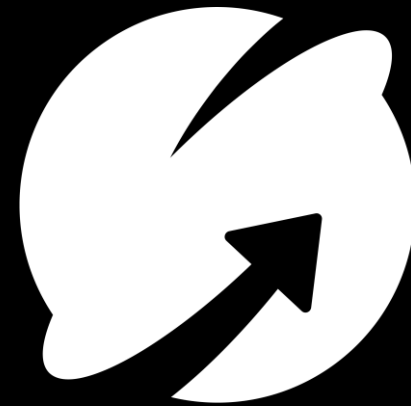


Rethink the way you manage IMS

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IMS Tools Solutions Advisor



IBM

IMS Tools

for z/OS

Agenda

- Rethinking approach to
 - Determining health of IMS databases
 - Reorganization
 - How to reorg
 - When to reorg
 - Manual vs Automation
 - Building required utility JCL
 - Managing environmental data – exceptions, statistics, reports
 - Where and how to view data
- How can features and functions in IMS Database Solution Pack help?



IMS Management Today



Many times processes and procedures are in place that are no longer efficient

They remain in place for fear of disruption even when better ways exist

In today's modern world though, savings and ROI are critical

- ✓ Save CPU
- ✓ Save MIPs
- ✓ Save time and effort
- ✓ Save \$\$\$\$



Quick view of my IMS database environment

The screenshot displays the IBM Management Console interface. The main content area shows a summary of resources with symptoms. The table below provides a detailed view of these resources.

Resources	Overall Health	Critical	Severe	Warning	Actions
FF00	■	1	0	0	2
FF01	■	1	0	0	2
FF02	■	1	0	0	2
FF03	■	1	0	0	2
FF04	■	1	0	0	2
FF05	■	1	0	0	2
FF06	■	1	0	0	2
FF07	■	1	0	0	2
FF08	■	1	0	0	2
FF09	■	1	0	0	2
FF1	■	1	0	0	2
FF10	■	1	0	0	2
FF11	■	1	0	0	2
FF12	■	1	0	0	2
FF13	■	1	0	0	2
FF14	■	1	0	0	2

Determining Database Health - Collect statistical data

- Lots of statistical data generated from utility executions
- Movement from manual collection and analysis of data to automation
 - Time & effort to support internally developed procedures no longer cost effective
 - Utilize expertise elsewhere



Automate collection of statistical data

- Implement Automatic Database Sensor collection in regularly executed utilities:
 - IMS High Performance Image Copy
 - IMS High Performance Pointer Checker
 - IMS Database Reorganization Expert
 - IMS High Performance Fast Path Utilities
- Automatically analyze collected data to proactively identify database exceptions



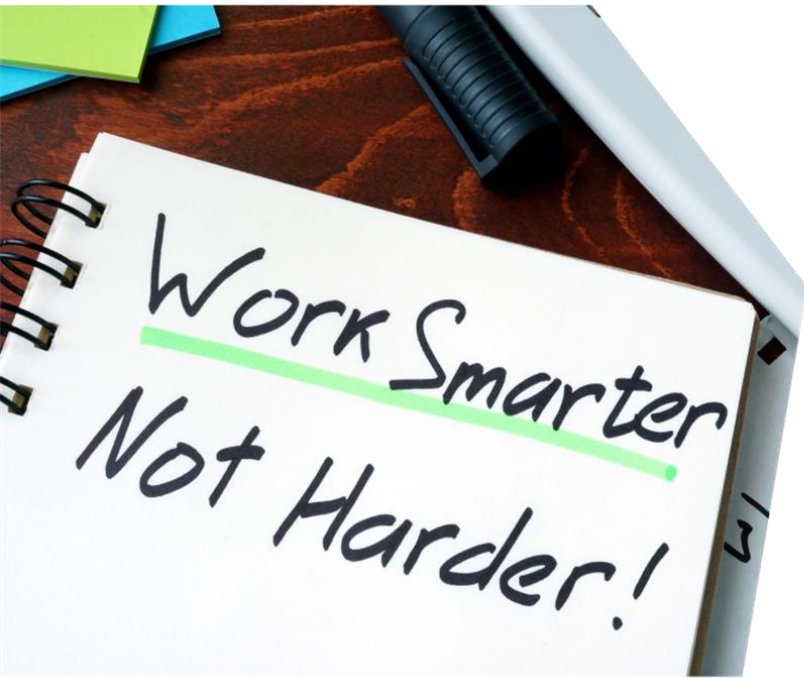
Additional Sensor Data Collection Options



- On Demand collection/evaluation for immediate issues
 - “I have a problem and need the information now!”
- Scheduled Data Sensor collection/evaluation
 - Provides a scheduling feature that allows you to control how frequently sensor data is collected and how frequently policies are evaluated
 - Flexible scheduling around peak workloads
 - Doesn't interfere with production throughput or response
 - Use product scheduler or external scheduler



Automatic analysis and evaluation of database health



- Based on user-defined policies and thresholds
- E-mail or text notification when database is in exception
 - Alert DBA to consider taking action
 - Customized notification
 - Alert on all exceptions or selected exceptions
- Recommendation for reorganization
 - Easy to understand: simple “yes” or “no”
- Automate ongoing database monitoring and maintenance tasks based on a detailed understanding of the current state of your IMS databases



IBM-Provided Default REORG Policies

```
Commands  View  Help
REORG/OPERATION                               Manage Policies  Row 13 to 24 of 24
Command ==> _____

Select a row action or a command from the commands menu. Press End to exit.
Resource types selected:      (Active logic: DR)
HDAM HIDAM PHDAM PHIDAM HISAM SHISAM DEDB INDEX PSINDEX

A: Row Actions:  V - View      U - Update    D - Delete
                  N - Create new policy modeled after policy in selected row.
S: Status       :  V - Viewed  U - Updated  D - Deleted
                  N - New, created from a model  M - Used as a model

A S Locale      Policy Name                Description
--
BSNGLOBL SYS.DBDDTYPE.DEDB      DEDB policy
BSNGLOBL SYS.DBDDTYPE.FFDB      Full-function database policy
BSNGLOBL SYS.DBDDTYPE.HDAM      HDAM database policy
BSNGLOBL SYS.DBDDTYPE.HDDB      HD database policy
BSNGLOBL SYS.DBDDTYPE.HIDAM     HIDAM database policy
BSNGLOBL SYS.DBDDTYPE.HISAM     HISAM database policy
BSNGLOBL SYS.DBDDTYPE.INDEX     Index policy for non-partitioned index
BSNGLOBL SYS.DBDDTYPE.PHDAM     PHDAM partition policy
BSNGLOBL SYS.DBDDTYPE.PHIDAM     PHIDAM partition policy
BSNGLOBL SYS.DBDDTYPE.PHIDAM.A  PHIDAM partition policy with index rules
BSNGLOBL SYS.DBDDTYPE.PSINDEX   Index policy for PSINDEX partition
BSNGLOBL SYS.DBDDTYPE.SHISAM    SHISAM database policy
***** Bottom of data *****
```



Exception-to-Action Recommendation for REORG

EXCEPTIONS

Exception related with free space fragmentation

GROWING_DBDS_WITH_FREE_SPACES

FRAGMENTED_FREE_SPACES

EXCESSIVE_SLACK_BYTES

EXCESSIVE_VL_SPLIT_SEGMENTS

EXCESSIVE_CI_OR_CA_SPLITS

EXCESSIVE_HISAM_DELETE_SEGM

DEDB_NEEDS_TO_BE_REORGANIZED

Exception related with the last reorg

DAYS_PASSED_SINCE_LAST_REORG

Exception related with index fragmentation

EXCESSIVE_INDEX_CI_OR_CA_SPLITS

Exception related with DEDB IOVF space use

DEDB_IOVF_NEEDS_TO_BE_EXTENDED

Exception related with DEDB SDEP space use

DEDB_SDEP_NEEDS_TO_BE_EXTENDED

Other exceptions

ACTION RECOMMENDATIONS

REORG

INDEXBLD

EXTENDIOVF

REOEXTENDSDEPRG

MESSAGE Notify

Policies define these associations

With Severity



IBM
IMS Tools

View the Resulting Recommendations

We keep it simple! We tell you everything about the evaluation and whether a reorganization is needed.

```
IAPVRL      Autonomics Director Evaluation Run Information
Command ==> _____

Locale . . . . . : $IVP

Enter S to view evaluation run exceptions . . . . . S

Database name . . . . . : DEVICEDB
Partition name . . . . . :
Database type . . . . . : HDAM
Access method . . . . . : VSAM

Status . . . . . : DB EVALUATION Completed
Return code . . . . . : 00000000
Reason code . . . . . : 00000000
Reorganization needed . . . . . : Y
Severity . . . . . : C
Sensor data from date / time . . . . . : May 15, '12 / 04:00:05
Evaluation run date / time . . . . . : May 15, '12 / 04:00:05

Policy by . . . . . : NAME
Policy name . . . . . : TST.DBDTYPE.HDAM

MA B A 07/057
```

You can also drill down further to see which policy exceptions were triggered

No Guess work! If a reorg is needed, it is indicated here and a notification is sent out to the user(s).

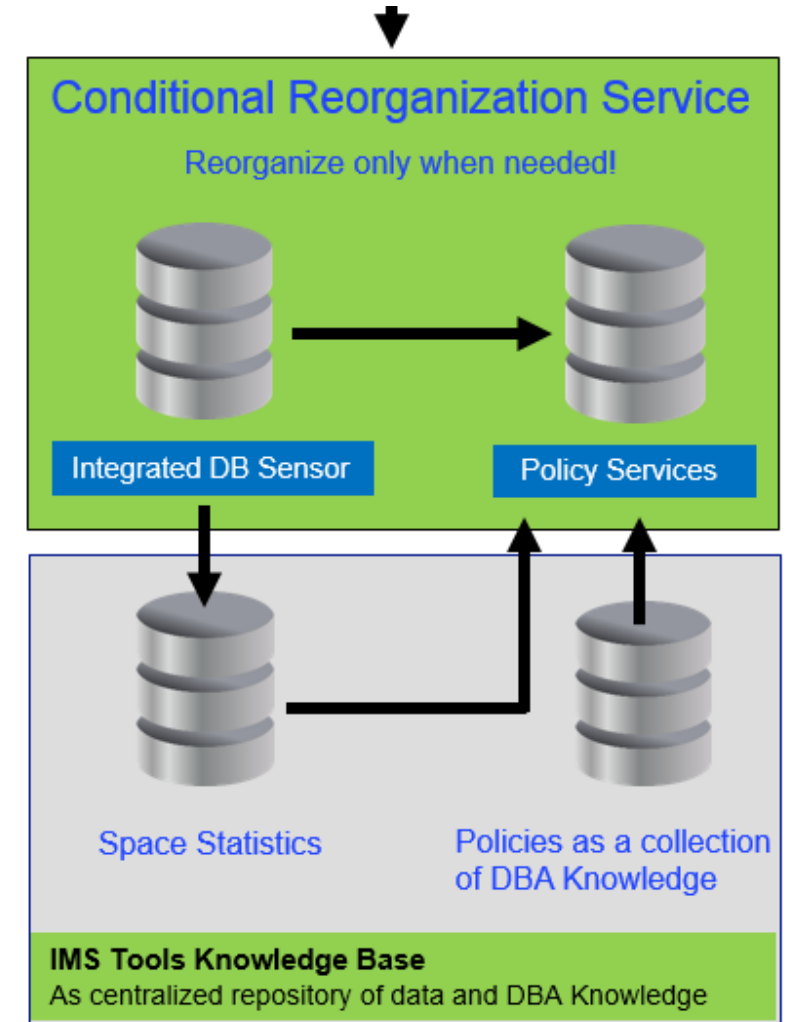
Database Reorganization Techniques

- Traditional or Classic Database Reorganization
 - Multi-step
 - Offline
- Shift to online-reorganization
 - Increased availability
 - Regularly scheduled
 - Multi-tasking
 - Creates batch image copies
 - Creates external unload file for download processing
- Regularly scheduled online reorgs don't impact availability but waste resources if unneeded



To Reorg or Not to Reorg, That is the Question

- Conditional Reorganization is one answer
 - Reorganization only run when needed
 - Integrated sensor collects data, evaluated against policies
 - Maintain existing job schedule
 - Reorg is submitted but only executes the reorganization if needed



Additional Conditional Reorg Options

- Online Reorg control statements
 - Using Online Reorg to create weekly image copy
 - **CR.IC(ALWAYS)**, which specifies that image copies be always created even if reorganization is NOT performed
 - Using Online Reorg to create unload file for downward processing
 - **CR.UNLOAD(ALWAYS)**, which specifies that an HD unload data set be always created even if reorganization is NOT performed
 - Need both the image copy AND an unload file
 - Include both control statements
- Continue to execute Online Reorg on a regular basis but only actually reorg when needed



To Reorg or Not to Reorg – That is the question

- Active Autonomics is another answer
 - If a database exception is detected that can be resolved through reorganization, automatically submit the reorganization job
 - Passive Autonomics
 - Tell me something is wrong & let DBA resolve
 - Active Autonomics
 - Take action to resolve the problem automatically
 - Submit reorg job only during specified maintenance window

```
View policy details, press End to exit.
Locale . . . : BSNGLOBL Policy name . . . : ROSETEST
Description:
My copy of HIDAM Policy
Resource types:
HIDAM
Summary notification lists:
```

Rule-Threshold List					
Action	Level	L	Rule Name	Threshold	L Threshold Notification
REORG	CRITICAL	G	IBM.DBDS_GROWTH.20	HIGH	
REORG	CRITICAL	G	IBM.FRAGMENTATION.10	HIGH	
REORG	CRITICAL	G	IBM.LAST_REORG.10	HIGH	G PRODDBA
REORG	CRITICAL	G	IBM.SLACK_BYTES.10	HIGH	
REORG	CRITICAL	G	IBM.VL_SEGM_SPLIT.10	HIGH	
MESSAGE	CRITICAL	G	IBM.AVG_DBREC_LEN.10	HIGH	
MESSAGE	CRITICAL	G	IBM.DBDS_EXTENTS.10	HIGH	



Active Autonomics

- Use what comes right out of the box or customize
 - Modify rule thresholds
 - Modify policy actions
 - Modify notifications
 - Modify maintenance schedule/sensor collection schedule
- Flexibility to actively monitor your database environment & perform actions accordingly



IMS Administration Tool – JCL Generation

- **Generate** Task-based, Error-free Utility JCL for **Maintenance Tasks**
 - Database reorganization on a specific database
 - Back up databases for application identified by a specific PSB
 - Clone one or more databases
 - Other helpful functions available with the registered IMS Tools/Solutions
- Product/Utility Registration
 - **IMS Tools 'register' themselves** during Setup
- Skeletons and Variables
 - IMS Tools **provide base skeletons and variables**
 - **Users can modify** base skeletons **or create** their own
- Create JCL Generation Profiles for all Levels of Expertise
 - **Object Profiles** define target databases for the JCL job
 - **Utility Profiles** define database maintenance tasks
 - **Job Profiles** combine one Object Profile and one Utility Profile to generate the JCL
 - Many Job Profiles can share Object and Utility Profiles



IMS Administration Tool – Setting up Profiles



- **OBJECT** Profiles
 - IMS DATABASES
 - IMS DBRC Groups

- **UTILITY** Profiles
 - IMS Tools Functions
 - User-defined functions

➤ **JOB** Profiles



Object Profile – Choose and Group IMS Objects

The screenshot shows the IBM Management Console for IMS and DB2 for z/OS. The main content area is titled "Run IMS Utilities: Object Profiles". It features a list of object profiles with columns for Profile Name, Creator, and IMSID. The "CLAIMS APPLICATION" profile is selected, and its details are shown in a form on the right. Below the form is a "Rules" section with a table of rules.

Profile Name	Creator	IMSID
BREAK	PDBISC	IEI1
EXPAND TEST	PDBISC	IEI1
CLAIMS APPLICATION	PDBISC	IEI8
DBRC GROUPS	PDBISC	IEI8
DHALLY03OBJ	PDBISC	IEI8
DI21PART	PDBISC	IEI8
DJDJ	PDBISC	IEI8
HALDB	PDBISC	IEI8
JCLGEN	PDBISC	IEI8
NOCAGRPOBJ	PDBISC	IEI8
TEST RULE	PDBISC	IEI8
TEST3	PDBISC	IEI8
DHALLN03OBJ	TSLJB	IEI8
DHALLY03OBJ	TSLJB	IEI8
DSALLN1BOBJ	TSLJB	IEI8
DSALLN1COBJ	TSLJB	IEI8
DSALLN1DOBJ	TSLJB	IEI8
DSALLN1POBJ	TSLJB	IEI8
DSALLY1BOBJ	TSLJB	IEI8

Profile Details for CLAIMS APPLICATION:

- Profile Name: CLAIMS APPLICATION
- Profile Description: HIGH UPDATE DATABASES
- Last Updated Timestamp: 2018/07/31 00:13:04
- Last Updated Userid: PDBISC
- Profile Creator: PDBISC
- Other Users' Access: U
- IMSID: IEI8

Rules Table:

Type	Qualifier	Area/Partition	DDNAME	Include or Exclude	Process Indexes	Process Logical Relations	Created by	Created on
DBD	F1V3P1			I	Y	Y	PDBISC	2018/07/31 00:12:36
DBD	H1V4P1			I	Y	Y	PDBISC	2018/07/31 00:13:04

Object profiles allow you to select and group your IMS resources. You can filter down to select the resources(s) you are interested in and then set specific rules and options to control how they are processed. You can also expand the object to find out more details about the objects that are related to this object.

Utility Profiles – Choose the Functions to Perform

The screenshot shows the IBM Management Console interface for IMS and DB2 for z/OS. The main content area is titled "Run IMS Utilities: Utility Profiles". It features a list of utility profiles on the left and a detailed view of the selected profile on the right.

Utility Profiles List:

Profile Name	Creator	IMSID
IMSRTS	IMSRTS	IDR8
IMSRTS	IMSRTS	IDR8
IMSRTS	IMSRTS	IDR8
JCLGEN	PDBISC	IEI8
ADMIN TOOL TEMPLATES	PDBISC	IEI8
COND REORG - IC & UNL	PDBISC	IEI8
CONDITIONAL REORG	PDBISC	IEI8
DHALLY03UTIL	PDBISC	IEI8
DI21PART	PDBISC	IEI8
FF	PDBISC	IEI8
JCLGEN	PDBISC	IEI8
NOCAGRPUTIL	PDBISC	IEI8
STOP DB	PDBISC	IEI8
TEST FUNCTIONS	PDBISC	IEI8
TEST3	PDBISC	IEI8
DHALLN03UTIL	TSLJB	IEI8
DHALLY03UTIL	TSLJB	IEI8
DSALLN1BUTIL	TSLJB	IEI8

Profile Details (CONDITIONAL REORG):

Profile Name:	CONDITIONAL REORG	Profile Creator:	PDBISC
Profile Description:	ONLY REORG WHEN NEEDED	Other Users' Access:	U
Last Updated Timestamp:	2018/07/31 00:36:34	IMSID:	IEI8
Last Updated Userid:	PDBISC		

Functions Table:

Function	Last Updated UserID	Last Updated Timestamp
Conditional Reorg	PDBISC	2018/07/31 00:36:34

Callout Text:

In this example, we selected the "Conditional Reorg" function. These functions are either populated/created by the ITKB registration of JCL templates per IMS Tool and/or they can be user functions which you created yourself.

Select and Sequence Functions - any way you like!

IBM Management Console for IMS and DB2 for z/OS

Admin | Hello, admin | Log Out

Environment: New Environment - BACSRV16

Object Profiles | **Utility Profiles** | Job Profiles

Run IMS Utilities: Utility Profiles

Filter by Profile Name: Profile Name: HPPC | Profile Creator: PDBISC
Filter by Profile Creator: Profile Description: IMSD1058 | Other Users' Access: U
Filter by IMSID: Last Updated Timestamp: 2017/08/21 13:08:46 | IMSID: IDOA

Function Selection & Sequencing

Instructions: Select and drag function(s) one at a time from the "Available Functions" and drop them in "Selected Functions" in the correct sequence as required. You can remove function(s) from the "Selected Functions" column by dragging & dropping them back into the "Available Functions" column.

Function Name	Selected Functions
Collect DB Sensor Data	Function Name
Collect FP Sensor Data Offline	
Collect RECOV Sensor Data	
Conditional Reorg	
Conditional Reorg - IC & UNLOAD	
Convert non-HALDB to HALDB	
Create DBD Map from ACB	
Create DRD/PSR Hierarchv Man	

Updated UserID: ISC | Last Updated Timestamp: 2017/08/21 13:08:46

Buttons: Create, Cancel

Choose from the available functions and then order them anyway you like – it's JCL built your way, easy and error-free!

Job Profiles – Task-based JCL that Anyone Can Run!

The screenshot shows the IBM Management Console interface for IMS and DB2 for z/OS. The main content area is titled "Run IMS Utilities: Job Profiles". A red box highlights the configuration form for a job profile named "REORG CLAIMS DATABASES". The form includes fields for Profile Name, Profile Description, Last Updated Timestamp, Last Updated Userid, Profile Creator, Other Users' Access, IMSID, and Generate Job if Errors Encountered?. Below these fields are buttons for "Change" for Object Profile, Utility Profile, and Job Statement. At the bottom of the form are "Save", "Cancel", and "Build JCL" buttons. A yellow callout points to the "Build JCL" button with the text: "The final step comes when you combine your Object and Utility Profiles and build your customized JCL."

Environment: New Environment - BACSRV16

Object Profiles Utility Profiles **Job Profiles**

Run IMS Utilities: Job Profiles

Filter by Profile Name
Filter by Profile Creator
Filter by IMSID

Profile Name	Creator	IMSID
DI21PART	PDBISC	IEI8
NOCAGRPJOB	PDBISC	IEI8
REORG CLAIMS DATABASES	PDBISC	IEI8
REORG CLAIMS DBS - IC/UL	PDBISC	IEI8
STOP DB	PDBISC	IEI8
TEST3	PDBISC	IEI8
DHALLN03JOB	TSLJB	IEI8
DHALLY03JOB	TSLJB	IEI8
DSALLN1BJOB	TSLJB	IEI8
DSALLN1CJOB	TSLJB	IEI8
DSALLN1DJOB	TSLJB	IEI8
DSALLN1PJOB	TSLJB	IEI8
DSALLY1BJOB	TSLJB	IEI8
DSALLY1CJOB	TSLJB	IEI8
DSALLY1DJOB	TSLJB	IEI8
DSALLY1PJOB	TSLJB	IEI8
DSDBN01PJOB	TSLJB	IEI8
DSDBY01PJOB	TSLJB	IEI8

Profile Name: REORG CLAIMS DATABASES
Profile Description: ONLY REORG WHEN NEEDED
Last Updated Timestamp: 2018/07/31 00:47:54
Last Updated Userid: PDBISC
Profile Creator: PDBISC
Other Users' Access: U
IMSID: IEI8
Generate Job if Errors Encountered?: W

Object Profile: CLAIMS APPLICATION (created by PDBISC) [Change]
Utility Profile: CONDITIONAL REORG (created by PDBISC) [Change]
Job Statement: Data Set () Member () [Change]

Save Cancel **Build JCL**

DDNAME Variables Keyword Variables

Variable Name	Value(s)	Rule	Source
COMBDATA	TLSJB.LATEST.COMBDATA		
COMBEXEC	TLSJB.LATEST.COMBEXEC		
COMBGENU	TLSJB.LATEST.COMBGENU		
COMBJPDS	TLSJB.LATEST.COMBJPDS		
COMBLOAD	TLSJB.LATEST.COMBLOAD		
COMBMAC	TLSJB.LATEST.COMBMAC		
COMBMENU	TLSJB.LATEST.COMBMENU		
COMBPDSE	TLSJB.LATEST.COMBPDSE		
COMBPENU	TLSJB.LATEST.COMBPENU		
COMBPROC	TLSJB.LATEST.COMBPROC		
COMBSAMP	TLSJB.LATEST.COMBSAMP		
COMBSENU	TLSJB.LATEST.COMBSENU		
COMBTENU	TLSJB.LATEST.COMBTENU		

Total: 144

Conditional Reorg JCL generated – Just like that!

The screenshot shows the IBM Management Console interface. The main window displays the JCL for Job Profile: REORG CLAIMS DATABASES. The JCL content is as follows:

```
(70,7) -----1-----2-----3-----4-----5-----6-----7-----8-----9-----0-----1-----2-----3-----4-----5-----
00000005 //*****
00000006 //* JCL Generated 2018/07/31 18:24:17 by TSMHK *
00000007 //* JOB Profile REORG CLAIMS DATABASES Creator PDBISC *
00000008 //* UTL Profile CONDITIONAL REORG Creator PDBISC *
00000009 //* OBJ Profile CLAIMS APPLICATION Creator PDBISC *
00000010 //*****
00000011 //*-----*
00000012 //*
00000013 //* CONDITIONAL REORGANIZATION *
00000014 //*-----*
00000015 //*
00000016 //STEP1 EXEC PGM=HRFREORG,REGION=0M,DYNAMNBR=999
00000017 //STEPLIB DD DISP=SHR,DSN=TSJJB.LATEST.CUSTLOAD
00000018 // DD DISP=SHR,DSN=IMSQA.SMPE.HAHN160.SGLXLOAD
00000019 // DD DISP=SHR,DSN=IMSQA.SMPE.HAHN160.SFOILOAD
00000020 // DD DISP=SHR,DSN=IMSQA.SMPE.HAHN160.SHKTLOAD
00000021 // DD DISP=SHR,DSN=IMSTJP.DBSP210.ORF.SHRFLOAD
00000022 // DD DISP=SHR,DSN=IMSTJP.DBSP210.RGE410.SHPSLMD0
00000023 // DD DISP=SHR,DSN=IMS.IE18.USERLIB
00000024 // DD DISP=SHR,DSN=IMS.IE18.SDFSRESL
00000025 //IMSDALIB DD DISP=SHR,DSN=IMS.IE18.MDALIB
00000026 //IMS DD DISP=SHR,DSN=IMS.IE18.DBDLIB
00000027 //SYSPRINT DD SYSOUT=*
00000028 //MSGPRINT DD SYSOUT=*
00000029 //HRFSYSIN DD *
00000030 REORG DBD(F1V3P1) SHADOW(A) -
00000031 CONDREORG(Y) -
00000032 CR.POLICYNM(SYS.DBDTYPE.FFDBALL) -
00000033 CR.POLICYBY(NAME) -
00000034 CR.EVALINDEX(Y) -
00000035 LOG1DSN(TSMHK.&DBD.&DATE1.&TIME1.LOG) -
00000036 ICDYN(Y) -
00000037 IC1DSN(TSMHK.&DDNAME.&DATE1.&TIME1.IC)
```

At the bottom of the console, there are fields for "JCL Data Set:" (TSMHK.IE18.JCLOUT) and "Member:" (TESTALL). Below these fields is an attention message: "Attention: Existing member in the data set will be overwritten." At the very bottom, there are three buttons: "Save JCL", "Execute JCL", and "Close".

A red oval highlights the JCL content area. A yellow callout box points to the JCL with the text: "This JCL is ready to save or execute now, or be scheduled by Autonomics Director".

Viewing exceptions, statistical data, utility reports

- Standard ISPF interface
 - What we all know & love
- Transition to GUI interface
 - WEB access – any time, any where
 - Provides an alternative to ISPF interface
 - Essential to skills growth of next-Gen staff
- IBM Management Console for IMS and DB2



IBM Management Console for IMS and DB2

<https://www.ibm.com/us-en/marketplace/ibm-management-console-for-ims>

- Provides a holistic view of your IMS databases from a single, easy-to-use Web interface
 - All functions of the new IMS Administration Tool are available via the Management Console
 - Dynamic, interactive graphs and charts provide a visual representation of sensor data
 - Integration with our Autonomics engine provides a list of policy exceptions and recommended resolutions for all of your monitored databases
 - All IMS Tools reports stored in the IMS Tools Knowledge Base can be searched, retrieved, and viewed effortlessly
- Prepares for the next generation of IMS DBAs
 - Uses the latest web technologies for a rich user experience
 - Access from anywhere via the Internet using standard web browsers
 - An integrated help system serves as a learning aid for new IMS DBAs



IBM Management Console for IMS and DB2

Help

- Getting Started
- Help
- IBM Knowledge Center
- IBM Support Portal
- About

Setup

- Users
- Environments
 - Configuration
 - Components

Autonomics

- **IMS** (or DB2)
 - Schedules
 - Monitor List

Resources

- Free-form Search Capability
or
- Enterprise View
- Custom IMS Database Groups
- Resources with Symptoms
- Search Results
- Import Objects

Reports

- Saved Searches
 - All Reports
 - Today's Reports
 - Yesterday+Today's Reports
 - Last 7 days' Reports
 - Reports with Non-Zero
Completion Code
- Add Criteria

Admin

- IMS Catalog/ACB Management
- DB and APPL Administration
- Run IMS Utilities
- IMS SPUFI
- IMS Command Processor
- Setup and Administration



IBM Management Console for IMS and DB2

Resources

IBM Management Console for IMS and DB2 for z/OS

Resources

Hello, yhidaka

Log Out

- Resources
- Autonomics
- Reports
- Set Up
- Help

Search

Enterprise View

- LIU Demo @ RSIC
 - BLDU1
 - IDU1CON
 - IVPDB
 - TSSXW

LIU Demo @ RSIC / IVPDB / Databases (DBD) / HDAMVSAM

View DBD Map | Cross Reference

Properties

Environment Name: LIU Demo @ RSIC

Locale Alias: IVPDB

Database Name: HDAMVSAM

Database Type: HDAM

Access Method: VSAM

Exceptions 6

Actions (1)

- A reorganization is recommended

Critical (3)

- Excessive number of synonym
- Excessive number of roots n
- Excessive number of variable

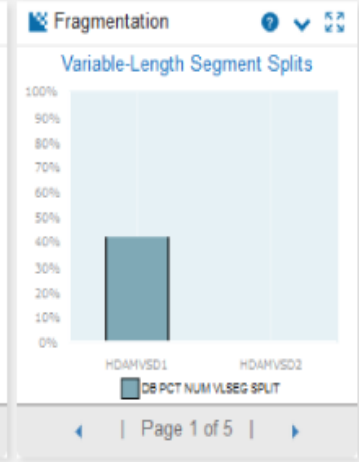
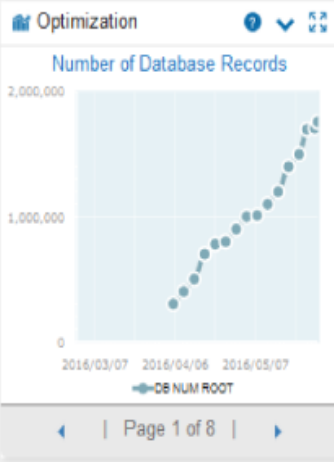
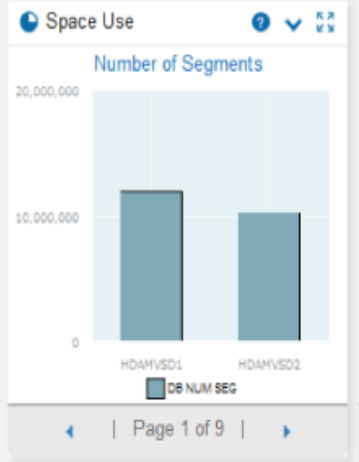
Severe (0)

Warning (3)

- Excessive free space fragme
- Excessive volume of data in
- Excessive number of extensi

Reports 16

2016-05-31 (16)



Resources with symptoms

Summary

Resources	Overall Health	Critical	Severe	Warning	Actions
TPFOH1A	Red	6	0	0	0
TPFOH3A	Red	6	0	0	0
DD691A02	Red	5	0	2	0
HDAMVSAM	Red	3	0	3	1
DD691A01	Red	3	0	1	0
CLASSRDB	Red	2	0	1	0
TPFOH1B	Red	2	0	1	0
FACILTDB	Red	2	0	0	0
TPFOH2A	Red	2	0	0	0
COURSEDB	Red	1	1	1	0
ORDHDAM	Red	1	0	2	0
SCHOOLDB	Red	1	0	0	0
STUDENTB	Orange	0	1	0	0

DBD View

```

000001 * TITLE 'ASSEMBLY OF DDNAME=HDAMVSAM'
000002 * DDNAME=DDTEXT.001.TV08.0001S
000003 * VOL=RL1000
000004 * DDORIG DATE 11/14/2012 TIME 19.36
000005 * DDORIG DATE 09/31/2016 TIME 04.22.24
000006 * DDORIG DATE 11/14/2012 TIME 19.36
000007 * DDORIG DATE 11/14/2012 TIME 19.36
000008 * DDORIG DATE 11/14/2012 TIME 19.36
000009 * DDORIG DATE 11/14/2012 TIME 19.36
000010 * DDORIG DATE 11/14/2012 TIME 19.36
000011 * DDORIG DATE 11/14/2012 TIME 19.36
000012 * DDORIG DATE 11/14/2012 TIME 19.36
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000025 * DDORIG DATE 11/14/2012 TIME 19.36
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000032 * DDORIG DATE 11/14/2012 TIME 19.36
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000037 * DDORIG DATE 11/14/2012 TIME 19.36
000038 * DDORIG DATE 11/14/2012 TIME 19.36
000039 * DDORIG DATE 11/14/2012 TIME 19.36
000040 * DDORIG DATE 11/14/2012 TIME 19.36
    
```

DBD Map

Resources via the Web...

Resources

The screenshot displays the IBM Management Console interface for IMS and DB2 for z/OS. The main content area is titled "Resources" and shows details for the environment "RSIC / IVPDB / Databases (DBD) / HDAMVSAM".

System/DBD Properties: A table-like view showing key attributes:

- Environment Name: RSIC
- Locale Alias: IVPDB
- Database Name: HDAMVSAM
- Database Type: HDAM
- Logical Children: 0
- Segment Types: 3

Exceptions and Actions: A section with a green header indicating 7 exceptions. It lists actions such as "A reorganization is recommended" and "Image copy is recommended", along with critical and warning messages.

Utility Reports: A section with a blue header showing 16 reports. It lists reports for dates like 2016-05-31 and 15.49.05, including titles like "PC-DB RECORD DIST" and "PC-HASH EVALUATION".

Sensor Data Elements: Three charts at the bottom provide performance metrics:

- Space Use:** A bar chart titled "Number of Segments" comparing HDAMVSD1 and HDAMVSD2.
- Optimization:** A line chart titled "Number of Database Records" showing a trend over time from 6/7/16 to 10/7/16.
- Fragmentation:** A bar chart titled "Variable-Length Segment Splits" comparing HDAMVSD1 and HDAMVSD2.

The left sidebar contains navigation options: Resources, Autonomics, Reports, Set Up, and Help. The top navigation bar includes "IBM Management Console for IMS and DB2 for z/OS", "Resources", "Hello, admin", and "Log Out".

A different way to view utility reports

The screenshot displays the IBM Management Console interface. The browser address bar shows 'rs01.rocketsoftware.com:9080/imweb/itac/index.html'. The page title is 'IBM Management Console for IMS and DB2 for z/OS'. The main content area is titled 'All reports' and contains a table of utility reports. A search criteria dropdown menu is open on the left, listing various filterable fields.

Locale Alias	Product Name	Report Name	DB Name	Area/ Partition	DD Name	Recon ID	IMS ID	Group Type	Group Name	Report Start Date	Completi Code	Report Type	System ID	User ID	Job Number	Job Name	Step Name	Job Start
IEA1RCN	HPFFPU	FPA-Secondary Index Def	FP00		*	IEA1RCN				Wed Jun 13 17:53:06 EDT 2018	000	DBD	RS01	TSLJB	0004022	RCV00	IDFS0001	Wed Ju 17:53:0 2018
IEA1RCN	HPFFPU	FPA-Secondary Index Def	FP01		*	IEA1RCN				Mon Jun 18 18:24:12 EDT 2018	000	DBD	RS01	DMID01	0005948	RCV01	FS594601	Mon Ju 18:24:1 2018
IEA1RCN	HPFFPU	FPA-Secondary Index Def	FP01		*	IEA1RCN				Mon Jun 18 18:11:11 EDT 2018	000	DBD	RS01	TSLJB	0005925	RCV01	FS592501	Mon Ju 18:11:1 2018
IEA1RCN	HPFFPU	FPA-Secondary Index Def	FP01		*	IEA1RCN				Mon Jun 18 18:08:17 EDT 2018	000	DBD	RS01	TSLJB	0005910	RCV01	FS591001	Mon Ju 18:08:1 2018
IEA1RCN	HPFFPU	FPA-Secondary Index Def	FP01		*	IEA1RCN				Mon Jun 18 15:58:28 EDT 2018	000	DBD	RS01	TSLJB	0005884	RCV01	FS588401	Mon Ju 15:58:2 2018
IEA1RCN	HPFFPU	FPA-Secondary Index Def	FP01		*	IEA1RCN				Wed Jun 13 17:52:35 EDT 2018	000	DBD	RS01	TSLJB	0004020	RCV01	IDFS0001	Wed Ju 17:52:3 2018
IEA1RCN	HPFFPU	FPA-Secondary Index Def	FP02		*	IEA1RCN				Wed Jun 13 17:50:11 EDT 2018	000	DBD	RS01	TSLJB	0004005	RCV02	IDFS0001	Wed Ju 17:50:1 2018
IEA1RCN	HPFFPU	FPA-Secondary Index Def	FP03		*	IEA1RCN				Wed Jun 13 18:02:01 EDT 2018	000	DBD	RS01	TSLJB	0004051	RCV03	IDFS0001	Wed Ju 18:02:0 2018
IEA1RCN	HPFFPU	FPA-Secondary Index Def	FP04		*	IEA1RCN				Wed Jun 13 18:04:05 EDT 2018	000	DBD	RS01	TSLJB	0004087	RCV04	IDFS0001	Wed Ju 18:04:0 2018
IEA1RCN	HPFFPU	FPA-Secondary Index Def	FP05		*	IEA1RCN				Wed Jun 20 14:28:35 EDT 2018	000	DBD	RS01	DMID05	0007002	RCV05	FS700201	Wed Ju 14:28:3 2018
IEA1RCN	HPFFPU	FPA-Secondary Index	FP05		*	IEA1RCN				Wed Jun 13 18:04:47 EDT 2018	000	DBD	RS01	TSLJB	0004089	RCV05	IDFS0001	Wed Ju 18:04:4 2018

Search Criteria dropdown menu options:

- Completion code
- DB name
- DD name
- IMS ID
- Job name
- Job number
- Job start date
- Locale alias
- Product name
- Quick link
- RECON ID
- Report name
- Report start date
- Report type
- Step name
- Step start date
- System ID
- User ID

Which looks better to you?

```

IMS Tools Exceptions in all RECONS          Row 1 to 1 of 1
Command ==>                               Scroll ==> PAGE

RECON . . . . IEA1RCNS (NAME, NAME*, *)   View . . . S (S:Summary D:Detail)
Min Level . . W (C,S,W)                   Sort . . . R (S:Severity R:RECON)
Domain . . . * (*, 1:RECOVERY, 2:REORG)   No excp . . D (D:Display S:Supress)

Row actions: S - Exception detail, I - Exception information, Q - Query data
Enter ENTER with no RECONS selected to refresh the display.

      _____ All Domains _____   _____ By Domain _____
RECON  High Critical Severe Warn  RECOVERY  REORG
IEA1RCNS  C      90      .      .      31      59  *Display
***** Bottom of data *****
  
```



Which looks better to you?

Locale Alias	Product Name	Report Name	DB Name	Area/ Partition	DD Name	Recon ID	IMS ID	Group Type	Group Name	Report Start Date	Completi Code	Report Type	System ID	User ID	Job Number	Job Name	Step Name	Job Start Date	Step Start Date	Quick Lin
IEA1RCN	HPIC	IC-ICEIN STATEMENTS	FFS00		*	IEA1RCN				Tue Oct 09 10:06:22 EDT 2018	000	SUM	RS01	TSRMG	0002298	IC00	STEP1	Tue Oct 09 10:06:21 EDT 2018	Tue Oct 09 10:06:21 EDT 2018	DIS18
IEA1RCN	HPIC	IC-ICEIN STATEMENTS	FFI00		*	IEA1RCN				Tue Oct 09 10:06:22 EDT 2018	000	SUM	RS01	TSRMG	0002298	IC00	STEP1	Tue Oct 09 10:06:21 EDT 2018	Tue Oct 09 10:06:21 EDT 2018	DIS18
IEA1RCN	HPIC	IC-ICEIN STATEMENTS	FF00		*	IEA1RCN				Tue Oct 09 10:06:22 EDT 2018	000	SUM	RS01	TSRMG	0002298	IC00	STEP1	Tue Oct 09 10:06:21 EDT 2018	Tue Oct 09 10:06:21 EDT 2018	DIS18
IEA1RCN	HPIC	IC-ICEIN STATEMENTS	FP00		*	IEA1RCN				Tue Oct 09 10:06:26 EDT 2018	000	SUM	RS01	TSRMG	0002298	IC00	STEP1	Tue Oct 09 10:06:21 EDT 2018	Tue Oct 09 10:06:24 EDT 2018	DIS18
IEA1RCN	HPIC	IC-ICEIN STATEMENTS	HALS00		*	IEA1RCN				Tue Oct 09 10:06:22 EDT 2018	000	SUM	RS01	TSRMG	0002298	IC00	STEP1	Tue Oct 09 10:06:21 EDT 2018	Tue Oct 09 10:06:21 EDT 2018	DIS18
IEA1RCN	HPIC	IC-ICEIN STATEMENTS	HAL00		*	IEA1RCN				Tue Oct 09 10:06:22 EDT 2018	000	SUM	RS01	TSRMG	0002298	IC00	STEP1	Tue Oct 09 10:06:21 EDT 2018	Tue Oct 09 10:06:21 EDT 2018	DIS18
IEA1RCN	HPIC	IC-ACTIVE GLOBAL OPTION	FFS00		*	IEA1RCN				Tue Oct 09 10:06:22 EDT 2018	000	SUM	RS01	TSRMG	0002298	IC00	STEP1	Tue Oct 09 10:06:21 EDT 2018	Tue Oct 09 10:06:21 EDT 2018	DIS28
IEA1RCN	HPIC	IC-ACTIVE GLOBAL OPTION	FFI00		*	IEA1RCN				Tue Oct 09 10:06:22 EDT 2018	000	SUM	RS01	TSRMG	0002298	IC00	STEP1	Tue Oct 09 10:06:21 EDT 2018	Tue Oct 09 10:06:21 EDT 2018	DIS28
IEA1RCN	HPIC	IC-ACTIVE GLOBAL OPTION	FF00		*	IEA1RCN				Tue Oct 09 10:06:22 EDT 2018	000	SUM	RS01	TSRMG	0002298	IC00	STEP1	Tue Oct 09 10:06:21 EDT 2018	Tue Oct 09 10:06:21 EDT 2018	DIS28
IEA1RCN	HPIC	IC-ACTIVE GLOBAL OPTION	FP00		*	IEA1RCN				Tue Oct 09 10:06:26 EDT 2018	000	SUM	RS01	TSRMG	0002298	IC00	STEP1	Tue Oct 09 10:06:21 EDT 2018	Tue Oct 09 10:06:24 EDT 2018	DIS28
IEA1RCN	HPIC	IC-ACTIVE GLOBAL	HALS00		*	IEA1RCN				Tue Oct 09 10:06:22 EDT 2018	000	SUM	RS01	TSRMG	0002298	IC00	STEP1	Tue Oct 09 10:06:21 EDT 2018	Tue Oct 09 10:06:21 EDT 2018	DIS28

```

SDSF JOB DATA SET DISPLAY - JOB IC00      (JOB02298)      LINE 1-7 (7)
COMMAND INPUT ==>>>
NP  DDNAME  StepName ProcStep DSID Owner   C Dest          Rec-Cnt Page
   JESMSG LG JES2          2  TSRMG  X LOCAL          30
   JESJCL  JES2          3  TSRMG  X LOCAL          271
   JESYSMSG JES2          4  TSRMG  X LOCAL          339
   ICEPRINT HPIC      STEP1    103  TSRMG  X LOCAL          218
   DFSPRINT HPIC      STEP1    114  TSRMG  X LOCAL           56
   ICEPRINT HPICFP    STEP1    115  TSRMG  X LOCAL          220
   DFSPRINT HPICFP    STEP1    126  TSRMG  X LOCAL           13
  
```



Summary - IMS Database Solution Pack for z/OS 2.2

- ✓ Provides a full set of tools for maintaining and managing your IMS full-function databases
- ✓ Includes the new IMS Administration Tool
- ✓ Includes important High Performance utilities
- ✓ Utilizes Sensors, Policies, and Automation
- ✓ Delivers on the IMS Tools mission of allowing you to focus on growing your business rather than the day-to-day maintenance of your IMS environment through smarter, self-managing systems

Conditional Reorganization

- Never run a reorg if it isn't needed – the best reorg is the one that never runs!

Automation via IMS Tools Autonomics Director

- Automate your IMS database maintenance – set it and forget it



questions



For More Information

- IMS Tools website
www.ibm.com/it-infrastructure/z/ims/tools
- IMS Tools new functions
www.ibm.com/support/docview.wss?uid=swg22015506
- IMS Tools Product Documentation
www.ibm.com/support/docview.wss?uid=swg27020942
- IMS Tools Youtube Playlist
www.youtube.com/playlist?list=PLezLS0Tuqb-5DSdF1Locnq5lhTgcX02vf
- IMS new functions
www.ibm.com/support/knowledgecenter/en/SSEPH2_15.1.0/com.ibm.ims15.doc.rpg/ims_cd_functions.htm
- IBM zITSM newsletter (email every 2 months with summary articles and links to more information)
<http://ibm.biz/zITSMNewsletterSubscribe>



धन्यवाद

Hindi

多謝

Traditional

감사합니다

Korean

Спасибо

Russian

Ndzi khense ngopfu

Tsonga

Gracias

Spanish

Thank You

English

Obrigado

Brazilian Portuguese

شكراً

Arabic

Grazie

Italian

Danke

German

多谢

Simplified Chinese

Merci

French

Ke a leboha

Tswana

நன்றி

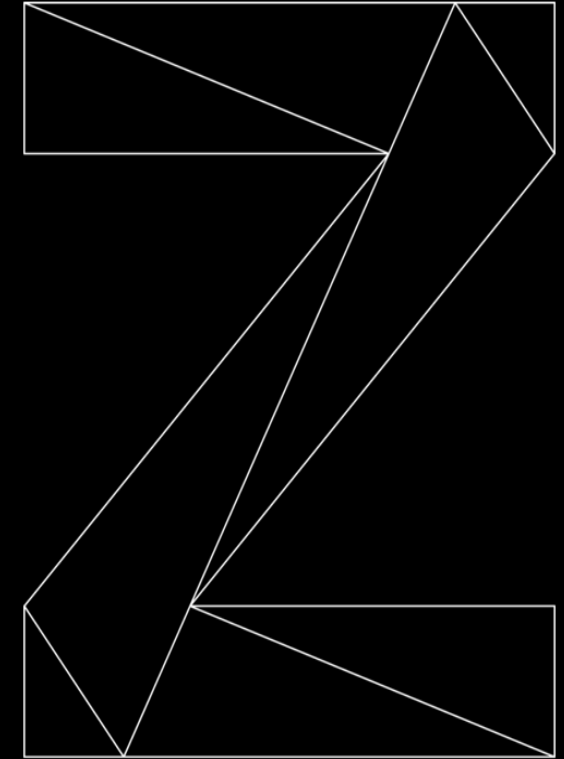
Tamil

ありがとうございました

Japanese

ขอขอบคุณ

Thai



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IMS Tools