# IMS Database Control Suite v3.2

*Improving DBA productivity when managing IMS databases…*

**Joe Sacco**
**IMS Tools Project Manager**

# Doing more with less…

- **How are you planning to improve DBA time and effort when managing IMS databases?**

  – Do you have fewer people with broader (but less deep) skills that are managing  more IMS Databases?

  – Are you moving to or considering the move to a full DBRC Database environment?

  – How do you currently generate production JCL when a new IBM database tool is acquired?

  – Is online DB space management and exception reporting a cumbersome task?

  – Is lack of knowledge of DBRC command syntax hindering you in performing DBRC functions?

# Paul, New IMS DBA

### Profile

Paul is a university new hire with a degree in Computer Science  He is not familiar with z/OS, and is just learning about database administration. As a new DBA, Paul assists the experienced DBAs with routine tasks across all of their IMS systems. His primary job is to perform scripted maintenance, monitor the health of the IMS systems, resolve any issues he can and report others he can't.

### High Priority Tasks

- Execute backup and other maintenance scripts
- Add storage as needed
- Recover archived data
- Monitor availability, performance, storage and other resource usage
- Troubleshoot basic problems
- Anticipate problems and report them to team lead

### Pain Points

- Difficult for him to adapt to working in a mainframe environment
- Lots to learn and dislikes reading complex manuals
- Managing changes and installing new tools requires too many complicated steps
- Identifying all of the related objects impacted by possible fixes or app changes
- Getting attention from DBAs for simple admin tasks

### Goals

- Keep production systems available 24x7
- Identify potential problems before they impact users
- Ensure development and test systems reflect the production data
- Handle more problems independently and offload more work from the experienced DBAs

# Paul's Pain Points

**We'll now take an in depth look at the challenges Paul faces on a daily basis and how the IMS Database Control Suite can help…**
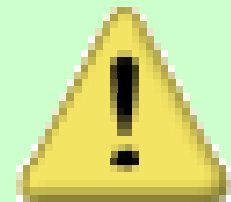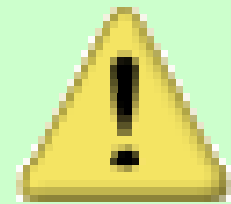
# Set-up

- **The Control Suite's wizard-like ISPF set-up panels quickly allow you to…**
  - Define your IMS environment
  - Identify other IBM IMS Tools the Control Suite should be aware of and use when running jobs
  - Group logically related databases into 'DBDSGRPS' for Control Suite to act on (Batch or ISPF)
  - Define your shop's particular JCL options for the Control Suite to use when building database management jobs such as Backup, Recovery, and Reorgs

# Setting up new tools…

**Paul and his team want database management tools that are easy to install and set up "right out of the box"…they want to be up and running quickly and see the return on investment…time is money!**

```
                    IMS DB CONTROL SUITE V3.2 - PK27060
SETUP    DEFINE    JCL PRMS function for CS ID ALPHA IMS Version 8.1
Command ===> _____


Press ENTER to continue or END to exit                          Panel 1 of 3


SMS class              . . 1          (N, 1=storage, 2=mgmt or 3=data)
DASD device type       . . 3390       (3380 or 3390)
DASD unit              . . SYSALLDA    (Esoteric name or blank if SMS N)
TAPE unit              . . 3480        (Esoteric name)
Tape retention         . . 21          (Days)
IMS utility buffers    . . 50          (VSAM)
                       . . 50          (OSAM)

CS loadlib qualifier   . . SIDLLMD0     (Last qualifier of CS loadlib dsn)
```

**Global JCL parameters are set during Control Suite's initial set up…this is a one time step when defining your Control Suite environment**

IMS DB CONTROL SUITE V3.2 - PK27060

SETUP     DEFINE     IMS LIBS function for CS ID ALPHA IMS Version 8.1
Command ===> _____

Press ENTER to continue or END to exit                    Panel 2 of 3

IMS RECON data sets
RECON1   . . J849435.TEST8.RECON1                    VOLSER . . MVSS05
RECON2   . . J849435.TEST8.RECON2                    VOLSER . . MVSS05
RECON3   . . J849435.TEST8.RECON3                    VOLSER . . MVSS05
IMS system data sets
DBDLIB   . . J849435.TEST8.DBDLIB
PSBLIB   . . J849435.TEST8.PSBLIB
SDFSRESL . . IMSVS.IMS810.SDFSRESL
ACBLIB   . . J849435.IVP.ACBLIB
EXITLIB  . . IMSVS.IMS810.SDFSRESL
DYNLIB   . . J849435.TEST8.DYNLIB            More DYNLIBs . N Y/N
SDFSMAC  . . IMSBLD.IMS81R.MACLIB
MODBLKS  . . IMSVS.IMSB.MODBLKS
PROCLIB  . . IMSVS.IMS8.PROCLIB

**The same goes for telling the Control Suite about your RECON data sets and IMS System data sets…enter them once and you're good to go!**

SETUP    DEFINE    IMS LIBS function for CS ID ALPHA IMS Version 8.1
Command ===> _____

Press ENTER to continue or END to exit                    Panel 3 of 3


Space Management History Data Set Information

  Data set name        . . J849435.ALPHA.HISTORY_____
  CYLS                 . . 5___
  VOLSER               . . *_____

The last panel when setting up your environment is where you define the data set used to store your space management history report…a vital key in effective IMS space management.

# Not knowing which DBDs are related

**Paul is still new to the structure of his shop's IMS systems and all of their associated DBDs. When building JCL he often leaves out a related DBD or an index resulting in an incomplete job stream…**
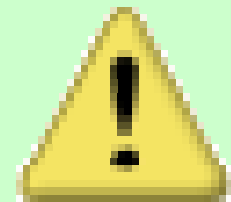
SETUP    COLLECT   function for CS ID ALPHA IMS Version 8.1
Command ===> _____


Press END to exit


Enter F string on the ISPF command line to find a DBDSGRP, DBD/DDN/DSN, USER
      STATUS or Description. Enter F by itself to redisplay the full table.


Select (S) Show expanded DBDSGRP (E)

```
   DBDSGRP   USER      STATUS           DESCRIPTION
 S ALPHA1    J849435   Collect successful smpordp1 group
 _ ALPHA2    J849435   Collect successful supp
 _ ALPHA3    J849435   Collect successful the real smpordp1 g
 _ ALPHA4    J849435   IC DSN conventions tabs
 _ A009G     J849435   Collect success    BATCH DBD=SMPINVP1
 _ A012G     J849435   Collect succes     ATCH DBD=SMPPAYP1
 _ A014G     J849435   Collect succe      TCH DBD=SMPSUPP1
 _ A015G     J849435   Collect succ       H DBD=SMPTABP1
*****************************                 **********
```

The Control Suite's Collect function walks
you through collecting and grouping all
related databases into Control Suite
'Groups'…

```
                    IMS DB CONTROL SUITE V3.2 - PK27060
SETUP     COLLECT    function for CS ID ALPHA IMS Version 8.1
Command ===> _____


Press ENTER to continue or END to exit.                          Panel 1 of 4


Specify DBD input for DBDSGRP . . ALPHA1



Build DBD list file              . . Y           (Y or N)
Check ACBLIB                      . . N           (Y or N)
```

**To make things simple, Paul should tell the Control Suite to show him all of his DBDs…from there he can select the ones he wants to group together…**

SETUP    COLLECT    function for CS ID ALPHA IMS Version 8.1
Command ===> _____

Press END to exit                                    Panel 2 of 4


Select DBDs to be included in DBDSGRP . . ALPHA1


DBD name filter              . . _____


Select (S) or Delete (D)  Press ENTER to process completed DBD list.
        DBD
        SMPINVP1
S       SMPORDP1
=       SMPORDX1
_       SMPORDY1
_       SMPORDY2
_       SMPPAYP1
_       SMPPAYY1
_       SMPSUPP1
_       SMPSUPX1
_       SMPTABP1
******************************** Bottom of data ********************************

**No need to worry if you're new or happen to forget which DBDs are related…just select one and the Control Suite will go out and collect all the pieces parts that are related, both physically AND logically!**

SETUP    COLLECT    function for CS ID ALPHA IMS Version 8.1
Command ===> _____

Press ENTER to continue or END to exit                    Panel 3 of 4

Update DBRC options for DBDSGRP . . ALPHA1

Propagate global DBRC values to all rows
  SHR LVL . . N      (N - leave as is, 0, 1, 2, or 3)
  RECOVPD . . N      (N - leave as is, 0 to 999)
  GENMAX  . . N      (N - leave as is, 2 to 255)

All Collected!! At this point final DBRC values can be set for the group, e.g. Share Level

Change DBRC values
SHARELVL  (0, 1, 2 or 3) , RECOVPD  (0 to 999)  or GENMAX  (2 to 255)

| SHR LVL | RCV PD | GEN MAX | DBD | DDNAME | PART | PRIMEDB | INDEX | ACTIVE |
|---------|--------|---------|---------|----------|------|----------|-----------|--------|
| 3 | 6 | 12 | SMPORDP1 | SMPORD1P | N/A | SMPORDP1 | N/A | 0 |
| 3 | 6 | 12 | SMPORDX1 | SMPORD1X | N/A | SMPORDP1 | PRIMARY | 0 |
| 3 | 6 | 12 | SMPORDY1 | SMPORD1Y | N/A | SMPORDP1 | SECONDARY | 0 |
| 3 | 6 | 12 | SMPPAYP1 | SMPPAY1P | N/A | SMPPAYP1 | N/A | 0 |
| 3 | 6 | 12 | SMPORDY2 | SMPORD2Y | N/A | SMPORDP1 | SECONDARY | 0 |
| 3 | 6 | 12 | SMPPAYY1 | SMPPAY1Y | N/A | SMPPAYP1 | SECONDARY | 0 |

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

IMS DB CONTROL SUITE V3.2 - PK27060

SETUP     COLLECT     function for CS ID ALPHA IMS Version 8.1

Command ===> _____

Press ENTER to continue or END to exit                    Last panel in function

Specify job card information for jobs built for DBDSGRP  . .ALPHA1

    . . //&JOBNAME JOB _(J849435,'IDIA,E241,090,IDIA'),JONES,REGION=0M,CLASS=A,
    . . // USER=J849435,TIME=(5,30),MSGCLASS=H,MSGLEVEL=(1,1),NOTIFY=J849435
    . . //*
    . . //*

**Once a DBDS Group is Collected, a job card must be specified…use your shop's standard job card here, these can be easily changed if need be and DBDS Group settings and job cards can be cloned and used again when defining new groups…**

# Collecting related DBDs and building JCL is time consuming

**Paul's time is at a premium and collecting all of these DBDS groups takes time. He needs a fast and efficient way to collect and load all DBDS groups for his shop.**
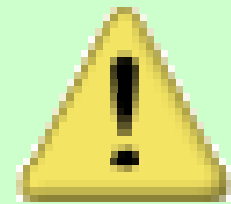
```
                    IMS DB CONTROL SUITE V3.2 - PK27060
 SETUP     COLLECT    function for CS ID ALPHA IMS Version 8.1
 Command ===> _

                                              TIME. .15:13:14.27
                                              DATE. .2006/08/09
                                              JDTE. .2006.221

 Select a DBDSGRP subtask to continue or END to exit


 Subtask . . 4     1. Collect/update/delete DBDSGRPs and IC naming
                   2. Collect/update database data set data
                   3. Update jobcard data only

                   4. Batch collect DBDSGRPs and jobs for ALL DBDLIB members
```

**If doing Collects via ISPF panels is taking too long, the Control Suite has a newly added batch Collect job that you can run over night to collect all of your DBDS Groups in one fell swoop.**

```
                    IMS DB CONTROL SUITE V3.2 - PK27060
SETUP    LOAD DBDS  function for CS ID ALPHA IMS Version 8.1
Command ===> _

                                           TIME. .15:14:08.09
                                           DATE. .2006/08/09
                                           JDTE. .2006.221

Select a subtask to continue or END to exit

   Subtask . . 1  1. Load a DBDSGRP from the Recon

                  2. Batch load DBDSGRPs from the Recon
```

Again, a batch option is available!

# Implementing new tools so they work together

**Once other IMS Tools are installed and set up, Paul and his team want to get them to communicate and work together efficiently…he's not interested in jumping around between separate tools…he needs a total SOLUTION…**

IMS DB CONTROL SUITE V3.2 - PK27060

SETUP    IMS TOOLS            function for CS ID ALPHA IMS Version 8.1
Command ===> _

Press ENTER to continue or END to exit                    Panel 1 of 2

Product name                          Load library name or 'N' if not installed
HPIC/ICE Image Copy Extensions . .    IMSTOOL.HPIC41.FAB.SHPSLMD0
High Performance Unload          . .  IMSTOOL.HPUL.FAB.SHPSLMD0
High Performance Load            . .  IMSTOOL.HPLD21.FAB.SHPSLMD0
IMS Parallel Reorg               . .  IMSTOOL.IPR21.SHPSLMD0
HP Prefix Resolution             . .  IMSTOOL.HPPR31.FAB.SHPSLMD0
Index Builder                    . .  IMSTOOL.IB23.IIU.SIIULMOD
High Performance Ptr Checker     . .  IMSTOOL.HPPC21.HPS.SHPSLMD0
Library Integrity Utilities      . .  DBTMAIN.LIU110.SHPSLMD0
Fast Path Basic Tools            .    IMSTOOL.FPBV1R2.D060702.SFABLMD0
Database Recovery Facility            IMSTOOL.DRF31.FRX.SFRXRESL

**Once you point the Control Suite to the other High Performance IMS Tools you own, it will go out and use them when building the appropriate JCL job streams…integration has never been easier!!**

SETUP    COL

Command ===>

Press ENTER to contin...      o exit.

Specify JCL options for DBDS...    .  ALPHA1

Image Copy
Copy indexes            . . Y (Y or N)    Concurrent IC    . . N (Y or N)
IC2 Group parm          . . N (Y or N)    IC2 Compress parm. . N (Y or N)
HPIC/ICE
Compress parm           . . N (Y or N)    Parallel parm    . . N (Y or N)
HASH Check parm         . . N (Y or N)    Stack parm       . . N (Y or N)
Group parm              . . N (Y or N)    DSN naming       . . N (Y or N)
GRPLIM Count parm       . . 0 (0 to 9)    Virtual Index IC . . N (Y or N)
Virtual Index IC DSN    . . _____
Pointer Checker

Scangroup parm          . . N (Y or N)    PTRCHK parm      . . N (Y or N)
Other options
Include batch CCF cmds. . N (Y or N)
Job name prefix         . . ALF1          DBDSGRP title    . . smpordp1 group

You set JCL options at this level for each IMS DBDSGRP you've collected. Full explanations of each parameter are available via online help…these options will be used when building JCL for the Tools you have installed…

Command ===> _____

Press ENTER to continue or END to exit.                    Panel 2 of 3


Specify JCL options for DBDSGRP . . ALPHA1

Unload options


Use GDGs                    . . N (Y or N)
DASD high level qualifier . . _____
DASD low  level qualifier . . _____
Tape vol count              . . __ (1 to 99)
Tape high level qualifier . . _____
Tape low  level qualifier . . _____


Second copy of unload file. . N (Y or N)
Low level qualifier         . . _____

```
                      IMS DB CON
SETUP    COLLECT    function for
Command ===> _____

Press ENTER to continue or END t                               Panel 3 of 3

Specify user GENJCL parms    . . N          or N)

Specify Global Image Copy Options for DBDSGRP  . . ALPHA1
 First IC DSNs hlq               . . J849435.ALF1_____
  Device type                    . . SYSDA____  (SYSDA, TAPE, ATL2, other)
  Media type                     . . D         (D=DASD, T=Tape)
 Second IC DSNs hlq              . . _____
  Device type                    . . _____   (SYSDA, TAPE, ATL2, other)
  Media type                     . . _         (D=DASD, T=Tape)
 IC middle qualifiers            . . 2         (1=DDN, 2=DBD.DDN)
 IC low-level qualifier          . . KATHLEEN  (blank if GDG; name, $TIME, nn.$TIME)
 GDG/SMS                         . . *         (G=GDG, *=SMS)
 Tape retention period           . . 99        Tape data set vol count . . ___

Online Image Copy Options       . . N    (Y OR N  - if OIC is going to be used)
```

Global and Online Image Copy naming convention options are set on the last panel, again online help is available and these need only be set one time.

# Running Jobs with the Control Suite

- **Once set-up is complete, running all of your database management jobs with the Control Suite is as easy as walking through a few ISPF panels. These jobs include…**
  - Backup
  - Recovery
  - Reorganization
  - Space monitoring

# Lack of knowledge of JCL and control statements

**Paul is new to the mainframe and does not know JCL and control statement syntax. He dislikes reading JCL reference manuals. He needs a tool to generate JCL for him automatically…accurately and quickly.**
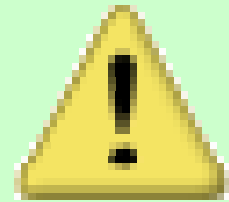
```
                    IMS DB CONTROL SUITE V3.2 - PK27060
RUN JOBS               for CS ID ALPHA IMS Version 8.1
Command ===> _

                                              TIME. .15:14:46.13
                                              DATE. .2006/08/09
                                              JDTE. .2006.221
                                              PRFX. .J849435


Select a job list or press END to exit


Job lists  . . 1    1. Backup databases
                    2. Recover databases
                    3. Monitor/Reorganize databases
                    4. Fast Path Support
                    5. Database Recovery Facility
                    6. All jobs
```

**Once your environment has been defined and JCL options have been set, it's as easy as point and shoot to run jobs against your DBCS Groups…**

IMS DB CONTROL SUITE V3.2 - PK27060          matches

BACKUP   DATABASES  function for CS ID ALPHA IMS Version 8.1
Command ===> _____

Press END to exit


BACKUP     DBDSGRP list

Enter F string on the ISPF command line to find a DBDSGRP, DBD/DDN/DSN, DBTYPE,
CUSER or Description. Enter F by itself to redisplay the full table.


Select (S) Expansion of DBDSGRP (E)

                                                              DB
  DBDSGRP      CUSER       DESCRIPTION                        TYPE
S ALPHA1      J849435     smpordp1 group
_ ALPHA2      J849435     supp
_ ALPHA3      J849435     the real smpordp1 g
_ A009G       J849435     BATCH DBD=SMPINVP1
_ A012G       J849435     BATCH DBD=SMPPAYP1
_ A014G       J849435     BATCH DBD=SMPSUPP1
_ A015G       J849435     BATCH DBD=SMPTABP1
****************************** Bottom of data ******************************

Paul just selects the group he wants to run a job against, Backup in this case…

```
                    IMS DB CONTROL SUITE V3.2 - PK27060
BACKUP   DATABASES  function for CS ID ALPHA IMS Version 8.1
Command ===> _____


Press END to exit


BACKUP      job list for DBDSGRP  ALPHA1
USERID for jobname  . . _   (Y or N)         USERID jobname suffix  . . _
Edit last job built . . N  (Y or N)
Alternate DBDLIB    . . _____
User JCLPDS library . . _____
```

Then he selects the JCL he wants to generate from the Control Suite's comprehensive list of Jobs

```
Select (S) Choose one job from the list below.
  JOBNAME   ALTNAME   DESCRIPTION
S ALF1IC1  _____   IMAGE COPY DATABASES
_ ALF1I21  _____   IMAGE COPY 2 DATABASES
********************************** Bottom of data **********************************
```

```
        Generating JCL for job ALF1IC1
```

```
                    IMS DB CONTROL SUITE V3.2 - PK27060
BACKUP   DATABASES  function for CS ID ALPHA IMS Version 8.1
Command ===> _____

Press ENTER to continue or END to exit

Save generated JCL for a single job (optional)

 Data set name      . . _____
 Member name        . . _____
```

**Afterwards you may SUBmit your job or save it for future scheduling…**

```
              ALPHA BACKUP DATABASES  function ended.
```

# Finding the right job to run for a given DBA task

**Paul is still learning which jobs are appropriate to run in certain situations…it would make his life easier if he had them categorized and listed in one place for him to choose from…**
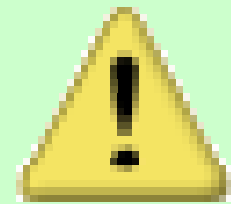
RECOVERY          function for CS ID ALPHA IMS Version 8.1

Command ===> _____


Press END to exit


RECOVERY    job list for DBDSGRP   ALPHA1
USERID for jobname  . . _   (Y or N)       USERID jobname suffix  . . _
Edit last job built . . N   (Y or N)
Alternate DBDLIB     . . _____
User JCLPDS library . . _____


Select (S) Choose one job from the list below.
   JOBNAME  ALTNAME   DESCRIPTION
_  ALF1RB1  _____  RECOVER ALL DATABASES FROM LATEST IMAGE COPIES
_  ALF1RX1  _____  REBUILD A HIDAM PRIMARY OR ANY DBORG SECONDARY INDEX
_  ALF1RX2  _____  REBUILD INDEX AND IMAGE COPY DATABASE INDEX
_  ALF1RX3  _____  RECOVER MAIN DB AND REBUILD ALL INDEXES,IB(V2.R3)ONLY
_  ALF1RI1  _____  RECOVER A SINGLE DATABASE OR INDEX FROM LATEST IMAGE COPY
_  ALF1RI2  _____  RECOVER DB & PRIME IDX/PTR CHK/REBUILD SECONDARIES
*********************************** Bottom of data ***********************************

```
                IMS DB CONTROL SUITE V3.2 - PK27060
RUN JOBS            for CS ID ALPHA IMS Version 8.1
Command ===> _

                                            TIME. .15:17:09.82
                                            DATE. .2006/08/09
                                            JDTE. .2006.221
                                            PRFX. .J849435


Select a job list or press END to exit


Job lists . . 3    1. Backup databases
                   2. Recover databases
                   3. Monitor/Reorganize databases
                   4. Fast Path Support
                   5. Database Recovery Facility
                   6. All jobs
```

Paul can use the Space Monitoring features to get a quick report on space usage and decide if a Reorg job is needed…

```
ALPHA RECOVERY   ALPHA1 function ended.
```

```
                    IMS DB CONTROL SUITE V3.2 - PK27060
MONITOR  DATABASES  function for CS ID ALPHA IMS Version 8.1
Command ===> _


                                              TIME. .15:17:15.06
                                              DATE. .2006/08/09
                                              JDTE. .2006.221


Select a subtask to continue or END to exit


Subtask . . 1    1. Setup monitor criteria
                 2. Submit monitor job
                 3. List monitored databases
                 4. More monitor related jobs
```

```
                    IMS DB CONTROL SUITE V3.2 - PK27
MONITOR  SETUP      ALPHA1    function for CS ID ALPHA I
Command ===> _____

Press ENTER to continue or END to exit


DBD = SMPORDP1  DDN = SMPORD1P  ORG = HIDAM   ACCESS = OSAM

Maximum extents permitted  . . . . . . . . 10   (0 to 99 or *)
Minimum available extents  . . . . . . . 10   (0 to 50 or *)
Data set used last extent  . . . . . . . Y    (Y or N)


Minimum percentage of free space . . . . 010  (0 to 100 or *)
Maximum percentage of used space . . . . 090  (0 to 100 or *)
Data set used last space on volume . . . Y    (Y or *)


Maximum days between pointer checks  . . 14   (0 to 99 or *)
Maximum days between reorgs  . . . . . . __*  (0 to 999 or *)
```

**…your monitoring criteria is entered.**

```
                    IMS DB CONTROL SUITE V3.2 - PK27060

MONITOR  SETUP      function for CS ID ALPHA IMS Version 8.1
Command ===> _

                                              TIME. .15:18:06.36
                                              DATE. .2006/08/09
                                              JDTE. .2006.221


Select a subtask to continue or END to exit


Subtask . . 2      1. Setup monitor criteria
                   2. Submit monitor job
                   3. List monitored databa
                   4. More monitor related job
```

**Then it's as simple as submitting the Monitor job and viewing the ouput…**

```
 ALPHA MONITOR SETUP ALPHA1 function ended.
```

```
                    IMS DB CONTROL SUITE V3.2 - PK27060
MONITOR  SUBMIT     function for CS ID ALPHA IMS Version 8.1
Command ===> _____


Press END to exit


MONITOR    job list for DBDSGRP  ALPHA1
USERID for jobname  . . _   (Y or N)        USERID jobname suffix  . . _
Edit last job built . . N   (Y or N)
Alternate DBDLIB    . . _____
User JCLPDS library . . _____


Select (S) Choose one job from the list below.
   JOBNAME   ALTNAME   DESCRIPTION
S ALF1MON   _____   SPACE MONITOR DATABASES
****************************** Bottom of data ******************************




              ┌──────────────────────────────────────┐
              │                                      │
              │   Generating JCL for job ALF1MON     │
              │                                      │
              └──────────────────────────────────────┘
```

MONITOR   REL JOBS    function for CS ID ALPHA IMS Version 8.1
Command ===> _____


Press END to exit


MONITOR     job list for DBDSGRP   ALPHA1
USERID for jobname . . _   (Y or N)        USERID jobname suffix   . . _
Edit last job built . . N   (Y or N)
Alternate DBDLIB      . . _____
User JCLPDS library . .  _____


Select (S) Choose one job from the list below.
  JOBNAME   ALTNAME   DESCRIPTION
_ ALF1PD1  _____  POINTER CHECKER FOR DATABASES
_ ALF1PI1  _____  POINTER CHECKER IMAGE COPIES OF DATABASES
_ ALF1RE1  _____  REORG DATABASES
_ ALF1REI1 _____  REORG/IMAGE COPY DATABASES
_ ALF1PR1  _____  PARALLEL REORG DATABASES
_ ALF1PRI1 _____  PARALLEL REORG/IMAGE COPY DATABASES
_ ALF1MON  _____  SPACE MONITOR DATABASES
****************************** Bottom of data ******************************

```
                    IMS DB CONTROL SUITE V3.2 - PK27060
RUN JOBS               for CS ID ALPHA IMS Version 8.1
Command ===> _

                                                TIME. .15:21:21.51
                                                DATE. .2006/08/09
                                                JDTE. .2006.221
                                                PRFX. .J849435


Select a job list or press END to exit


Job lists  . . 5    1. Backup databases
                    2. Recover databases
                    3. Monitor/Reorganize databases
                    4. Fast Path Support
                    5. Database Recovery Facility
                    6. All jobs
```

**Version 3.2 of the Control Suite leverages full integration with the IMS Database Recovery Facility…**

```
        ALPHA FASTPATH   ALPHA1 function ended.
```

DRF JOBS DRF            function for CS ID ALPHA IMS Version 8.1
Command ===> _____

Press END to exit

DRF job list for CSID ALPHA
USERID for jobname . . _      (Y or N)           USERID jobname suffix  . . _
Edit last job built . . N     (Y or N)
Verify data sets     . . N    (Y or N)

Select (S) Choose one job from the list below.
   JOBNAME   ALTNAME    DESCRIPTION
_  DRF1RD1   _____   RECOVGRP DATABASE RECOVERY FACILITY
S  DRF1RD2   _____   DBDSGRP DATABASE RECOVERY FACILITY
_  DRF1RD3   _____   CAGRP DATABASE RECOVERY FACILITY
_  DRF1RD4   _____   DB DATABASE RECOVERY FACILITY
_  DRF1RD5   _____   DBDS DATABASE RECOVERY FACILITY
  ****************************** Bottom of data *********************************

**The full list of DRF jobs is available for Paul to generate and submit for many complicated Recovery scenarios…**

DRF JOBS DRF                     function for CS ID ALPHA IMS Version 8.1

Command ===> _____

Press ENTER to continue or END to exit                    Panel 3 of 3


DRF TSR or PITR parm .. N    (N=none, T=Timestamp, P=Point in Time)
 Specify an IMS timestamp for TSR or PITR recovery only

 Timestamp value -
  Date               . . _____     (CCYY.DDD or YY.DDD)
  Time               . . _____     (HH:MM:SS.T)
  Offset             . . _____        (±HH:MM)

  PITR Check         . . _             (Y or N )

…such as Point In Time Recovery…

# Lack of Fast Path expertise

**Paul's new to Fast Path and Fast Path support…with everything else he has to learn this is one area that he needs significant help with.**
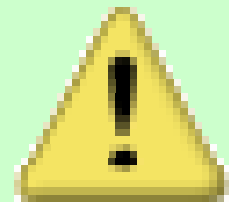
```
                IMS DB CONTROL SUITE V3.2 - PK27060
RUN JOBS           for CS ID ALPHA IMS Version 8.1
Command ===> _
                                          TIME. .15:21:05.60
                                          DATE. .2006/08/09
                                          JDTE. .2006.221
                                          PRFX. .J849435

Select a job list or press END to exit


Job lists  . . 4     1. Backup databases
                     2. Recover databases
                     3. Monitor/Reorganize databases
                     4. Fast Path Support
                     5. Database Recovery Facility
                     6. All jobs


        ALPHA MONITOR REL JOBS ALPHA1 function ended.
```

**The Control Suite has a full array of Fast Path support jobs as part of its 'Run Jobs' menu…**

FASTPATH               function for CS ID FAST8 IMS Version 8.1

Command ===> _____


Press END to exit


FASTPATH    DBDSGRP list


Enter F string on the ISPF command line to find a DBDSGRP, DBD/DDN/DSN, DBTYPE,
CUSER or Description. Enter F by itself to redisplay the full table.


Select (S) Expansion of DBDSGRP (E)

                                                                      DB
   DBDSGRP      CUSER       DESCRIPTION                               TYPE
 _ FAST8003    J849435     another fastpath im                        FP
 S FAST8002    J849435     fastpath ims8                              FP
 ******************************** Bottom of data                ******

**Select the Fast Path DBDS group to act on…**

FASTPATH            function for CS ID FAST8 IMS Version 8.1
Command ===> _____

Press END to exit


FASTPATH   job list for DBDSGRP   FAST8002


USERID for jobname . . N  (Y or N)        USERID jobname suffix  . . _

Select (S)

  JOBNAME   ALTNAME   DESCRIPTION
_ FP81COMP  _____  DEDB Area Data Set Compare Utility (DBFUMMH0)
_ FP81CREA  _____  DEDB Area Data Set Create Utility (DBFUMRI0)
_ FP81RORG  _____  DEDB Direct Reorganization Utility (DBFUMDR0)
S FP81INIT  _____  DEDB Initialization Utility (DBFUMIN0)
_ FP81DLET  _____  DEDB Sequential Dependent Delete Utility (DBFUMDL0)
_ FP81SCAN  _____  DEDB Sequential Dependent Scan Utility (DBFUMSC0)
******************************** Bottom of data ********************************

**…and you are presented with a host of Fast Path jobs that you just select and submit…**

FASTPATH FP INIT    Function for CS ID FAST8 IMS Version 8.1
Command ===> _____

Press ENTER to continue or END to exit

List of all available DBDs in DBDSGRP

Select One DBD(S)
If multiple are selected, only the first will be processed.
  ---- FP AREA  ----
  DBD

S DEDBJN21
********************************* Bottom of data *********************************

```
                            IMS DB CONTROL SUITE V3
FASTPATH FP INIT     Function for CS ID FAST8 IMS Version 8.1
Command ===>  _

                                              TIME. .15:12:52.44
Select an OPTION to continue or press END to exit      DATE. .2006/08/21
                                              JDTE. .2006.233

 Option: A


      'I' Initialize Selective Areas
      'A' Initialize All Areas for a DEBD
```

**…such as a DEDB Initialization utility job…**

```
EDIT       SYS06233.T095524.RA000.J849435.R0144533        Columns 00001 00072
Command ===> _____  Scroll ===> PAGE
****** ***************************** Top of Data *****************************
==MSG> -CAUTION- Profile changed to CAPS ON (from CAPS OFF) because the
==MSG>          data does not contain any lower case characters.
000001 //FP81INIT JOB (J849435,'IDIA,E241,090,IDIA'),JONES,REGION=0M,CLASS=A,
000002 // USER=J849435,TIME=(1,30),MSGCLASS=H,MSGLEVEL=(1,1),NOTIFY=J849435
000003 //PROC JCLLIB ORDER=IMSVS.IMS8.PROCLIB
000004 //*MEMBER=IDLF011A
000005 //*******************************************************************
000006 //*                                                                *
000007 //*    DBFUMIN0 STEP - DEDB INITIALIZATION UTILITY                  *
000008 //*                                                                *
000009 //****************************************
000010 //DBFUMIN0 EXEC PGM=DBFUMIN0
000011 //STEPLIB  DD DISP=SHR,DSN=IMSVS.IMS810.
000012 //ACBLIB   DD DISP=SHR,DSN=J849435.FPIVP
000013 //SYSPRINT DD SYSOUT=*
000014 //CONTROL  DD *
000015 ALL
000016 //DB21AR11  DD  DSN=J849435.FPIVP8.DB21AR11,
000017 //   UNIT=SYSALLDA,
```

> **The JCL is generated immediately and is good to go, Paul can SUBmit it or save it for later…all done!**

# RECON Maintenance with the Control Suite

- **With the RECON Maintenance option, DBRC management has never been more efficient…**

  - Enhanced DBRC Interface in v3.2
    - All DBRC functions are supported
    - Can be used when no DBDSGRPs are defined
    - Includes creation and manipulation of BKOUT and SG records
    - Adds DELETE of RECOV and REORG records
    - Utility function to list all DB Exception information

  - Context sensitive help on all panels
    - When cursor is on a field and the user hits PF1
    - No more struggling with complex DBRC syntax

# Lack of DBRC knowledge

**Paul's is a DBRC shop, but he is still very new to the complex DBRC command syntax. He is finding RECON maintenance very time consuming and error prone.**
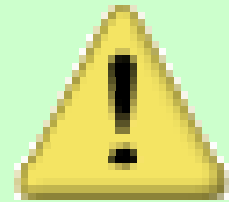
IMS DB CONTROL SUITE V3.2 - PK27060

RECON    GROUP SELECTION    function for CS ID ALPHA IMS Version 8.1
Command ===> _

                                          TIME. .15:25:37.85
                                          DATE. .2006/08/09
                                          JDTE. .2006.221

Select an entry to continue or END to exit


Entry . . . 1
                ALL DBDs
                  1. DBRC commands for ALL DBDs
                  2. non-DBRC commands and reports for ALL DBDs
                DBDSGRPS
                  3. DBRC commands selectable by DBDSGRPS
                         ...mands and reports selectable by DBDSGRPS

**The Control Suite has full
built-in support for ALL
DBRC commands and they
can be executed per DBD or
DBDSGRP…**

ALLDBDS  RECON         SELECTION  function for CS ID ALPHA    IMS Version 8.1

Command ====> F CHANGE_                                        Scroll ===>  PAGE

Press ENTER to continue

Enter F string on the ISPF comma                              hat string
in the description field. Enter                               commands.

**Built in filter capability allows Paul to quickly navigate the long list of DBRC commands available to him and zero in by keyword…**

DBDNAME  . .  ALLDBDS_

Select (S) or help (H)

**He can also enter a DBD Name here or choose the default 'ALLDBDS'**

    COMMAND    DESCRIPTIO
_   BACKRE8    BACKUP.REC                         Y2, OR BOTH
_   CADS8      CHANGE.ADS                         ON 8
_   CBA8       CHANGE.BKOUT,                       RECORDS, VER. 8
_   CCAGRP8    CHANGE.CAGRP, CHANGE CAGRP RECORD, VERSION 8
_   CCA8       CHANGE.CA, CHANGE A CHANGE ACCUMULATION, VERSION 8
_   CDBDSGR8   CHANGE.DBDSGRP, CHANGE A DBDSGRP RECORD, VERSION 8
_   CDBDS8     CHANGE.DBDS, CHANGE A DBDS RECORD, VERSION 8
_   CDB8       CHANGE.DB, CHANGE A DB RECORD, VERSION 8
_   CIC8       CHANGE.IC, CHANGE IMAGE COPY PARAMETERS, VERSION 8
_   CPART8     CHANGE.PART, CHANGE A PARTITION DATASET, VERSION 8
_   CPRILOG8   CHANGE.PRILOG, CHANGE A PRIMARY LOG RECORD (OLDS), VERSION 8

ALLDBDS  RECON          SELECTION  function for CS ID ALPHA     IMS Version 8.1

Command ====> _____     Scroll ===>  PAGE


Press ENTER to continue or END to exit


Enter F string on the ISPF command line to display commands with that string
in the description field. Enter F without a string to display all commands.


DBDNAME  . .  ALLDBDS


Select (S) or help (H)
     COMMAND     DESCRIPTION
  _  CADS8       CHANGE.AD                        ERSION 8
  _  CBA8        CHANGE.                     RECORDS, VER. 8
  _  CCAGRP8     CHANGE.                     RSION 8
  _  CCA8        CHANGE                      ON, VERSION 8
  _  CDBDSGR8    CHA                         RD, VERSION 8
  _  CDBDS8      ⌐NGE.D                      ERSION 8
  S  CDB8        CHANGE.DB, CHANGE A DB RECORD, VERSION 8
  =  CIC8        CHANGE.IC, CHANGE IMAGE COPY PARAMETERS, VERSION 8
  _  CPART8      CHANGE.PART, CHANGE A PARTITION DATASET, VERSION 8
  _  CPRILOG8    CHANGE.PRILOG, CHANGE A PRIMARY LOG RECORD (OLDS), VERSION 8
  _  CPRIRLD8    CHANGE.PRILOG, CHANGE A PRIMARY LOG RECORD (RLDS), VERSION 8

After filtering on
'Change' commands,
let's select a 'Change
DB' command…

RECON      CHANGE   DB SELECT         function for CS ID  ALPHA IMS Version 8.1
Command ===> _____   PAGE

Press ENTER to continue or END to exit

Enter F string on the ISPF command line to display rows with string in them.

Select (S) or (G)

```
  DBNAME    TYPE   SHR PT   DDN       DSNAME
  SMPINVP1  IMS    3        **NULL**  **NULL**
S SMPINVP1  IMS    3        SMPINV1P  J849435.TEST8.SMPINV1P.SHISAM.KSDS
_ SMPORDP1  IMS    3        **NULL**  **NULL**
_ SMPORDP1  IMS    3        SMPORD1P  J849435.TEST8.SMPORD1P.HIDAM.OSAM
_ SMPORDX1  IMS    3        **NULL**  **NULL**
_ SMPORDX1  IMS    3                  ...  HIDAM.INDEX
_ SMPORDY1  IMS    3
_ SMPORDY1  IMS    3                             SECINDEX
_ SMPORDY2  IMS    3
_ SMPORDY2  IMS    3                             SECINDEX
_ SMPPAYP1  IMS    3
_ SMPPAYP1  IMS    3        SMPPAY1P  J849435.TEST8.SMPPAY1P.HDAM.ESDS
_ SMPPAYY1  IMS    3        **NULL**  **NULL**
_ SMPPAYY1  IMS    3        SMPPAY1Y  J849435.TEST8.SMPPAY1Y.SECINDEX
```

The 'ALLDBDS' default means at some point all DBDs available to you are presented for you to choose from…again Filter capability is available to help you.

IMS DB CONTROL SUITE V3.2 - PK27060

RECON    CHANGE  DB RECORD        function for CS ID  ALPHA IMS Version 8.1
Command ===> _

Press ENTER to continue or END to exit


DBNAME     DDNAME     TYPE    DSNAME
SMPINVP1   SMPINV1P   IMS     J849435.TEST8.SMPINV1P.SHISAM.KSDS


NOAUTH/AUTH    . . . _____        (Optional)
TYPEIMS/TYPEFP. . . _____        (Optional)
BACKOUT/NOBACK. . . _____         (Optional)
Val(1-99)      . . . __             (Must be specified if BACKOUT specified)
SSID(name)     . . . _____       (Must be specified if BACKOUT or UNAUTH)
READOFF/READON. . . _____         (Optional)
Sharelvl(0-3) . . . _               (Optional)
NOICREQ/ICREQ . . . _____        (Optional)
UNAUTH         . . . _____         (Optional)
ACTIVE/TRACKING . . _____        (Only allowed if UNAUTH specified)

**Every parameter associated with this DBRC command is presented here in an interactive ISPF panel to be set without needing to remember syntax…**

```
Help Panel                    IMS DB C[                              IDLRH297
COMMAND ===> _


 DBD('cont)
   ALL
          Specifies that you are changing all the databases registered in RECON.

          If any of the DBs are HALDB masters or partitions, and you have
          specified any of the restricted parameters (for example, the PINIT or
          NOPINIT parameters), a warning message is issued and command
          processing continues.


 AUTH | NOAUTH
    Mutually exclusive, optional parameters you use to specify whether the
    database is authorized to participate in data sharing.


   AUTH
          Indicates that authorization processing for data sharing is considered
          for the database.


   NOAUTH
          Indicates that authorization processing for data sharing is prohibited
          for the database.
                                                     Enter - Next Help Panel
```

**And of course online Help is always available to explain parameters to Paul more fully so he understands the selections he is making…**

Information On Demand

# Cumbersome selection and execution of DBRC commands

**Paul needs a way to submit DBRC commands interactively with some hand holding along the way…**

```
                    IMS DB CONTROL SUITE V3.2 - PK27060
RECON     CHANGE  DB RECORD       function for CS ID  ALPHA IMS Version 8.1
Command ===> _____


Press ENTER to continue or END to exit


DBNAME     DDNAME    TYPE    DSNAME
SMPINVP1   SMPINV1P  IMS     J849435.TEST8.SMPINV1P.SHISAM.KSDS


NOAUTH/AUTH    . . .  _____       (Optional)
TYPEIMS/TYPEFP.  . .  _____     (Optional)
BACKOUT/NOBACK.  . .  _____       (Optional)
Val(1-99)      . . .  __            (Must be specified if BACKOUT specified)
SSID(name)     . . .  _____      (Must be specified if BACKOUT or UNAUTH)
READOFF/READON.  . .  _____       (Optional)
Sharelvl(0-3) . . .   2             (Optional)
NOICREQ/ICREQ . . .   _
UNAUTH         . . .  _____
ACTIVE/TRACKING . .   _____
```

**After changing the parameters he deems necessary, Paul can quickly submit this command interactively…**

```
EDIT       J849435.ALPHA.SYSIN.SYSIN                   Columns 00001 00072
Command ===> _                                          Scroll ===> PAGE
****** *************************** Top of Data ***********************************
000001  CHANGE.DB +
000002    SHARELVL(2) +
000003  DBD(SMPINVP1)
****** *********************** ***** Bottom of Data ****************************
```

**First, of course he can review the command to double check his changes and confirm before submitting…**

```
IDLR306: IDLRCHAN - Press END to be prompted to execute these commands.
```

IMS DB CONTROL SUITE V3.2 - PK27060

RECON     CONFIRMATION PANEL     function for CS ID   ALPHA IMS Version 8.1
Command ===> _____

Press ENTER to continue or END to exit

Enter Y to confirm action or N to cancel action  . .   Y_  (Y or N)

**Entering 'Y' here submits his command and he's done…no need to ever struggle with complex DBRC syntax or learning DBRC commands ever again!**

# Library Integrity insurance with DBCS

- **The Database Control Suite integrates with IBM's IMS Library Integrity Utilities (LIU)…**

  – Helps manage IMS ACB, PSB, and DBD libraries.

  – Supports IMS Versions 6, 7, and 8.

  – Includes DBD/PSB/ACB Compare, DBD/PSB/ACB Reversal, and DBD/PSB/ACB Mapper.

  – Provides a Consistency Checker, which verifies that the associated ACB is created in the ACB Library and that the online database definition was created in the MODBLKS.

  – Provides an Integrity Checker, which helps to protect your databases from data integrity exposures such as a batch program using a test DBD to update a production database, or a batch program using a new DBD before the database is reorganized with the new DBD.

# Using IBM's Library Integrity Utilities

**As part of his many maintenance tasks, Paul is expected to use IBM's Library Integrity Utilities…a powerful tool but one with a learning curve, he needs a smooth way to access and use this tool effectively.**
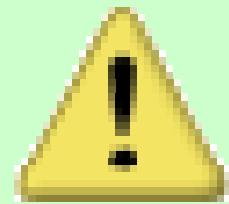
```
                    IMS DB CONTROL SUITE V3
LIBRARY  INTEGRITY  function for CS ID ALPHA
Command ===>ï _____

Select a subtask to continue or END to exit

Subtask . . 1    1. DBD Functions        - Compare/Map/Reverse
                 2.                         DBDGEN
                 3.                         Compress


                 4. PSB Functions        - Compare/Map/Reverse
                 5.                         PSBGEN
                 6.                         Compress


                 7. ACB Functions        - Compare/Map/Reverse
                 8.                         ACBGEN
                 9.                         Compress
                10.                         ACBlib Analyzer


                11. Other functions      - Consistency Checker
                12.                       - Set up Integrity Checker
```

**The full list of Library Integrity Utility functions are available to you through the Control Suite using an easy-to-use ISPF front end…**

```
                                           TIME. .15:31:58.65
                                           DATE. .2006/08/09
                                           JDTE. .2006.221


Select a subtask to continue or END to exit


Subtask . . 3    1. Compare IMS Components
                 2. Map IMS Components
                 3. Reverse IMS Components
```

LIBRARY   REVDBD      function for CS ID ALPHA IMS Version 8.1

Command ===> _____

Press END to exit

DBD REVERSAL DBDLIB        . . J849435.TEST8.DBDLIB_____

DBDLIB member name filter  . . _____

Select (S) one name from the DBD list and press ENTER to process REVERSAL
or edit the DBDLIB name and press ENTER for a new DBD list

      DBDNAME
_      SMPINVP1
S      SMPORDP1
=      SMPORDX1
_      SMPORDY1
_      SMPORDY2
_      SMPPAYP1
_      SMPPAYY1
_      SMPSUPP1
_      SMPSUPX1
_      SMPTABP1
*************************** Bottom of data ***************************************

The consistent layout and interaction of these panels gives it the same look and feel of all the other Control Suite functions.

```
                    IMS DB CONTROL SUITE V3.2 - PK27060
LIBRARY  REVDBD      function for CS ID ALPHA IMS Version 8.1
Command ===>  _

Press ENTER to continue or END to exit

    Member name          . .  SMPORDP1
    Library data set name . .  J849435.TEST8.DBDLIB

Control Statements Requested

    LIST                   . .  Y       (Y or N)
    DECODE                 . .  Y       (Y or N)
    XREF                   . .  N       (Y or N)
    DDNAMES                . .  N       (Y or N)
    PROCOPT                . .  N       (Y or N)
```

**Simply select the Control Statements you want to request for the DBD Reversal…**

```
                    IMS DB CONTROL SUITE V3.2 - PK27060
LIBRARY  REVDBD    SELECTIO function for CS ID ALPHA IMS Version 8.1
Command ===> _

                                            TIME. .15:37:18.80
Press ENTER to continue or END to exit      DATE. .2006/08/09
                                            JDTE. .2006.221

Select (S) or print (P) a file
      _       'J849435.REVDBD.SMPORDP1.SYSPRINT'
      _       'J849435.REVDBD.SMPORDP1.SYSOUT'
      S       'J849435.REVDBD.DBDSRC'

      _
```

# Maintaining your Database Control Suite

- **With the DBCS's System Administration function, maintaining your Control Suite, migrating to a new version, and diagnosing potential problems (including capturing trace information) has never been simpler…**

# Protecting his work

**Paul's expected to save and protect the work he does with the Database Control Suite so others can pick up where he left off or quickly troubleshoot an issue with IBM Support if needed.**
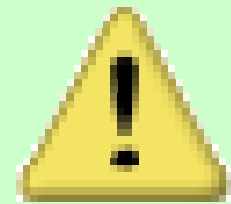
```
                    IMS DB CONTROL SUITE V3.2 - PK27060
SYSADMIN            function for CS ID ALPHA IMS Version 8.1
Command ===> _

                                              TIME. .15:38:45.58
                                              DATE. .2006/08/09
                                              JDTE. .2006.221


Select a Control Suite administration task to continue or END to exit


Subtask . . 3   1. Backup table data set
                2. Recover table data set
                3. Diagnosis
                4. Update table data set aft
```

The Administration tasks of the Control Suite allow Paul to diagnosis any problems with IBM Support quickly and efficiently, as well as backup his Control Suite tables…

```
                      IMS DB CONTROL SUITE V3.2 - PK27060
SYSADMN   DIAGNOSIS  function for CS ID ALPHA IMS Version 8.1
Command ===> _
                                              TIME - 15:38:57.73
Select a subtask to continue or END to exit  DATE - 2006/08/09
                                              JDTE - 2006.221



Function . . 3   1. Set Debugging Options
                 2. System Information
                 3. Tool Library Apar Information
```

```
                    IMS DB CONTROL SUITE V3.2 - PK27060
DIAGNOSIS FOR TOOL LIBRARIES      function for CS ID ALPHA IMS Version 8.1
Command ===> _____


Select (S) to continue or END to exit

S HPIC/ICE Image Copy Extensions      IMSTOOL.HPIC41.FAB.SHPSLMD0
_ High Performance Unload             IMSTOOL.HPUL.FAB.SHPSLMD0
_ High Performance Load               IMSTOOL.HPLD21.FAB.SHPSLMD0
_ IMS  Parallel Reorg                 IMSTOOL.IPR21.SHPSLMD0
_ High Performance Ptr. Checker       IMSTOOL.HPPC21.HPS.SHPSLMD0
_ Library Integrity Utilities         DBTMAIN.LIU110.SHPSLMD0
_ Fast Path Basic Tools               IMSTOOL.FPBV1R2.D060702.SFABLMD0
```

These diagnosis and support functions are not only useful for the Control Suite, but are also integrated and available for all the other IMS Tools installed…

```
BROWSE     J849435.ALPHA.SYSPRINT.LIST            Line 00000000 Col 001 080
Command ===>  _                                          Scroll ===> PAGE
*************************************** Top of Data ****************************************
IMS HIGH PERFORMANCE IMAGE COPY - DIAGNOSTIC AID          "LOAD MODULE APAR STA
5655-N45                                                  DATE: 08/09/2006  TIM

MODULE LIBRARY : IMSTOOL.HPIC41.FAB.SHPSLMD0


   MODULE        ALIAS-OF        CSECT        APAR        APAR          CSECT        APAR
   NAME                          NAME         NUMBER      FIX-DATE      NAME         NUMBER


   FABJACHK                      FABJACHK     PK11605     03/08/2006
   FABJAPIB                      FABJAPIB     BASE-05     04/30/2005
   FABJAPIM                      FABJMSGP     PK28092     07/14/2006    FABJAPIM     PK23423
                                 FABJDATE     PK09541     03/08/2006    FABJRPT0     PK26299
                                 FABJCTCV     PK26299     06/18/2006    FABJCZCV     PK26299
                                 FABJTERM     PK23423     07/04/2006    FABJCP40     PK11605
                                 FABJCP4S     PK11605     03/08/2006
   FABJAPIS                      FABJAPIS     PK11605     03/08/2006
   FABJATRC                      FABJATRC     PK26299     06/18/2006    ATRCSTAE     *******
   FABJCMP1                      FABJCMP1     PK28092     07/14/2006
   FABJCMP2                      FABJCMP2     PK28092     07/14/2006
```

# Summary

- **If your role includes any aspect of IMS DB management, then IMS Database Control Suite Version 3.2 will make your life easier and more productive, giving you more time to spend on application and business matters**

- **Version 3.2 provides higher performance, easier setup, enhanced usability, and even richer function than ever before**

- **Additionally, it provides user friendly access to all the functions of DBRC via an intuitive ISP interface**

# Questions and Discussion

- **Thank you for your time!**

- **jsacco@us.ibm.com to contact me**

- **IMS Database Control Suite v3.2**

  - Product number 5655-L08

  - http://www.ibm.com/software/data/db2imstools/imstools/imsdbcntrlsuite.html