ABNLIGNR DD DUMMY`
 - unterdrückt Abend-AID und erzeugt "normalen" dump
- `//ABNLIGNS DD DUMMY`
 - unterdrückt SNAP-AID
- `//ABNLINCL DD DUMMY`
 - erzeugt für alle aktiven Lademodule Abbruch-Informationen
- `//ABNLLIST DD DSN=`
 - Definition des Compuware source shared directory bzw. source listing file zum Mergen der Source in Abend-Informationen (im Sysout, nicht im Report!)

- `//ABNLNDUP DD DUMMY`
 - erzeugt Report (wenn duplicate dump suppression aktiviert)
- `//ABNLTERM DD DSN=`
 - definieren eines Abend-AID Report DSN für Abend-AID Output
- `//ABNLTERM DD SYSOUT`
 - erzeugt Abend-AID Output in 72-Spalten-Format
- `//ABNLWIDE DD DUMMY`
 - erzeugt 121-Spalten-Output, wenn Default auf 72 steht

- `//ABNLYDUP DD DUMMY`
 - erzeugt Report (wenn duplicate dump suppression aktiviert, aber beachten: JOBNAME aber andere SYSID!)

- Entscheidung je nach Installation
- Ausgabe im Output - SYSOUT=?
- Ausgabe auf Dump-Dataset - "Report Dataset"



Übung(en)

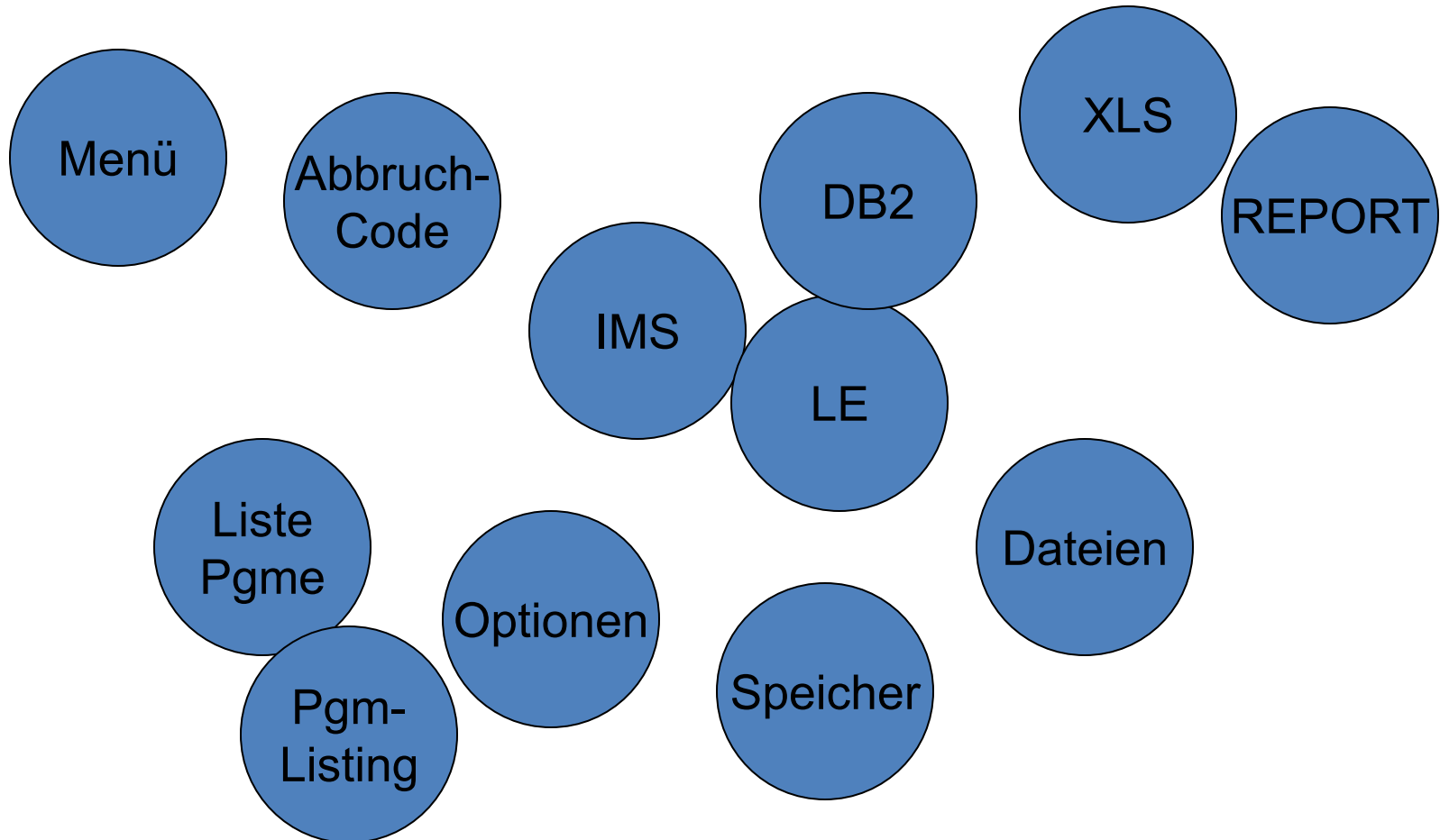
- 03-01 – Anmelden auf System
 - Funktionsprüfung
- 03-02 – Anmelden im TSO
 - Funktionsprüfung



-
- Einführung und Überblick
 - Produktüberblick
 - Abbruch-Umfeld
 - ➔ • Viewing Facility

-
- Viewing Facility – weitere Benefits
 - Zusammenfassung – Diskussion – Austausch

Begriffe



Viewing Facility

Aufruf über TSO %CSSVF

```
----- Abend-AID Primary Menu ----- CSS  V8.0.0  
OPTION  ==>  1
```

- 1 VIEW - View Abend-AID Reports or Source listings
- 2 CREATEJCL - Create JCL to invoke Compuware Language Processor(LP)
- 3 SOURCE - Create/Format Source Listing files(s)/SHRDIR/Database(s)
- 4 AAREPORT - Create/Format Abend-AID Report file(s)/SHRDIR/DB(s)
- 5 CONTACTS - Update Contact Information

- L LP - Learn about Compuware Language Processor
- D DDIO - Learn about Source Listing and Report DDIO files
- C LEGAL - Display Full Copyright/Trade Secrets Notice

Copyright (c) 1976-2003, Compuware Corporation. All rights Reserved.
Unpublished - rights reserved under the Copyright Laws of the United
States.

(800) 538-7822
Compuware Shared Services

Press ENTER to process or enter END command to terminate

Anzeige DSN für Reports und Sourcen

```
COMPUWARE/VF ENTRY PANEL ----- COPYRIGHT COMPUWARE CORPORATION 1976, 2003.
Command ==>
Dataset choice . 0          (Select 0 - 8, from below, or C for Contact Data)
Member . . . . .          (MVS:jobname, SOURCE:program, or member*)
                           (Use the LNAME command to enter a Long Program Name)

                                Remote
                                Volume  Server
Abend-AID Shared Directory or Report File:
    0 'SYS4.ABENDAID.REPORT.SHRDIR'
Source Directory or Listing Files:
    1 'SYS4.ABENDAID.LISTFILE.SHRDIR'
    2 'SYS4.XPEDITER.LISTFILE'
    3
    4
    5
    6
    7
    8

Processing options:                                Source browsing options:
Confirm delete . . YES          (Yes or no)          Unit . . . . . VIO
Show print setup . YES          (Yes or no)          Blocking . . . 10
Show source warning YES          (Yes or no, used only for Abend-AID)
Language . . . . . ENGLISH
Local Server SSID .              (Required for Viewing Remote DDIO files)
```

Liste der Abbruch-Infos zu den Jobs

COMPUWARE/VF ----- 'SYS4.ABENDAID.REPORT.SHRDIR' ----- Row 1 to 17 of 1,651
COMMAND INPUT ==> SCROLL ==> CSR

Abend-AID DATASET DIRECTORY - Shared Directory

S - View C - Contact Info D - Delete P - Print L - Lock U - Unlock

JOBNAME	REPT	NUMBER	JESID	CODE	DATE	TIME	DESC	SIZE (K)
IMSUM02		117448	S01689	S0C7	24 JUN 2005	11.26.16	ZOA 2.13,	657
AFENAZVS		117447	J01523	U0102	24 JUN 2005	11.15.44	ZTBP1.21,	67
ACBLK28		117446	J01492	U0476	24 JUN 2005	11.13.26	BLANK	11375
ACOF		117445	T12409	U1008	24 JUN 2005	11.11.43		57
ACKM		117444	T13690	S806	24 JUN 2005	11.00.38		597
ACKMN195		117443	J01130	S806	24 JUN 2005	10.59.23	ZTBS 4.42,	581
IMSTM23		117442	S00967	U0476	24 JUN 2005	10.56.10	ZOA 2.13,	607
IMSTM23		117441	S00966	U0476	24 JUN 2005	10.53.47	ZOA 2.13,	607
IMSTM23		117440	S00058	U0476	24 JUN 2005	10.53.37	ZOA 2.13,	607
ACOF		117439	T12409	U1008	24 JUN 2005	10.49.29		57
TZSINFOA		117438	J26430	S013	24 JUN 2005	10.45.05	INFOAUTO	134
AFAG		117437	T12293	U1008	24 JUN 2005	10.37.43		41
AFH411		117436	J00422	S806	24 JUN 2005	10.29.32	ZTBS3.3, M	3069
IMSTM08		117435	S11281	S0C7	24 JUN 2005	10.25.09	ZDV 6.22,	232
IMSTM11		117434	S03071	S0C7	24 JUN 2005	10.21.37	ZOA 2.13,	232
ACOF		117433	T12409	U1008	24 JUN 2005	10.20.07		54
AHCC210		117432	J13374	U3999	24 JUN 2005	10.06.53	ZDV 2.8, A	78

allgemeine Informationen zum Abbruch

```
COMPUWARE/VF ----- OUTPUT SELECTION MENU -----  
SELECT SECTION ==>
```

```
'SYS4.ABENDAID.REPORT.SHRDIR'  REPT.117448  IMSUM02  S01689
```

```
0 HEADER      System and job information  
1 DIAGS       Analysis  
2 NSI         Location (next sequential instruction)  
3 TRACE       Program flow and program attributes  
5 REGS        Register contents and PSWs  
6 PROG        Program Storage  
7 PLIST       Program Listing  
8 FILES       Open files information  
9 IMS         IMS information and PCBs  
10 IDMS       CA-IDMS information  
11 DB2        DB2 information  
12 SORT       COBOL sort information  
13 DATALOC    COBOL Data Locator  
14 MQ         Websphere MQ information  
15 LE         LE information  
20 EPILOG     Abend-AID termination information
```

```
Key section number or name and press ENTER.  
Or press ENTER to view the diagnostic summary of sections 1 through 5.
```

0 HEADER – System and job information

```
COMPUWARE/VF -----  
COMMAND INPUT ==>                                SCROLL ==> CSR  
  
'SYS4.ABENDAID.REPORT.SHRDIR'  REPT.117448  IMSUM02  S01689  
  FRIDAY      24 JUN 2005                H09.05.00 F09/08/2004 R09.05.00  
*****  
*                A b e n d - A I D   D i a g n o s t i c s                *  
*****  
Copyright (C) 1976, 2003, Compuware Corporation.  Unpublished.  
Rights Reserved Under The Copyright Laws Of The United States.  
  
Licensed for use at: nnnnnn  
... Name der Firma ...  
  
etc.
```



1 DIAGS - Analysis

```
COMPUWARE/VF -----
COMMAND INPUT ==>                                SCROLL ==> CSR
```

```
'SYS4.ABENDAID.REPORT.SHRDIR' REPT.117448 IMSUM02 S01689
```

```
A data exception occurred during execution of program D3538. The
expected completion code is S0C7.
```

```
*****
*           Analysis of Error           *
*****
```

```
The data exception occurred in the following statement:
```

```
003576 00935          MOVE SPA-F-WPSALDO-VON-1    TO D3519C02-VON-WPSALDO-1
```

```
Current values of fields on abending statement
Level/Field Name          Picture/Type Offs      Value
-----
000330    04 SPA-F-WPSALDO-VON-1      # S9(13)V9(5)      X'000000000000FF
                                           +10 X'FFFFFF14040404
001852    04 D3519C02-VON-WPSALDO-1    S9(13)V9(5)      +00000000000000
-----
```

```
"#" - Indicates field contains invalid data
```

2 NSI – Location (next sequential instruction)

```
COMPUWARE/VF -----
COMMAND INPUT ==>                                SCROLL ==> CSR

'SYS4.ABENDAID.REPORT.SHRDIR'  REPT.117448  IMSUM02  S01689
*****
*                               *
*           Error Location           *
*                               *
*****

The statement being executed was:

003576 00935          MOVE SPA-F-WPSALDO-VON-1    TO D3519C02-VON-WPSALDO-1

This statement is contained in
paragraph "V700-VERARBEITEN-EINGABE-P" in program "D3538".
The program was compiled on 24 JUN 2005 and is 00004AB2 bytes long.

It is part of load module D3538.

The module was loaded from STEPLIB library SYS4.TEST.PGMLIB.

The module was link edited on 24 JUN 2005 and is 00005708 bytes long.

The last known I/O request or call in the program above was:
```

3 TRACE - Program flow and program attributes

```

COMPUWARE/VF -----
COMMAND INPUT ==>                                SCROLL ==> CSR

'SYS4.ABENDAID.REPORT.SHRDIR'  REPT.117448  IMSUM02  S01689
*****
*                Call Trace Summary                *
*****

*****Calling*****  *****Return*****  *****Called*****
Load-Mod  Program      Type      Value      Program      Load-Mod

*SYSTEM                                Links to DFSPCC20      DFSPCC20

DFSPCC20  DFSPCC20      DISP  000003F2  Links to DFSPCC20      DFSPCC20

DFSPCC20  DFSPCC20      DISP  00000912  Links to D3530          D3530

D3530     D3530                                Calls                  CEEBINIT

CEEBINIT                                DISP  00C83DA8  Calls  D3530          D3530

D3530     D3530      DISP  00000686  Calls                  IGZCPAC

IGZCPAC                                DISP  0A983D64  Calls  ZZL24          ZZL24
    
```

5 REGS - Register contents and PSWs

```
COMPUWARE/VF -----
COMMAND INPUT ==>                                SCROLL ==> CSR

'SYS4.ABENDAID.REPORT.SHRDIR'  REPT.117448  IMSUM02  S01689
*****
*      Supporting Environmental Data      *
*****

Abend PSW - 078D0000 AF9BDC4E   A(D3538   ) + 00003356
Prog PSW   - 078D0000 AF9BDC4E   A(D3538   ) + 00003356
Load Module - D3538                               Entry Point Address - 2F9BA8F8
ILC - 06,   INTC - 07                               Load Point Address - 2F9BA8F8

Registers at time of error  (Descriptions based on 31 bit addresses)

REG HEX          Decimal          Description
R0  00000000          0            A(2F9C0000) + 0000DD82, PVT SP=002 ALLOC
R1  2F9CDD82       798,809,474    A(D3538   ) + 00002592
R2  2F9BCE8A       798,740,106    A(2F88F000) + 000069D8, PVT SP=002 ALLOC
R3  2F8959D8       797,530,584    A(D3538   ) + 000021AA
R4  2F9BCAA2       798,739,106
R5  00000000          0
R6  2F9C1088       798,757,000    A(2F9C0000) + 00001088, PVT SP=002 ALLOC
R7  2F9C3088       798,765,192    A(2F9C0000) + 00003088, PVT SP=002 ALLOC
```

6 PROG – Program Storage (Überblick)

COMPUWARE/VF PROGRAM STORAGE SELECTION LIST ----- Row 1 to 7 of 7
COMMAND INPUT ==> SCROLL ==> CSR

PROGRAM / PROCEDURE NAME	LOAD	LANGUAGE	COMPILE DATE	- TIME
s D3530	D3530	COBOL OS/390	24 JUN 2005	09:14:42
ZZL24	ZZL24	COBOL OS/390	15 APR 2005	08:29:22
ZZL21	ZZL21	COBOL OS/390	15 APR 2005	08:29:12
ZZR20	ZZR20	VS COBOL II	20 JAN 2000	13:11:50
ZZL50	ZZL50	COBOL OS/390	22 JUN 2005	08:12:13
D3534	D3534	COBOL OS/390	24 JUN 2005	09:15:44
D3538	D3538	COBOL OS/390	24 JUN 2005	11:23:45

6 PROG – Program Storage – Inhalt – 1

```
COMPUWARE/VF -----
COMMAND INPUT ==>                                SCROLL ==> CSR
                                                Formatting has completed
'SYS4.ABENDAID.REPORT.SHRDIR'  REPT.117448  IMSUM02  S01689
Pgm: D3530                               Comp. Date: 24 JUN 2005

*****
*              Data Division of program D3530              *
*      Compiled on  24 JUN 2005      at  09:14:42          *
*                                                         *
*              COBOL for OS/390  V2R1M0                    *
*                                                         *
*      Execution / Debugging options in effect            *
*                                                         *
*      ADV          NUMPROC (NOPFD)          NOSSRANGE     *
*      NOCMPR2      NOOPTIMIZE                NOTEST       *
*      DATA (31)   OUTDD (SYSOUT  )          TRUNC (STD)   *
*      DYNAM        RENT                      ZWB           *
*      NOFASTSRT    RMODE (ANY)               *
*****

Language Processor Interface Release      = 08.00.00
Language Processor Post Processor Release = 08.00.00
```

6 PROG – Program Storage – Inhalt – 2

```
COMPUWARE/VF -----
COMMAND INPUT ==>                                     SCROLL ==> CSR
                                                    Formatting has completed
'SYS4.ABENDAID.REPORT.SHRDIR'  REPT.117448  IMSUM02  S01689
Pgm: D3530                               Comp. Date: 24 JUN 2005

                                Working-Storage Section

Level/Field Name                                Picture/Type Offs      Value
-----
77 LEVEL                                         X(20)                D3530 27/05/05 LV004
01 FILLER                                       X(22)                WORKING-STORAGE ANFA
                                                NG
01 ZZL24                                        X(08)                ZZL24
01 XXZ03                                        X(08)                XXZ03
01 SPT
  02 SPT-ELEMENT
    03 FILLER                                   X(08)                D3530C01
    03 FILLER
      04 FILLER                                 X(48)                BENUTZEROBERFLAECHE
      04 FILLER                                 X(48)                BO_VERARBEITUNG
      04 FILLER                                 X(08)                00000001
```

6 PROG – Program Storage – Inhalt – 3

```
COMPUWARE/VF -----
COMMAND INPUT ==>
                                                    SCROLL ==> CSR
                                                    Formatting has completed
'SYS4.ABENDAID.REPORT.SHRDIR'  REPT.117448  IMSUM02  S01689
Pgm: D3530                      Comp. Date: 24 JUN 2005

Occurrence (2) thru (6) same as above
03 FDB-SQLWARN
  04 FDB-WARN0                X(01)          LOW-VALUES
  04 FDB-WARN1                X(01)          LOW-VALUES
  04 FDB-WARN2                X(01)          LOW-VALUES
  04 FDB-WARN3                X(01)          LOW-VALUES
  04 FDB-WARN4                X(01)          LOW-VALUES
  04 FDB-WARN5                X(01)          LOW-VALUES
  04 FDB-WARN6                X(01)          LOW-VALUES
  04 FDB-WARN7                X(01)          LOW-VALUES
03 FDB-SQLEXT                X(08)          LOW-VALUES
02 FDB-IO-USERID              X(08)          LOW-VALUES
02 FDB-DB-KEYFB-UEBERLAUF     X(30)          LOW-VALUES
01 STACK-IMS
  02 FDB-STINX-MAX            S9(04)        COMP      +30
  02 FDBA-STINX-MAX           S9(04)        COMP      +10
  02 FDB-STCNT-MAX-X          X(04)          9999
  02 FDB-NAME                  X(08)          SPACES
```

6 PROG – Program Storage – Inhalt – 4

```
COMPUWARE/VF -----
COMMAND INPUT ==>                                SCROLL ==> CSR
                                                Formatting has completed
'SYS4.ABENDAID.REPORT.SHRDIR'  REPT.117448  IMSUM02  S01689
Pgm: D3530                               Comp. Date: 24 JUN 2005

    BLW      0 (X'0')      - 2F843088

                                Contents of TGT BLL cells

    BLL      0 (X'0')      - 00000000

                                No TGT BLF cells used in this program

                                Contents of TGT index cells

    IDX      0 (X'0')      - 00000000    IDX      1 (X'1')      - 00000000

                                No TGT BLV cells used in this program

                                No TGT BLX cells used in this program
```

6 PROG – Program Storage – Inhalt – 5

```
COMPUWARE/VF -----  
COMMAND INPUT ==>
```

```
'SYS4.ABENDAID.REPORT.SHRDIR'  REPT.117448  IMSUM02  S01689
```

```

* * * * *      W A R N I N G      * * * * *
*
*      An appropriate source listing could not be found.
*      Either:
*      1. a source listing for program ZZR20      does not
*          exist, or
*      2. a source listing exists, but it does not match
*          the compiler language and release of the program
*          in the Abend-AID report.
*
* * * * *
```

Type an S next to the desired option and press ENTER.

S Provide BASIC support without a source listing.

Enter END command to exit.

6 PROG – Program Storage – Inhalt – 6

```
COMPUWARE/VF -----
COMMAND INPUT ==>                                SCROLL ==> CSR
                                                Formatting has completed
'SYS4.ABENDAID.REPORT.SHRDIR'  REPT.117448  IMSUM02  S01689
Pgm: ZZR20                                Comp. Date: 20 JAN 2000

*****
*              Data Division of program ZZR20              *
*      Compiled on  20 JAN 2000      at  13:11:50          *
*                                                         *
*              VS COBOL II V1R4M0                          *
*                                                         *
*      Execution / Debugging options in effect             *
*                                                         *
*      ADV          NOFDUMP          RESIDENT              *
*      NOCMPR2      NOOPTIMIZE        NOSSRANGE            *
*      DATA(31)    OUTDD(SYSOUT  )    NOTEST              *
*      DYNAM        NUMPROC(NOPFD)     TRUNC(STD)          *
*      NOFASTSRT    RENT                ZWB                *
*****

      Working-Storage Section
```

6 PROG – Program Storage – Inhalt – 7

```
COMPUWARE/VF -----
COMMAND INPUT ==>
                                     SCROLL ==> CSR
                                     Formatting has completed
'SYS4.ABENDAID.REPORT.SHRDIR'  REPT.117448  IMSUM02  S01689
Pgm: ZZR20                      Comp. Date: 20 JAN 2000

Working storage referenced by BLW cell      0 (X'0')

DSPL Address  ----- Data -----
00000 2F844E38 E9E9D9F2 F040F2F0 61F0F161 F0F040D3 ZZR20 20/01/00 L
00010 2F844E48 E5F0F0F2 00000000 E6D6D9D2 C9D5C760 V002....WORKING-
00020 2F844E58 E2E3D6D9 C1C7C540 C1D5C6C1 D5C740E9 STORAGE ANFANG Z
00030 2F844E68 E9D9F2F0 00000000 E7E7E9F0 F3404040 ZR20....XXZ03
00040 2F844E78 C6D3C1C7 40404040 40404040 40404040 FLAG
00050 2F844E88 00000000 00000000 C1D9C2C5 C9E3E260 .....ARBEITS-
00060 2F844E98 C2C5D9C5 C9C3C840 40404040 00000000 BEREICH ....
00070 2F844EA8 C3F1F0F0 E2C5D9E5 E2C8C4D9 F0F1F0F0 C100SERVSHDR0100
00080 2F844EB8 C2C5D5E4 E3E9C5D9 D6C2C5D9 C6D3C1C5 BENUTZEROBERFLAE
00090 2F844EC8 C3C8C540 40404040 40404040 40404040 CHE
000A0 2F844ED8 40404040 40404040 40404040 40404040
000B0 2F844EE8 C2D66DE5 C5D9C1D9 C2C5C9E3 E4D5C740 BO_VERARBEITUNG
000C0 2F844EF8 40404040 40404040 40404040 40404040
```

7 PLIST – Program Listing – Übersicht

```
COMPUWARE/VF PROGRAM LISTING SELECTION LIST ----- Row 1 to 7 of 7
COMMAND INPUT ==>                                SCROLL ==> CSR

  PROGRAM / PROCEDURE NAME          LOAD   LANGUAGE      COMPILE DATE  -  TIME
s D3530                             D3530   COBOL OS/390    24 JUN 2005  09:14:42
  ZZL24                             ZZL24   COBOL OS/390    15 APR 2005  08:29:22
  ZZL21                             ZZL21   COBOL OS/390    15 APR 2005  08:29:12
s ZZR20                             ZZR20   VS COBOL II     20 JAN 2000  13:11:50
  ZZL50                             ZZL50   COBOL OS/390    22 JUN 2005  08:12:13
  D3534                             D3534   COBOL OS/390    24 JUN 2005  09:15:44
s D3538                             D3538   COBOL OS/390    24 JUN 2005  11:23:45
***** Bottom of data *****
```

7 PLIST – Program Listing – Inhalt – 1

```
COMPUWARE/VF -----
COMMAND INPUT ==>                                SCROLL ==> CSR

'SYS4.ABENDAID.REPORT.SHRDIR'  REPT.117448  IMSUM02  S01689
Pgm: D3530                                Comp. Date: 24 JUN 2005
*****
*                               Program Listing Section - D3530                               *
*****

000628 00110  V000-HAUPTTEIL-P.
000629 00111
      CURR STMT ==>          CALL ZZL24                      USING  FDB-WORK-PCB
000631 00113                                     FEHLERDB-PARAMETER
000632 00114                                     SPT
000633 00115
000634 00116          CONTINUE.

      Language Processor Interface Release      = 08.00.00
      Language Processor Post Processor Release = 08.00.00
***** Bottom of data *****
```

7 PLIST – Program Listing – Inhalt – 2

```
COMPUWARE/VF -----  
COMMAND INPUT ==>                                SCROLL ==> CSR  
  
'SYS4.ABENDAID.REPORT.SHRDIR'  REPT.117448  IMSUM02  S01689  
Pgm: ZZR20                                Comp. Date: 20 JAN 2000  
*****  
*                                Program Listing Section                                *  
*****  
  
Source not requested or not found for program ZZR20      which was  
compiled on 20 JAN 2000 at 13.11.50.  
***** Bottom of data *****
```

7 PLIST – Program Listing – Inhalt – 3

```
COMPUWARE/VF -----
COMMAND INPUT ==>  (FIND CURR)                                SCROLL ==> CSR

'SYS4.ABENDAID.REPORT.SHRDIR'  REPT.117448  IMSUM02  S01689
Pgm: D3538                      Comp. Date: 24 JUN 2005
*****
*                               Program Listing Section - D3538    *
*****

003541 00900  V700-VERARBEITEN-EINGABE-P.
003544 00903  *                               *   MASKE VERARBEITEN
.....
003547 00906          INITIALIZE D3519C02-PARAMETER
003548 00907          INITIALIZE D3519C03-DATEN
003549 00908
003550 00909          MOVE 'D3538'                      TO D3519C02-PGMNAME
003551 00910          SET SPA-F-BEWKZ-B                  TO TRUE
.....
003574 00933          MOVE SPACE                          TO D3519C02-VON-DTSPERRB
003575 00934          MOVE SPACE                          TO D3519C02-BIS-DTSPERRB
  CURR STMT ==>      MOVE SPA-F-WPSALDO-VON-1            TO D3519C02-VON-WPSALDO-1
003577 00936          MOVE SPA-F-WPSALDO-BIS-1           TO D3519C02-BIS-WPSALDO-1
.....
```

8 FILES – Open files information

```
COMPUWARE/VF -----
COMMAND INPUT ==>                                SCROLL ==> CSR
                                           Use the EDIT or BROWSE command for File-AID
'SYS4.ABENDAID.REPORT.SHRDIR'  REPT.117448  IMSUM02  S01689
DDNAME: SYSOUT   Access method: QSAM   Device: JES2 SPOOLED   VOL-SER: SPL001
      Data Management Control Blocks for DDNAME - SYSOUT

JES2 Information:

Type.....Output
Line printer count...6
Line record outlim...999,999,999,999,999 (maximum allowed)
Byte count.....306 (including JES2 overhead)
DSNAME.....SYDS.IMSUM02.STC01689.D0000103.?
```

9 IMS – IMS information and PCBs

```
COMPUWARE/VF ----- Row 1 to 19 of 606
COMMAND INPUT ==>                                SCROLL ==> CSR
```

```
      USE THE EDIT OR BROWSE COMMAND FOR FILE-AID
```

```
'SYS4.ABENDAID.REPORT.SHRDIR'  REPT.117448  IMSUM02  S01689
```

IMS-AID Diagnostics

Application Program Name: D3530

IMS Rel: 810 IMSU

Calling PARM FORMAT: Assembler

Region Type: MPP Online

PSB Name: D3530

Unable to determine the address of the last IMS call issued from the application program.

This may be caused by the following:

1. The last subroutine call was not an IMS call.

To assist the programmer, the following key IMS control blocks are printed.

1. Program Communication Block (PCB).

One for each data base being accessed.

2. Control block and table module DFSPRPX0.

13 DATALOC – COBOL Data Locator – Überblick

```
COMPUWARE/VF DATA LOCATOR SELECTION LIST ----- Row 1 to 7 of 7
COMMAND INPUT ==>                                SCROLL ==> CSR

  PROGRAM / PROCEDURE NAME          LOAD   LANGUAGE      COMPILE DATE  -   TIME

s D3530                             D3530   COBOL OS/390    24 JUN 2005  09:14:42
  ZZL24                             ZZL24   COBOL OS/390    15 APR 2005  08:29:22
  ZZL21                             ZZL21   COBOL OS/390    15 APR 2005  08:29:12
  ZZR20                             ZZR20   VS COBOL II     20 JAN 2000  13:11:50
  ZZL50                             ZZL50   COBOL OS/390    22 JUN 2005  08:12:13
  D3534                             D3534   COBOL OS/390    24 JUN 2005  09:15:44
  D3538                             D3538   COBOL OS/390    24 JUN 2005  11:23:45
***** Bottom of data *****
```

13 DATALOC – COBOL Data Locator – Inhalt – 1

```
COMPUWARE/VF -----
COMMAND INPUT ==>                                SCROLL ==> CSR
                                                Formatting has completed
'SYS4.ABENDAID.REPORT.SHRDIR'  REPT.117448  IMSUM02  S01689
Pgm: D3530                                Comp. Date: 24 JUN 2005
  Use "FINDDATA" command to change selection criteria when formatting is done
  *****
  *           Data analysis for program - D3530           *
  *       Compiled on   24 JUN 2005   at   09:14:42       *
  *                                                         *
  *                   COBOL/390                             *
  *                                                         *
  *       MLEDATE: ON           YEARWINDOW: N/A           *
  *                                                         *
  *       Substrings for inclusion in this section:       *
  *                                                         *
  *   BORN                      BIRTH                     *
  *   DATE                      EXPIRY                     *
  *                                                         *
  *       Date values to be flagged:                      *
  *                                                         *
  *   98000                      99000                     *
  *   99365                      99366                     *
```

13 DATALOC – COBOL Data Locator – Inhalt – 2

```
COMPUWARE/VF -----
COMMAND INPUT ==>                                SCROLL ==> CSR
                                                Formatting has completed
'SYS4.ABENDAID.REPORT.SHRDIR'  REPT.117448  IMSUM02  S01689
Pgm: D3530                                Comp. Date: 24 JUN 2005
  Use "FINDDATA" command to change selection criteria when formatting is done
    *
    *
    *      PICTURE clauses to be flagged:
    *
    *  99/99/9999                      99/99/99
    *
    *
    *
    *****

' @' in column   36 denotes field with Data Locator PICTURE match.
' !' in column   36 denotes field with Data Locator DATE   match.
' #' in column   36 denotes field contains data not matching PICTURE clause.

Language Processor Interface Release      = 08.00.00
Language Processor Post Processor Release = 08.00.00
```

13 DATALOC – COBOL Data Locator – Inhalt – 3

```
COMPUWARE/VF -----
COMMAND INPUT ==>                                     SCROLL ==> CSR
                                                    Formatting has completed
'SYS4.ABENDAID.REPORT.SHRDIR'  REPT.117448  IMSUM02  S01689
Pgm: D3530                                     Comp. Date: 24 JUN 2005
  Use "FINDDATA" command to change selection criteria when formatting is done
      Working-Storage Section
```

Level/Field Name	Picture/Type	Offs	Value
-----	-----	-----	-----+-----1-----+-----2
01 FDB-WORK-PCB			
02 FDB-IO-PCB			
03 FDB-IO-LTERM	X(08)		CB2OTTG
03 FDB-IO-RESERVE	X(02)		X'1200'
03 FDB-IO-STATUS	X(02)		SPACES
03 FDB-IO-DATE	S9(07)	COMP-3	+5175
03 FDB-IO-TIME	S9(07)	COMP-3	+1126162
03 FDB-IO-SEGNR	S9(07)	COMP	+5
03 FDB-IO-MODNAME	X(08)		D353007
02 FDB-ALT-PCB			
03 FDB-ALT-LTERM	X(08)		LOW-VALUES
03 FDB-ALT-RESERVE	X(02)		LOW-VALUES
03 FDB-ALT-STATUS	X(02)		LOW-VALUES

15 LE – LE information – Übersicht

```
COMPUWARE/VF ----- LE Information Selection List----- Row 1 to 4 of 4
COMMAND INPUT ==>                                     SCROLL ==> CSR

S - view LE Information

  Name      Description

s LEOCB     LE Run-Time Options (OCB)
s LEHEAP    LE Heap Storage
s LEBLOCKS  LE Control Blocks
s LERTLS    LE Run-Time Library Services (RTLs)
***** Bottom of data *****
```

15 LE – LE information – Run-Time Options

```
COMPUWARE/VF ----- Row 1 to 19 of 66
COMMAND INPUT ==>          SCROLL ==> CSR
```

```
'SYS4.ABENDAID.REPORT.SHRDIR'  REPT.117448  IMSUM02  S01689
```

```
*****
* z/OS V1R6  LE      Options in effect at time of error      *
*****
```

OPTION	SET FROM
ABPERC (NONE)	CEEDOPT
ABTERMENC (ABEND)	CEEDOPT
NOAIXBLD	CEEDOPT
ALL31 (OFF)	CEEDOPT
ANYHEAP (16384,8192,BELOW,FREE)	CEEDOPT
NOAUTOTASK	CEEDOPT
BELOWHEAP (8192,4096,FREE)	CEEDOPT
CBLOPTS (ON)	CEEDOPT
CBLPSHPOP (ON)	CEEDOPT
CBLQDA (OFF)	CEEDOPT
CHECK (ON)	CEEDOPT
COUNTRY (US)	CEEDOPT
NODEBUG	CEEDOPT

15 LE – LE information – Information Heap Speicher

```
COMPUWARE/VF ----- Row 1 to 19 of 703
COMMAND INPUT ==>          SCROLL ==> CSR
```

```
'SYS4.ABENDAID.REPORT.SHRDIR'  REPT.117448  IMSUM02  S01689
```

LE Heap Storage

User Heap:

```
Initial size..... 32768
Increment size..... 32768
Number of segments allocated..... 17
First segment..... 2F843000
Last segment..... 2F9C0000
```

```
.....
```

```
*****
*      Heap Header for Segment at 2F843000:      *
*****
Next segment..... 2F84E000
Heap ID..... 0
Segment address..... 2F843000
Segment length..... 32768
Root address (largest free element).... 2F84AB90
Root length..... 1136
```

15 LE – LE information – IO-Blöcke – Überblick

```
COMPUWARE/VF ----- LE Control Blocks Selection List----- Row 1 to 6 of 6
COMMAND INPUT ==>                                     SCROLL ==> CSR
```

```
S - view LE Control Block
```

Name	Description
------	-------------

CEECAA	Common Anchor Area
--------	--------------------

CEEEDB	Enclave Data Block
--------	--------------------

CEEPCB	Process Control Block
--------	-----------------------

CEERCB	Region Control Block
--------	----------------------

CEECIB	Condition Information Block
--------	-----------------------------

CEEMCH	Machine State Information Block
--------	---------------------------------

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

15 LE – LE information – Run-Time Library Services

```
COMPUWARE/VF ----- Row 1 to 2 of 2  
COMMAND INPUT ==>          SCROLL ==> CSR
```

```
'SYS4.ABENDAID.REPORT.SHRDIR'  REPT.117448  IMSUM02  S01689
```

```
      Run-time library services (RTLS) not active for this application.
```

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

20 EPILOG – Abend-AID termination information

```
COMPUWARE/VF ----- Row 1 to 19 of 74
COMMAND INPUT ==>                                SCROLL ==> CSR

'SYS4.ABENDAID.REPORT.SHRDIR'  REPT.117448  IMSUM02  S01689

*****
* Default table used to translate vertical hex *
* Default table used to translate horizontal hex *
*-----*
* Report Routing Information:                      *
*                                                  *
* >Requested via CROUTE group "SYSOUT  ":          *
*   SYS4.ABENDAID.REPORT.SHRDIR                    *
*   Selection criteria strings:                      *
*     JOBNAME      ==> *                            *
*     USERID       ==> *                            *
*     JOBCLASS      ==> *                            *
*     PGMR NAME     ==> *                            *
*     ACCT FIELD    ==> *                            *
*                                                  *
* CROUTE was loaded from LINKLIST library:          *
*   SYS1.ABENDAID.R950.LOAD                          *
* It was link edited on 14 OCT 2004 and is          *
```

Viewing Facility

- Ende Theorie erster Teil
- firmeneigenes Umfeld



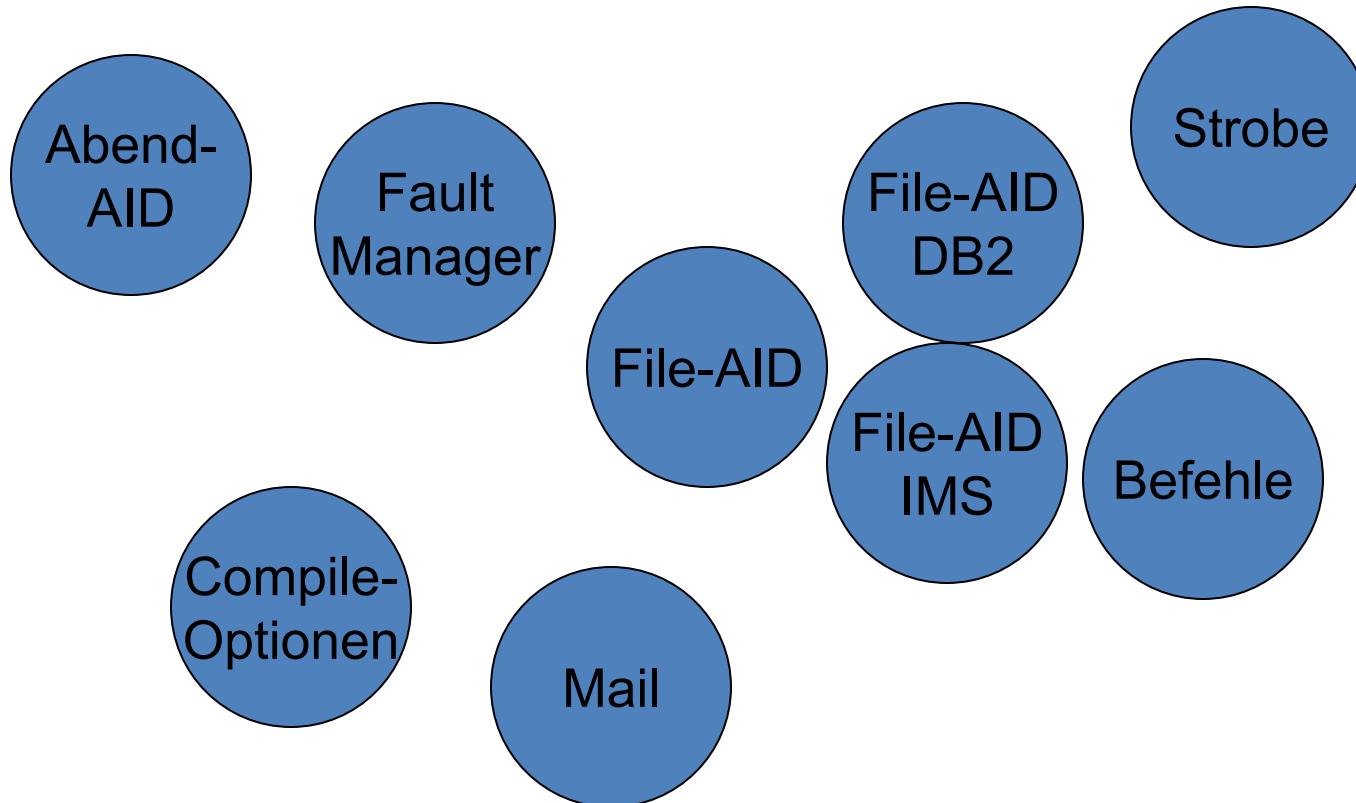
- 04-01 - Einstieg in Viewing Facility
 - Jobs aus der Produktion ansehen
- 04-02 - Beispiel S806
 - nicht gefundenes Programm
- 04-03 - Beispiel S0C7 / S0CB
 - Felder finden mit Source / ohne Source
- 04-04 - Beispiel S0C4
 - Verursacher finden
- 04-05 - Beispiel U4038
 - nicht meine Verantwortung?



-
- Einführung und Überblick
 - Produktüberblick
 - Abbruch-Umfeld
 - Viewing Facility
-

- ➔ • Viewing Facility – weitere Benefits
- Zusammenfassung – Diskussion – Austausch

Begriffe



- COBOL
 - PROG(progname) BL x
 - BL x, BLL x, BLW x, BLX x
 - PROG(progname) TGT
 - TGT
 - EXT
- PL1
 - AUTO
 - STAT
 - CTL

Viewing Facility – Befehle in Option 7

- COBOL
 - blank
 - Anzeige Source wie in Parametertabelle definiert
 - PARA
 - Anzeige Paragraf des aktuellen Befehls
 - LABEL
 - Anzeige Label im PL1 des aktuellen Befehls
 - ALL
 - Anzeige vollständige COBOL Procedure Division, oder PL/I oder Assembler source listing.
 - nn
 - Anzeige nn lines vor und nach aktuellem Befehl

Viewing Facility – weitere Befehle

- F xxx
- F 'xxx yyy'
- F
- FS xxx
- FS 'xxx yyy'
- FS
- VL (view left - nur XLS)
- VR (view right - nur XLS)

Viewing Facility – HOTKEY

- Command ausführen
- mehrere Funktionen hintereinander
- Benutzer-bezogene Informationen schnell aufrufbar
- PF-Taste nutzbar

File-AID (abhängig von Installation)

- Funktionen
 - Anzeige Dateien
 - Formatierung durch Datenstrukturen
 - Datenänderungen
 - Verknüpfungen
 - etc.
- Umgebungen
 - MVS (QSAM, VSAM)
 - DB2
 - IMS
- Aufruf aus jeweiligem Kapitel (FILE, IMS, DB2)

Fault Manager

- Funktionen
 - organisieren Fehlerbehandlung
 - informieren Ansprechpartner
 - etc.
- Umgebung
 - Großrechner
 - Kommunikation mit anderen Plattformen
- direkte Kommunikation mit Abend-AID

- Funktionen
 - Debug von Anwendungen
 - Code Coverage
 - etc.
- Umgebung
 - Großrechner
 - direkte Kommunikation mit Abend-AID
- DDIO-File gemeinsame Source-Datei

Strobe

- Funktionen
 - messen von Anwendungen
 - entdecken Optimierungspotentiale
 - etc.
- Umgebung
 - Großrechner
 - keine direkte Kommunikation mit Abend-AID
- DDIO-File gemeinsame Source-Datei



Übung(en)

- 05-01 – Spielen mit Compile-Optionen
 - NOSSRANGE / SSRANGE
 - PFD / NOPFD
 - OPTIMIZE(FULL) / OPTIMIZE(STD) / NOOPTIMIZE



-
- Einführung und Überblick
 - Produktüberblick
 - Abbruch-Umfeld
 - Viewing Facility
-
- Viewing Facility – weitere Benefits
 - ➔ • Zusammenfassung – Diskussion – Austausch

