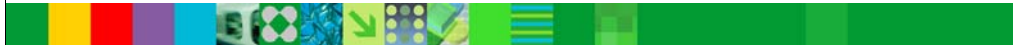




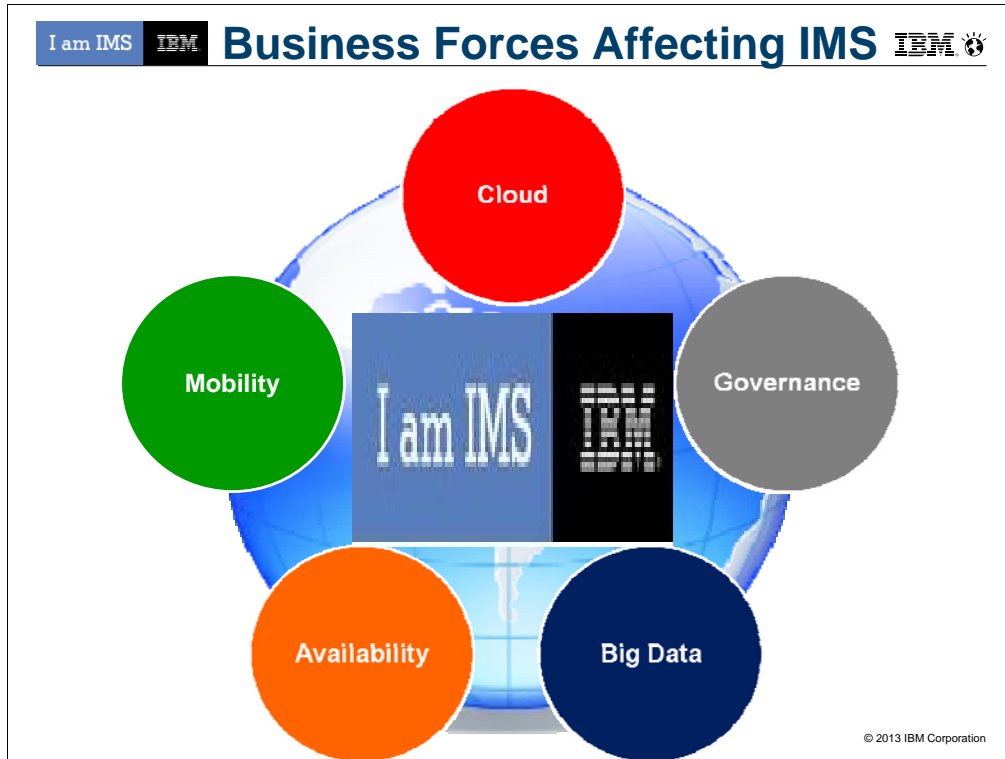
IMS 13

IMS/Tools IMS v13 Update IMS Migration Workshop

Information Management software

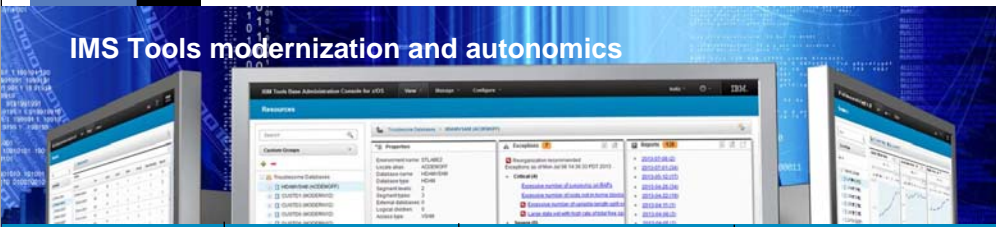


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Welcome to day 2 of the IMS Migration Workshop. In today's world there are a lot of business force affecting your IMS futures. Most if not all of these require the new functions that are released in IMS v13. According to IDC one of the top growth predictions for 2014 is Cloud. IDC says they believe Cloud will continue to be backed by the mainframe. So the requirement for IMS to improve performance will be a key issue. Governance (Regulatory&Compliance) faces many of our business as laws change. You may need the capability to mask data being used by other systems or platforms. Big Data might require analytics in attached appliances or off platform which will need products that can quickly offload that data. 24x7 is becoming a reality for any company that uses the web. And Mobility is one of the fast growing areas that is effecting our business. How are we going to handle that new increase in workload?

IMS Tools modernization and autonomies

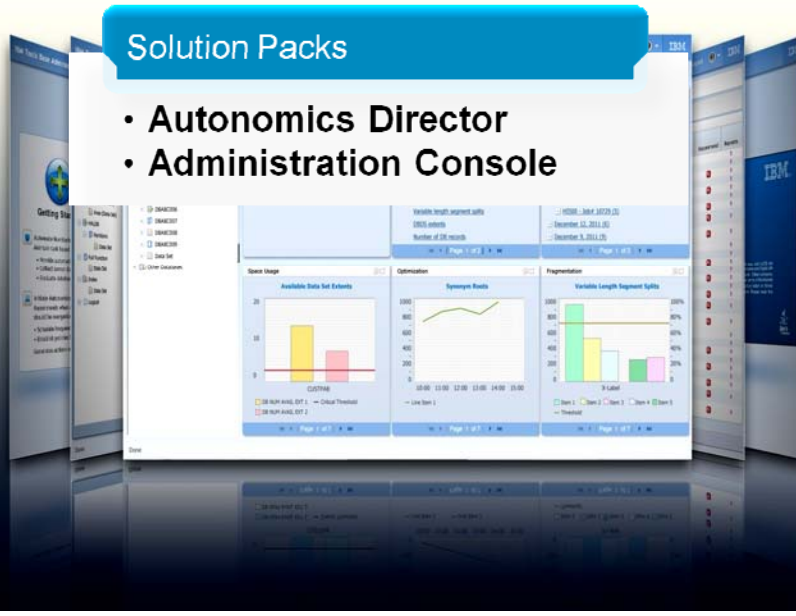


IMS Database Solution Pack for z/OS	IMS Fast Path Solution Pack for z/OS	IMS Recovery Solution Pack for z/OS	IMS Performance Solution Pack for z/OS
Autonomics IMS Online Reorg Facility IMS DB Reorganization Expert - Unload, Load, Index Build, Prefix Resolution/Update IMS HP Image Copy IMS HP Pointer Checker IMS Library Integrity Utilities HALDB Toolkit	Autonomics IMS HP Fast Path Utilities IMS DB Repair Facility IMS HP Image Copy IMS Library Integrity Utilities	IMS HP Image Copy IMS Database Recovery Facility IMS HP Change Accumulation IMS Index Builder IMS DRF Extended Functions	IMS Connect Extensions IMS Performance Analyzer IMS Problem Investigator
IMS Tools Base for z/OS			
Data Base Administration <ul style="list-style-type: none"> IMS Sequential Randomizer Generator 	Utility Management <ul style="list-style-type: none"> IMS Cloning Tool IMS Database Control Suite 	Backup and Recovery <ul style="list-style-type: none"> IMS HP Image Copy IMS DEDB Fast Recovery IMS Recovery Expert V2 	Performance Management <ul style="list-style-type: none"> IMS Buffer Pool Analyzer IBM Transaction Analysis Workbench IMS Network Compression Facility
		System / TM Administration Application Management Regulatory Compliance	System <ul style="list-style-type: none"> IMS Command Control Facility IMS ETO Support IMS HP Sysgen Tools IMS Queue Control Facility IMS Workload Router TM <ul style="list-style-type: none"> IMS Configuration Manager IMS Sysplex Manager <ul style="list-style-type: none"> Batch Terminal Simulator Program Restart Facility
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All of these FORCES require the right tools to move your business into the future. At IBM we have a full range of products that can help you with all the forces. As IMS continues to build future functions the IMS/Tools products work to meet those needs.

Solution Packs

- **Autonomics Director**
- **Administration Console**

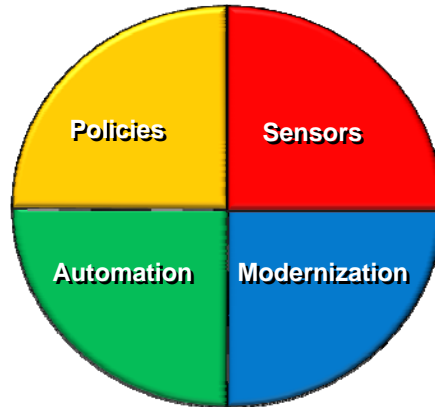


IMS Tools Autonomics Vision

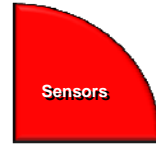


Putting information to work

- Sensors collect resource statistics
- Policies evaluate sensor data and identify potential problems
- Automation orchestrates the collection and evaluation of sensor data
- Modernization presents an interactive modern interface for managing the system



Sensors: Collecting the Basic Information You Need

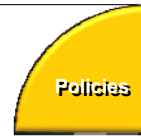


- Statistical point-in-time sensor data on your FF/FP Databases
 - Stored in IMS Tools Knowledge Base repository
 - Historically maintained per user specifications
 - Over 60 separate data elements related to space usage, optimization, and fragmentation
 - data set extents, DASD volume usage, data set free space, roots distribution, RAP usage, CI/CA splits, and IMS free space, etc

- Two methods of collection:
 - Standalone database Sensor utilities for full-function and Fast Path databases
 - Integrated with existing IMS Tools

- Integrated Tools support
 - High Performance Image Copy, High Performance Pointer Checker
 - Fast Path Analyzer, Fast Path Online Pointer Checker

Policies: Using Sensor Data to Make Decisions



- Policy definitions are used to evaluate specific database states
 - Threshold values are compared against sensor data for a given database or group of databases
 - When thresholds are met or exceeded, exceptions occur

- Works “out of the box”
 - Ships with predefined policies and threshold values
 - Full ISPF interface provided for policy management

- Customizable to fit your shop
 - You can define your own sets of threshold values
 - Customize the messages sent when exceptions do occur
 - Specify who receives which messages and how
 - WTO, e-mail, or text

Automation: Delivering on our Vision

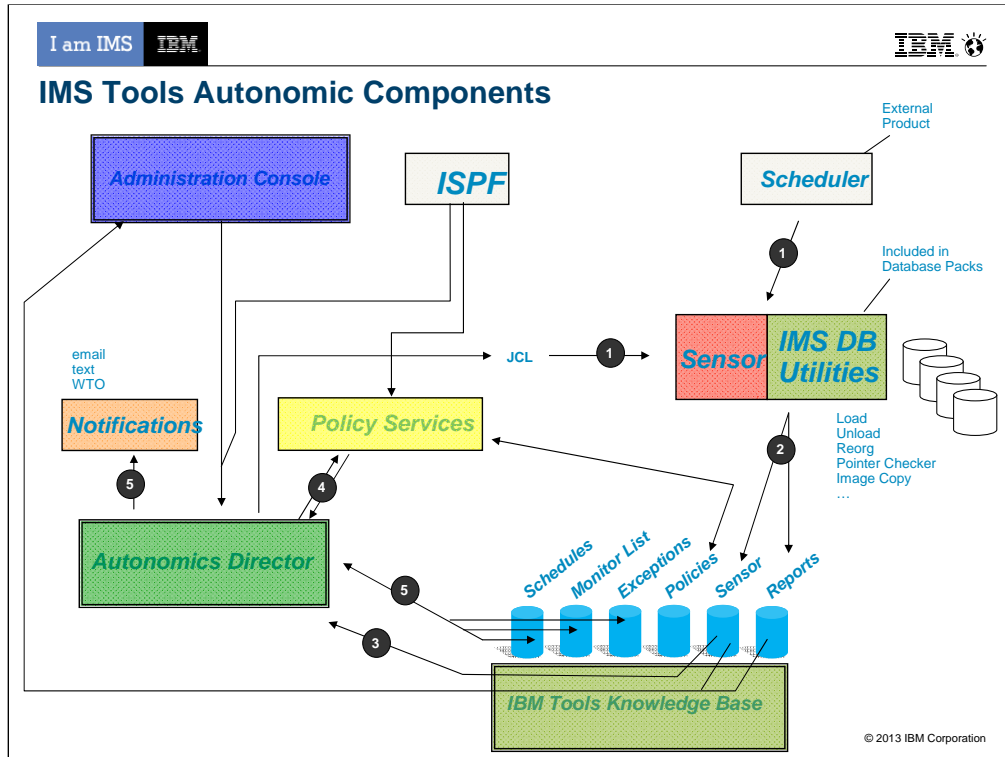
A green graphic with a curved bottom edge, containing the word "Automation" in white text.

- IBM Tools Autonomics Director 1.3 (Passive)
 - Automates collection and analysis of Sensor Data
 - Recommends when databases should be reorganized
 - With email or text notifications
 - Provides a scheduling feature that allows you to control how frequently sensor data is collected and how frequently policies are evaluated
 - Flexible scheduling around pre-defined PEAK times

- IBM Tools Autonomic Director 1.4 (Active)
 - Actively initiate recommended actions on user-defined database groups
 - Discovery feature for identifying related database groups
 - Ability to manage and coordinate reorganization of multiple IMS database groups as if reorganizing a single database
 - Flexible scheduling only in pre-defined Maintenance windows



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1. Utility Jobs (with embedded sensors) are triggered either through a traditional Job scheduler or from the Autonomics Directory (based on predefined schedules and databases in the monitor list)
2. Upon completion Utilities store new sensor data into the ITKB repository
3. New data in the repository triggers a notification to Autonomics Director
4. Autonomics Director grabs the new data and evaluates it calling the Policy Services.
5. Exceptions, identified by policy services, are recorded into the exceptions list, optionally notifications are triggered by the exceptions (recommendations based on Autonomics Director logic are also recorded with the exceptions)

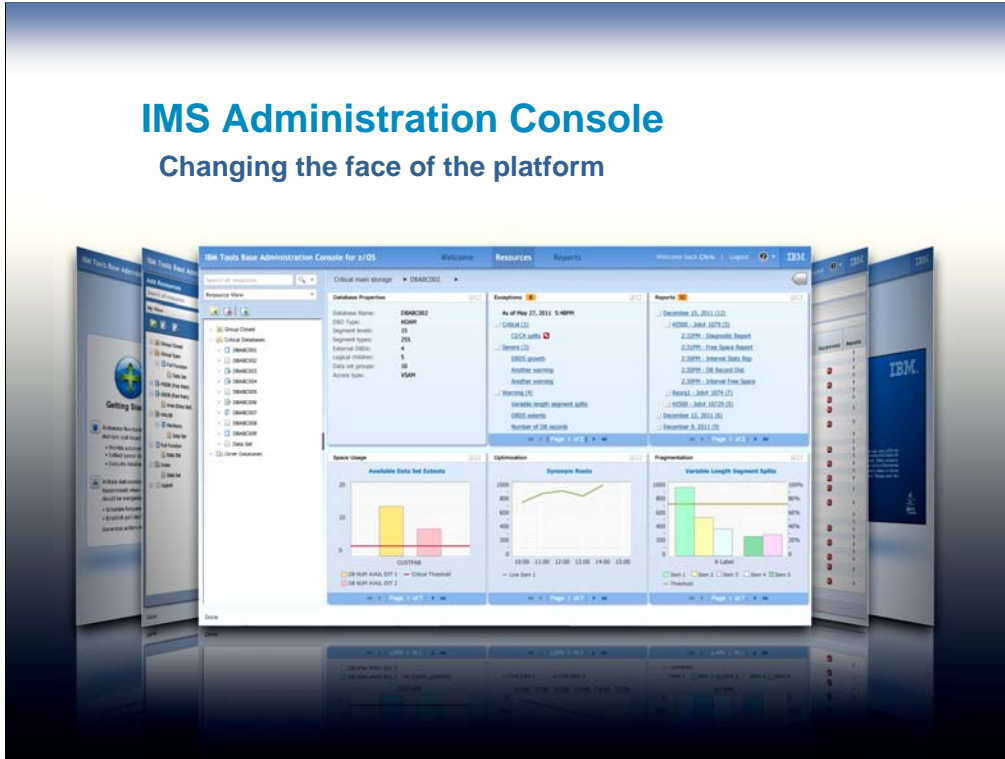
ISPF can currently drive Autonomics Director (to define schedules, monitor lists, exceptions, on-demand sensor runs, on-demand reorgs) and Policy Services (to setup and tweak policies)

Admin Console can currently drive Autonomics Director (to define schedules, monitor lists, exceptions, on-demand sensor runs) and talk to ITKB to display sensor and reports

Future Admin Console plans support to drive Policy Services and Notifications (likely only manage notification lists and send WTO, as email/text can be sent directly from Admin Console)

IMS Administration Console

Changing the face of the platform



IMS Administration Console Goals

Modernization

- Provide a single holistic, easy-to-use interface to manage IMS systems and databases
 - Consolidate information from various tools to paint a more complete picture of IMS systems and databases
 - Leverage the latest web technologies for a richer user experience
 - Access from anywhere via the Internet using standard web browsers
 - Prepare the next generation of IMS DBAs and System Programmers through an integrated, context sensitive help system

- Begin with integration of our Autonomics Solutions
 - ...Extend integration to support all our IMS Tools



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IMS Tools Administration Console Overview

1 Summary Table for a FFDB

Check the summary of latest FFDB space diagnosis performed by Autonomics Director

Resource	Type	Overall	Critical	Severe	Warning	Recommendation
CUSTAPPL	GROUP	4	1	0	1	
HDAMV5AM (ACDEMOP)	HDAM	4	0	0	2	0
HDAMV5D1						
HDAMV5D2						
LOANDR (ACDEMOP)	HDAM	0	0	0	2	0

2 Exceptions Widget

Check the itemized diagnosis results for the resource

IBM Tools Base Administration Console for z/OS

Summary

Exceptions

- Reorganization recommend
- Excessive number of split segments
- Excessive number of split segments

3 Help Widget

Read the help for each of the detected exceptions

4 Reports Widget

Look at DB Solution Pack utility reports to see detailed analysis of the space usage of the subject area.

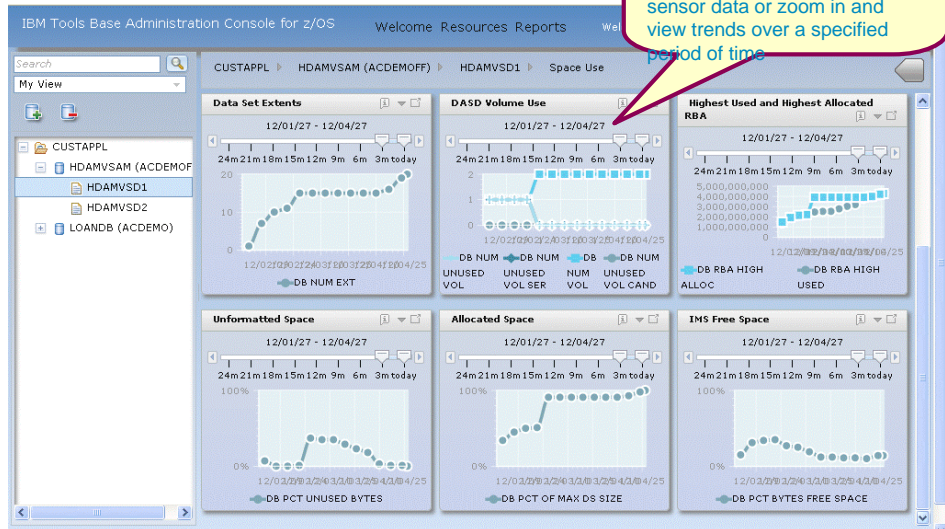
5 Sensor Widget

Look at the trend of specific sensor data values

Main dashboard for a FFDB

Data Set Space Usage Charts

Note: all line graphs have an integrated time slider so you can view the most recent sensor data or zoom in and view trends over a specified period of time



IMS AD/AC Tools Supporting IMS V13

•IBM Tools Base

–Gen Exits:

- [PM75246 / UK90548 - IMS Tools Generic Exits](#)
- This APAR adds IMS V13 support to Tools Base- component Generic Exits.

–TOSI:

- [PM75247 / UK90611 - IMS Tools Online System Interface](#)
- The APAR adds IMS V13 support to TOSI.

–HWDCE:

- [PM75481 / UK90489 - IMS Hardware Data Compression](#)
- IMS V13 support added for the Image Copy Extract function and ISPF JCL generation dialog

–Scrub Utility:

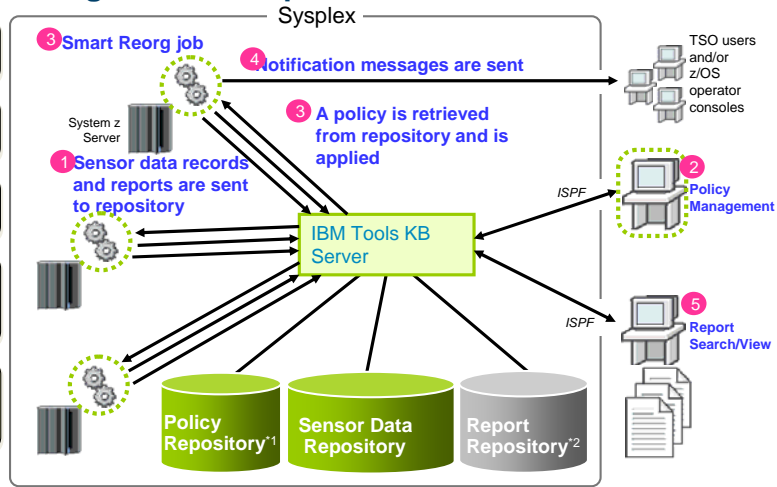
- [PM79984 / UK90846 - Scrub Utility](#)
- The Scrub utility does not support IMS V13 log records

Database Solution Pack

- **Autonomics**
- **IBM Administration Console**
- Online Reorg Facility
- DB Reorg Expert
- HP Unload
- HP Load
- HP Prefix Resolution
- Index Builder
- HP Pointer Checker
- HP Image Copy
- IMS Library Integrity Utility
- HALDB Toolkit

IMS Database Reorganization Expert for z/OS

1. Sensor Data Collection
2. Reorg policy Definition
3. Conditional Reorganization
4. Exception Notification and Reporting
5. Tracking exceptions and reorgs



- All information are stored in and managed by IMS Tools KB repositories
- Sysplex-wide access to these repositories is supported by IMS Tools KB Server

*1: ITKB Input Repository is used as the Policy Repository.

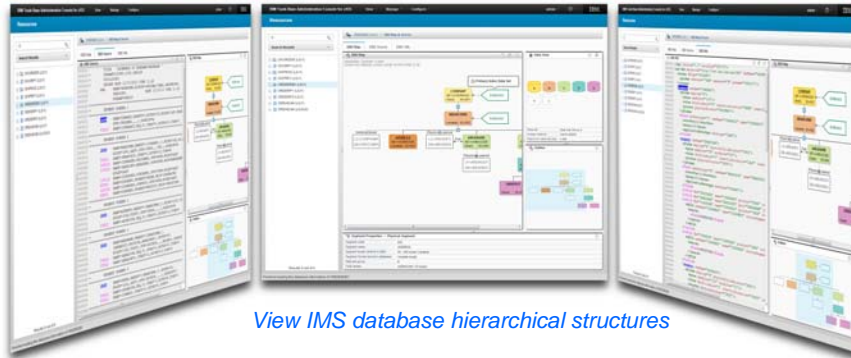
*2: ITKB Output Repository is used as the Report Repository.

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IMS Library Integrity Utilities : DBD Map Viewer in Administration Console

New Utility

- DBD Map Viewer is an LIU extension for Administration Console
- It provides visualized IMS Database Structures in Web Browser
- New Functions
 - DBD Map Viewer
 - DBD/PSB/ACB Compare
 - ACBLIB Analyzer
 - Integrity Checker



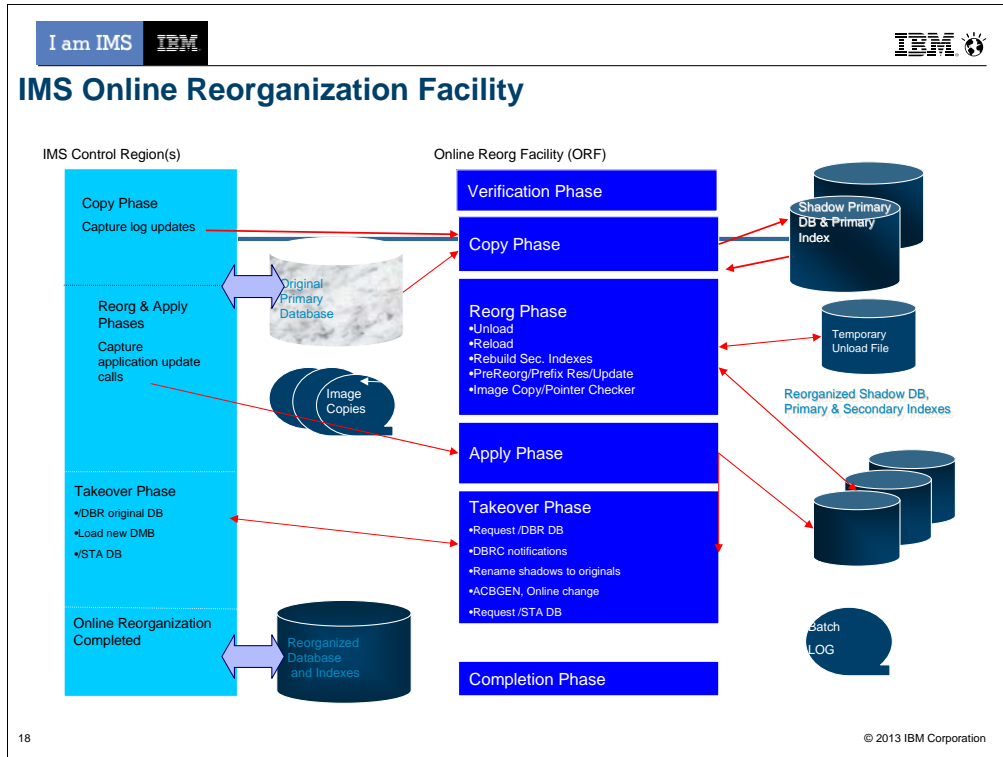
View DBD Macro sources

View IMS database hierarchical structures

View Database XML document

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The second new utility is DBD Map Viewer. It is an add-on for Administration Console of IBM Tools Base. I will say “AC” for short of Administration Console. In the AC environment, DBD Map Viewer provides visualized IMS DBD Map in GUI. The key point of the displayed DBD is regenerated from the binary code in the DBD library. It has three main views DBD Map, DBD Source, and DBD XML that are designed for Database Administrators.



Data Sharing Environments fully supported

Allows DBD changes to be implemented without manual intervention after reorganization

Complete restart-ability once in the Takeover Phase

Controlling Takeover

Delay, Abend, Window

Interface to PRF/Region controller front-end for pausing BMPs

Supports Internal Logical Relationships

Reorg Index ONLY

Near Online Unload

Integration with HALDB Conversion & Maintenance Utilities provides Online Conversion

IMS HALDB Toolkit for z/OS

...Support for Application Development

- Inside the application:
 - Dynamic DFSHALDB Statement Build
 - Partition Selection API
- Managing Test Environments:
 - Cloning DBRC Definitions
 - Copy HALDB definitions to different RECONS
 - Backup DBRC definitions
 - Testing without DBRC

```
----- IMS HALDB Toolkit -----
Command -->

                USER Definition for CKOE1

User name .....: Test User

USER (for DSNPREFIX) creation rules:
  Use USER field
  Use TSO Userid ( CKOE1 )
  Y Create from TSO Userid using pattern
  ****

Dataset name (DSNPREFIX) creation rules:
  USR.....: CKOE
  HLQ.....: DBSMS.CK1HC
  Rule.....: HLQ SYS USER DBD PART (HLQ,SYS,USER,DBD,PART)
  Result....: DBSMS.CK1HC.IMSP.CKOE.dbd.part.A60001
```

IMS HALDB Toolkit for z/OS ...Conversion Tooling

- Conversion:
 - Low skill requirement
 - Convert from:
Full Function, User
Partitioned, PDB,
Fast Path DEDB

- ISPF Interface
- Testing of partition selection exits
- Single step batch
- Integration with Online Reorg Facility allows near online conversion

```
-----IMS HALDB Toolkit-----  
Command ---->  
  
                Partition Definition Rules  
  
Combine Database records:  5000 (number of database records)  
  
Main DB Partition:      1 Fixed Number of Partitions      1  
                       2 Fixed Partition Size (MB)      2048  
                       3 Ask during Conversion  
                       4 Specify High Keys  
  
Index Partition:       2 1 Fixed Number of Partitions      1  
                       2 Fixed Partition Size (MB)      1024  
  
PDB Conversion:       2 1 Use Existing Keys or Partitions  
                       2 Create new Partition boundaries  
                       3 Ask during Conversion  
  
DEDB Conversion       1 1 Same Number of Partitions  
                       2 New Partition Boundaries  
  
Additional Partitioning Layouts to be Created?  
                       2 1 Yes  
                       2 2 No, Use the one created during Collect
```

IMS HALDB Toolkit for z/OS

...Maintaining your HALDB DBs

- **HALDB Maintenance**
 - Consolidate or split partitions
 - Heal Index Pointer
 - Load a Single Partition
 - Delete a Single Partition
 - Merge HALDBs
 - Add empty partition to end of HALDB
- **HALDB Analyzer**
 - Analyze HALDB Constructs
 - Extract Root Keys
- **System Utilities**
 - Split Unload File
 - ILK Rebuild
 - ACBLIB report
 - Create DBD Source

IMS Database Solution Tools Supporting IMS V13

•IMS HALDB Toolkit

–[PM73162 / UK83980](#) - With this service, HALDB Toolkit will run under IMS Version 13.

•IMS Database Reorganization Expert

–[PM75249 / UK90493](#) - To run each utility of IMS Database Reorganization Expert with IMS Version 13, the following APARs are also required for the related products: - [PM75257](#) IMS High Performance Unload V1R2 (FMID: H1IN120) - [PM75254](#) IMS High Performance Load V2R1 (FMID: H1IM210) - [PM75258](#) IMS Index Builder V3R1 (FMID: H22O310) - [PM75253](#) IMS High Performance Image Copy V4R2 (FMID: H1J0420) - [PM75256](#) IMS High Performance Prefix Resolution V3R1 (FMID: H1IP310) - [PM75255](#) IMS High Performance Pointer Checker V3R1 (FMID: HPC2310) - [PM75259](#) IMS Library Integrity Utilities V2R1 (FMID: H27P210) - [PM75247](#) Tools Base V1R3 (FMID: HAHN130) To run Database Sensor with IMS Version 13, this APAR is required. Database Sensor is a component of IBM IMS Database Solution Pack for z/OS (FMID: HAHP120).

•IMS HP Load

–[PM75254 / UK90459](#) - This APAR enables HP Load to run under IMS Version 13

•IMS HP Pointer Checker

–[PM75255 / UK90496](#) - IMS High Performance Pointer Checker for z/OS V3R1 has been modified to support IMS Version 13. *** Notes *** - When you use the Integrated DB Sensor function in HD Pointer Checker on IMS Version 13 environment, you need to apply APAR [PM75249](#) to IMS Database Reorganization Expert V4.1. - When you use IMS Library Integrity Utilities' DBD map function or DBD reversal function in HD Pointer Checker on IMS Version 13 environment, you need to apply APAR [PM75259](#) to IMS Library Integrity Utilities V2.1. - When you monitor IMS full-function database VSAM data sets by Space Monitor or the Integrated DB Sensor function on IMS Version 13 environment, you need to apply APAR [PM75247](#) to Tools Base V1.3.

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IMS HALDB Toolkit - [PM73162 / UK83980](#) - With this service, HALDB Toolkit will run under IMS Version 13.

IMS Database Reorganization Expert - [PM75249 / UK90493](#) - To run each utility of IMS Database Reorganization Expert with IMS Version 13, the following APARs are also required for the related products: - [PM75257](#) IMS High Performance Unload V1R2 (FMID: H1IN120) - [PM75254](#) IMS High Performance Load V2R1 (FMID: H1IM210) - [PM75258](#) IMS Index Builder V3R1 (FMID: H22O310) - [PM75253](#) IMS High Performance Image Copy V4R2 (FMID: H1J0420) - [PM75256](#) IMS High Performance Prefix Resolution V3R1 (FMID: H1IP310) - [PM75255](#) IMS High Performance Pointer Checker V3R1 (FMID: HPC2310) - [PM75259](#) IMS Library Integrity Utilities V2R1 (FMID: H27P210) - [PM75247](#) Tools Base V1R3 (FMID: HAHN130) To run Database Sensor with IMS Version 13, this APAR is required. Database Sensor is a component of IBM IMS Database Solution Pack for z/OS (FMID: HAHP120).

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IMS HP Pointer Checker - [PM78910 / UK90495](#) - IMS Database Repair Facility for z/OS V3R1 has been modified to support IMS Version 13.

IMS HP Prefix Resolution - [PM75256 / UK90563](#) - IMS High Performance Prefix

IMS Database Solution Tools Supporting IMS V13

•IMS HP Pointer Checker

–[PM78910 / UK90495](#) - IMS Database Repair Facility for z/OS V3R1 has been modified to support IMS Version 13.

•IMS HP Prefix Resolution

–[PM75256 / UK90563](#) - IMS High Performance Prefix Resolution for z/OS has been modified so that it can run on IMS Version 13.

•IMS HP Unload

–[PM75257 / UK90419](#) - This APAR enables HP Unload to run under IMS Version 13.

•IMS Library Integrity Utilities

–[PM75259 / UK90553](#) - This APAR enables Library Integrity Utilities to run under IMS Version 13. IMS Version 13 provides Database versioning enhancements. Consistency Checker, DBD/PSB/ACB Compare, DBD/PSB/ACB Reversal and DBD/PSB/ACB Mapper are enhanced to support new DBD and PSB statement parameter DBVER and DBLEVEL for Database versioning in this APAR. This APAR also fixes an existing problem of DBD/PSB/ACB Compare utility: If offset of an internal table in FABLACB0 is not aligned to Full-word boundary after applying any PTFs, ABEND0C4 occurs in FABLCOMP when comparing ACBs.

•IMS Online Reorganization Facility

–[PM75260 / UK90554](#) - This APAR enables ORF to run under IMS Version 13. APAR [PM75247](#) is also required for Tools Base V1R3.

IMS HALDB Toolkit - [PM73162 / UK83980](#) - With this service, HALDB Toolkit will run under IMS Version 13.

IMS Database Reorganization Expert - [PM75249 / UK90493](#) - To run each utility of IMS Database Reorganization Expert with IMS Version 13, the following APARs are also required for the related products: - [PM75257](#) IMS High Performance Unload V1R2 (FMID: H1IN120) - [PM75254](#) IMS High Performance Load V2R1 (FMID: H1IM210) - [PM75258](#) IMS Index Builder V3R1 (FMID: H22O310) - [PM75253](#) IMS High Performance Image Copy V4R2 (FMID: H1J0420) - [PM75256](#) IMS High Performance Prefix Resolution V3R1 (FMID: H1IP310) - [PM75255](#) IMS High Performance Pointer Checker V3R1 (FMID: HPC2310) - [PM75259](#) IMS Library Integrity Utilities V2R1 (FMID: H27P210) - [PM75247](#) Tools Base V1R3 (FMID: HAHN130) To run Database Sensor with IMS Version 13, this APAR is required. Database Sensor is a component of IBM IMS Database Solution Pack for z/OS (FMID: HAHP120).

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IMS HP Pointer Checker - [PM78910 / UK90495](#) - IMS Database Repair Facility for z/OS V3R1 has been modified to support IMS Version 13.

IMS HP Prefix Resolution - [PM75256 / UK90563](#) - IMS High Performance Prefix

IMS Fast Path Solution Pack

- **Autonomics Director**
- **IMS HP FP Utilities**
 - FP Advanced Utilities
 - FP Online Utilities
- **IMS DB Repair Facility**
- **HP Image Copy**
- **IMS Library Integrity Utility**

Autonomics: Sensor data collection and notification

IMS FP Solution Pack

■ Implemented DB Sensor capability in FPA/FPO Tools and HP Image Copy

- Sensor data can be collected as part of analyze, reorg, or image copy
- Sensor data collection can be notified to Autonomics Director

DB Sensor function

- FP Advance Tool
- FP Online Tool
- HP Image Copy
- Standalone Sensor

IBM Tools Base

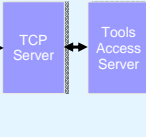
Administration Console



Open Env.

z/OS Env.

Distributed Access Infrastructure (DAI)



• Store sensor data (and reports)

• Notify of sensor data

Autonomics Director (+ Policy Services)

Autonomics Director Server

- Policy-based DEDB area diagnosis

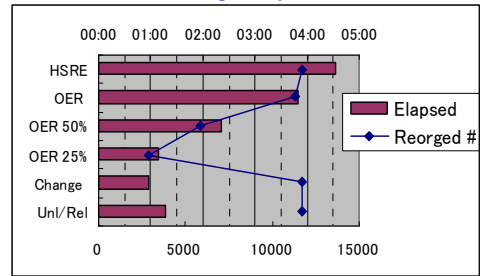


Fast Path Solution Pack – Reorganize



- Online Reorganization (OER)
 - Reorganizes only the UOWs based on the user-defined thresholds
 - Reduces the reorgs time to specify maximum number of UOWs
- Offline tools (FPA Change, Unload/Reload)
 - Reduces the reorgs time if you can take offline the DEDB areas

Fast Path Area Reorgs Elapsed Time



HSRE: IMS HS Reorg Utility (DBFUHDR0)

IMS FP Database Solution Tools Supporting IMS V13

•IMS Fast Path Solution Pack

–[PM75252 / UK90549](#) - This APAR enables HPFPU in FP Solution Pack for z/OS Version 1 Release 2 to run on IMS Version 13.

- HPFPU in FP Solution Pack V1R2 is changed to support IMS Version 13.
- SYSLMOD DD of the provided sample JCLs are reserved when the JCLs are submitted.

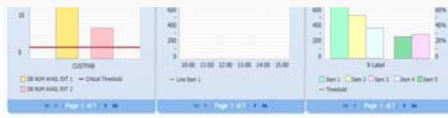
•IMS DEDB Fast Recovery

–[PM75251 / UK90239](#) - DFR V2R2 supports IMS V13.

- The main items for this support are as follows:
- Run under support of IMS V13 for the existing functions of DFR V2R2
- Support of IMS V13 new function
- Type 47 Log Record Restructure - The type 47 record has been restructured to accommodate the larger changed database lists. Type 47 record spanning is also introduced in IMS V13.
- Limitations:
- DFR does not support the DEDB alter function, which is supported by IMS Version 13 Release 1.

IMS Database Products

- IMS Cloning Tool



IMS Cloning Tool



- Clones IMS systems (includes all databases)
 - Uses volume-based fast replication, including:
 - FlashCopy (IBM,EMC,HDS), TimeFinder/Snap(EMC), SnapShot (IBM,STK), Onsite Mirrors, Software Point-in-Time
 - Performs the necessary operations so that the data can be used by the cloned IMS system
 - IMS Cloning Tool takes an existing IMS system (complete installation and system generation process completed) and creates a new, or cloned, IMS system from it without having to repeat the entire installation and system generation processes
- Refreshes specific or sets of IMS databases
 - Uses data set based fast replication, including:
 - FlashCopy (IBM,EMC,HDS), TimeFinder/Snap(EMC), SnapShot (IBM,STK)
 - Performs the necessary operations to enable the cloned databases to be used on the same or another IMS system

IMS Tools Supporting IMS V13

- **IMS Cloning Tool**

- [PM73059](#) / [UK91106](#) - IMS V13 RUN-UNDER SUPPORT FOR IMS CLONING TOOL.

IMS Recovery Solution Pack

- IMS Database Recovery Facility
- IMS HP Change Accumulation
- HP Image Copy
- IMS DRF Extended Functions



Recovery Administration

- DRF Extended Functions provides six unique features which:
 - Create clean recovery points
 - Locate existing recovery points
 - Recovery Health Check
 - Verify needed recovery assets
 - Condition RECON data sets for disaster recovery
 - Issue IMS commands via batch

Health Checker Report

```
*****
```

DBD	DDN/AREA	TYPE	FUNCTION	HEALTH CHECKER MESSAGE(S)
F2O1P1	F2O1P11	FF	CARUN	CA group has no valid CA run *
H1O1P31	H1O1P31A	HALD	ICNEED	Image Copy is Needed
H1O1P33	H1O1P33A	HALD I	CNEED	Image Copy is Needed

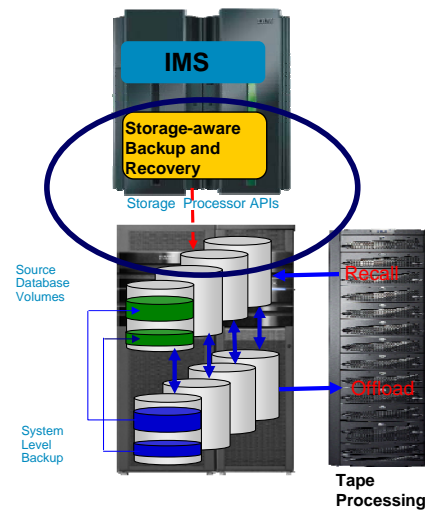
IMS Recovery Expert for z/OS, V2.1

What is it?

•is a storage-aware backup and recovery solution that integrates storage processor fast-replication facilities with IMS backup and recovery operations to allow instantaneous backups with no application downtime, reduce recovery time, and simplify disaster recovery procedures while using less CPU, I/O, and storage resources.

What's its value to customers?

- Reduced cost of backup using less CPU, I/O and storage resources
- Simplification and standardization of Disaster Recovery processes
- Faster time-to-market for new IMS applications



System Level Backup

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Features and Functions?

Backup entire IMS systems instantaneously with no application downtime.

Recover quickly and easily using intelligent recovery managers for local and remote recovery support.

Enjoy effortless IMS backup and recovery management through an easy to use ISPF interface.

Use less CPU, I/O, and tape resource than image copy.

Automatically perform backup validation to achieve successful recoveries – every time.

Use one backup for multiple purposes.

Transform disaster recovery into a disaster restart process, reducing recovery time objectives.

Prove compliance with internal or federal regulations.

IMS Recovery Tools Supporting IMS V13

•IMS Recovery Solution Pack

- DRF: [PM73744 / UK90564](#) – IRP/DRF USES THE NEWEST IROLOGRC FROM IMS.
- DRF-XF: [PM75720 / UK90586](#) – With this service, DRF/XF will run under IMS Version 13.
- HPCA: [PM75717 / UK90565](#) – With this service, the HPCA component of IRSP V110 runs under IMS Version 13.
 - DRF/XF IMSV13 support does not include the RCU and RECONCOPY features (future APAR)

•IMS HP Image Copy

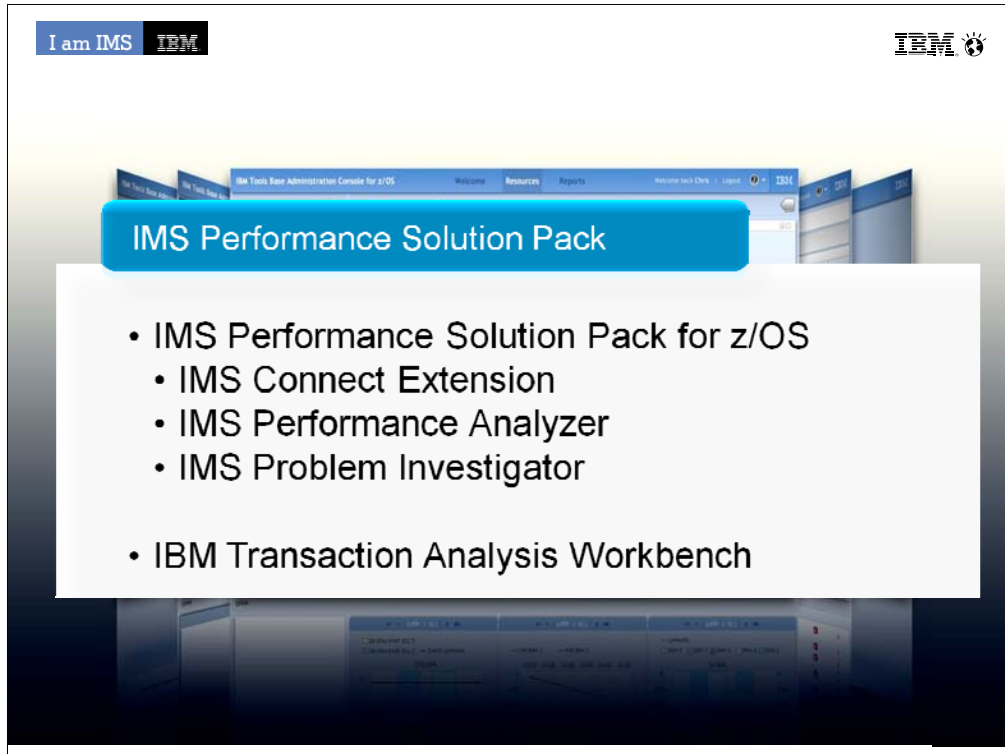
- [PM75253 / UK90552](#) – IMS High Performance Image Copy z/OS V4R2 has been modified to support IMS Version 13. *** Notes ***
 - When you use the HASH check option for full-function database in HP Image Copy on IMS V13 environment, you need to apply APAR [PM75255](#) to IMS High Performance Pointer Checker V3.1 (FMID=HPC2310).
 - When you use the Integrated DB Sensor function for full-function database in HP Image Copy on IMS V13 environment, you need to apply APAR [PM75249](#) to IMS Database Reorganization Expert V4.1 (FMID=H25N410).
 - When you use the HASH check option or the Integrated DB Sensor function for Fast Path database in HP Image Copy on IMS V13 environment, you need to apply APAR [PM75252](#) to IMS Fast Path Solution Pack V1.2 (FMID=HAHQ120).
 - When you use the IMS command interface option in HP Image Copy on IMS V13 environment, you need to apply APAR [PM75246](#) and [PM75247](#) to Tool Base V1.3 (FMID=HAHN130).

•IMS Index Builder

- [PM75258 / UK90494](#) – This APAR enables Index Builder to run under IMS Version 13

•IMS Recovery Expert

- [PM73060 / UK93129](#) – IMS V13 run-under support for IMS Recovery Expert V2.1

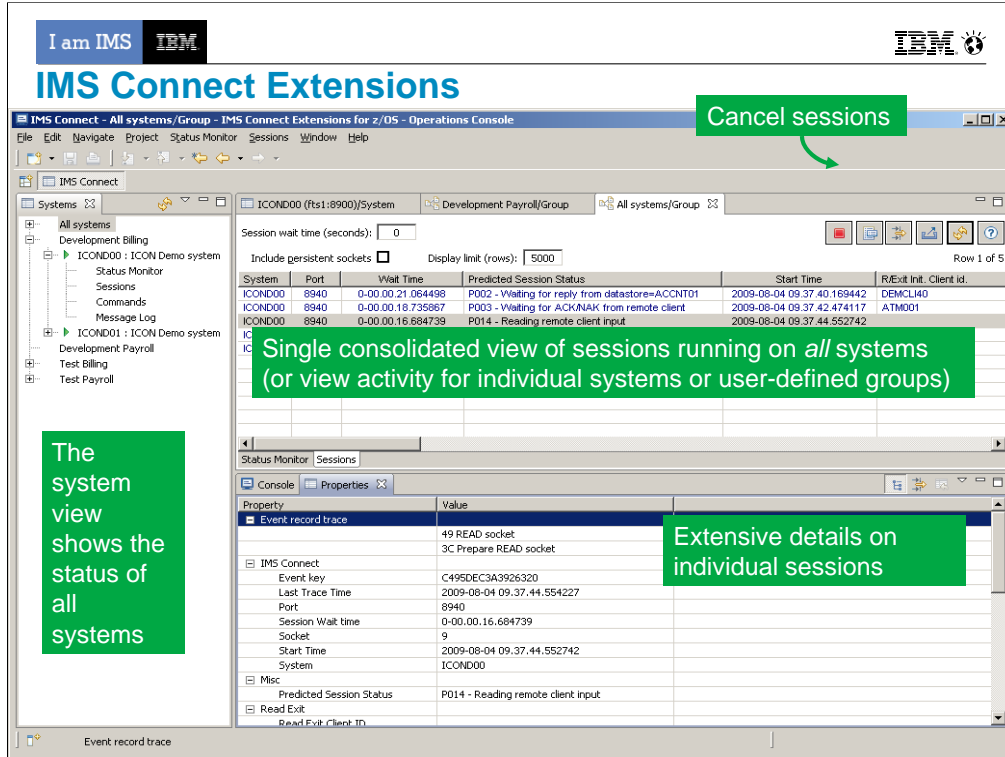


I often hear that since performance is good we don't need to do performance tuning. Not doing performance tuning means buying a larger mainframe or another box months or years too soon. Performance Tuning doesn't mean doing application changes. Many changes can produce dramatic effect without ever touching the application code.

•The IMS Performance Solution Pack for z/OS provides all the tools needed to manage IMS TM traffic. It includes the following products:

- IMS Connect Extensions is a key tool for managing access to IMS through IMS Connect
- IMS Performance Analyzer is the IMS Performance platform for ensuring you are meeting your service level agreements with your customers, capacity planning and analyzing response time and monitoring enterprise-wide indicators that can adversely affect IMS performance
- When there are problems in your system, time is of the essence. Outages and problems cost money. IMS PI provides an easy problem investigation tool that takes problem determination down from hours to minutes

•Transaction Analysis Workbench is a **collaborative Problem Analysis Tool** that allows you to analyze transaction performance and behavioral problems using logs and other historical data. Which extends the scope of traditional analysis techniques, enabling you to more easily identify problems caused by external events and helping pinpoint the cause of a problem.

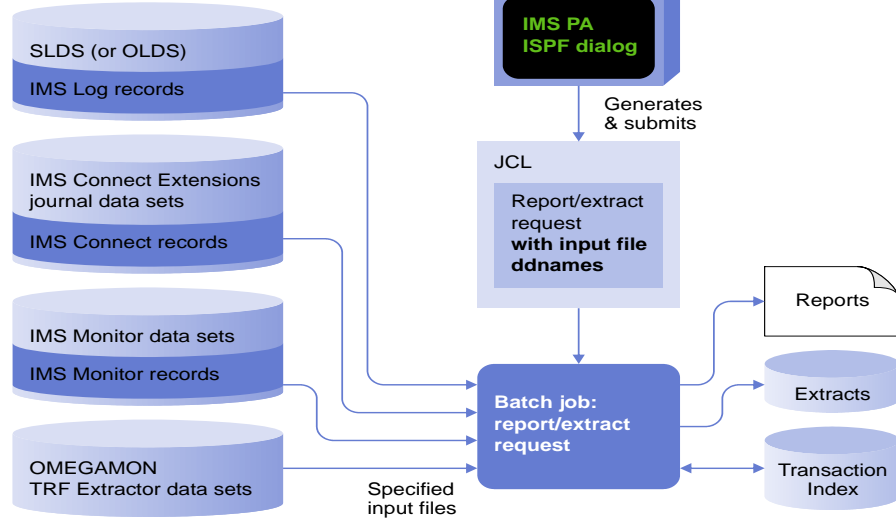


The following screen shows an example of the active session feature of the new GUI. The GUI here is showing all active sessions running on all systems defined to the GUI. For systems running a large number of sessions, you can filter active sessions. The most basic (and potentially most useful) filtering is to show only those sessions with long wait times, but you can also specify more advanced filtering based on almost any criteria. For example, show only sessions from a specific client ID, IP address, port, etc.

An operator can also export the data they see to a CSV file and send it for more extensive analysis by advanced support.

IMS Performance Analyzer

Disk or tape:



Using PA you would run a batch job to extract data from IMS logs, IMS Connect journals, IMS monitor data and/or Omegamon for IMS transaction reporting facility to create reports to analyze the performance of you IMS systems.

IMS Problem Investigator

- Analysis of IMS event data can help identify problematic applications and identify system performance issues.
- IMS Problem Investigator complements IMS Performance Analyzer for enhanced log analysis and reporting.



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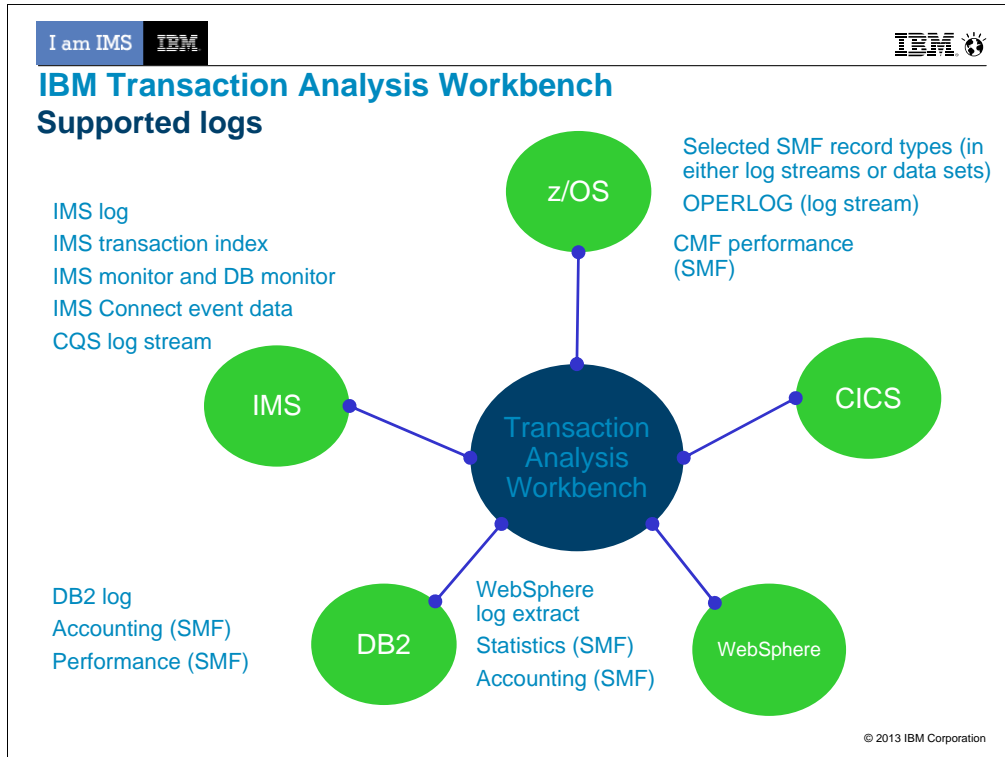
Most comprehensive Problem tool on the market IMS Problem Investigator provides an ISPF interface and batch reporting capabilities that enable the investigator to interactively navigate, investigate, and analyze:

- IMS log
- IMS / DB monitor records,
- IMS Common Queue Server (CQS) log records,
- IMS Connect event data,
- SMF records
- Omegamon TRF log and extract,
- DB2 log,
- Websphere MQ log extract.

Key Features include:

- Browse, analyze, and interpret logs
- Gain an end-to-end picture of transactions in the Sysplex.
- Understand IMS log record with detailed field description and global fields.

The TX line action will connect records associated with the same transaction across all logs.

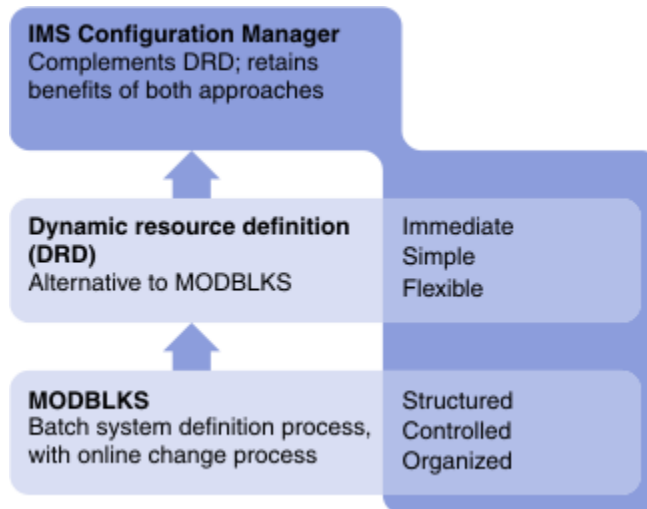


IMS transaction index: To create an IMS transaction index, you need IMS PA. You can use Workbench to submit an IMS PA job that creates an IMS transaction index.

IMS Connect event data: To collect IMS Connect event data, you need IMS Connect Extensions (CEX).

SMF: For a list of SMF record types, subtypes, and classes specifically supported by Workbench, see the User's Guide (Reference > Log types and codes > SMF codes).

IMS Configuration Manager - Benefits



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The resource manager provides resource management for a dynamically-defined environment, simplifying the process of modifying, migrating, and installing IMS resources. The resource manager combines the benefits of a structured and well understood traditional SYSGEN environment, with the advantages of a dynamic resource definition process. It allows you retain the ability to structure and organize your resource definitions and maintain the definitions offline, while also gaining the benefits of DRD. That is, the ability to quickly introduce changes with minimal impact to running IMS systems.

IMS Performance Tools Supporting IMS V13

•IMS Performance Solution Pack

–PTFs required for standalone products

•IMS Performance Analyzer

–PM74169 / UK90796 – Add support for IMS version 13.1

•IMS Problem Investigator

–V10 components: PM74268 / UK90806 – Pre-conditioning for IMS compatibility

–V11 components: PM74271 / UK90807 – Pre-conditioning for IMS compatibility

–V12 components: PM74272 / UK90808 – Pre-conditioning for IMS V12 compatibility

–V13 components: PM74172 / UK90802 – Pre-conditioning for IMS V13 compatibility

•IBM Transaction Analysis Workbench

–PM75605 / UK91447 – This APAR is correcting APARS [PM75602](#), [PM75603](#), [PM75604](#) and PM75605. This is addressing the following issues:

- Support for IMS version 13.
- Support for CICS Transaction Server version 5.1.
- Improved EXTRACT command in the ISPF dialog.
- Both the ISPF dialog and batch EXTRACT processes have been enhanced to support all types of log records (at the same time).
- Improved formatting of WebSphere Application Server for z/OS SMF type 120.9 records.
- Correct IMS log record type x'50' for database update.
- Type x'67FA' IMS trace records for ESAF are now formatted in the same way as all other trace types.
- Minor corrections in sessions and processing of log files.

IMS Performance Tools Supporting IMS V13

•IMS Configuration Manager

–[PM75879 / UK95193](#) – This APAR is addressing the following issues:

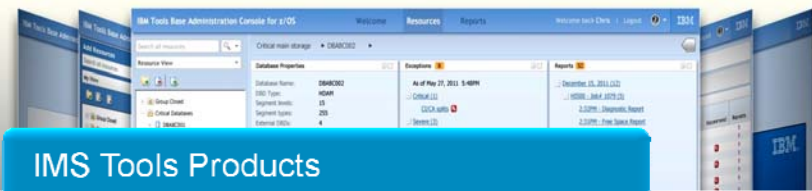
- PTF UK95193 (APAR [PM75879](#)) supersede PTF UK9100 (APAR [PM74550](#)) instead of having it as a prerequisite, due to incorrect product definition in SPA.
- JCLIN supplied in PTF UK9100 (APAR [PM74550](#)) was omitted in PTF UK95193 (APAR [PM75879](#))

•IMS Connect Extensions

–[PM76242 / UK95969 \(CEX\)](#) – This APAR is addressing the following issues:

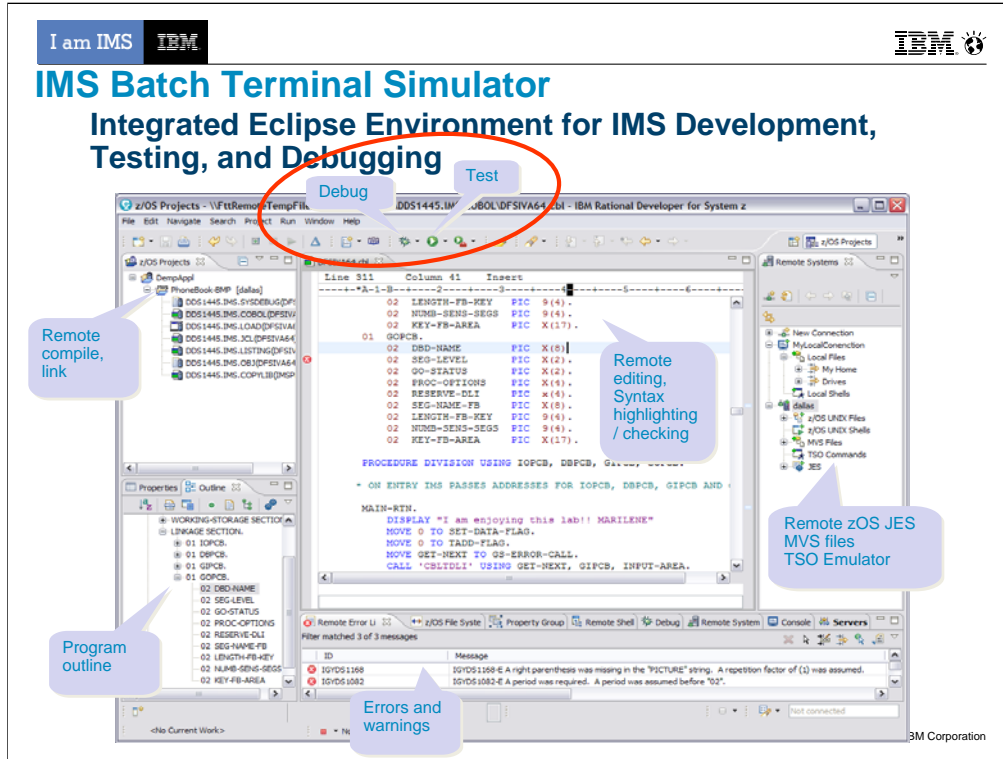
- IMS V13 added new event records, IMS Connect type 1 commands, and IMS Connect configuration member keywords.
- Message CEX2156E does not appear in joblog for use by automated operations.
- Security checking is being performed for a Sync Call_out Response and it should not be.
- Support IMS V13 Automatic Datastore Add.
- Support IMS V13 Automatic Port Add.
- Batch command utility is missing refresh for SAF class profiles.
- CEXOREXX PASSAPPL only works with statically allocated libraries.
- Active session detail display "SMHWSID" was too long error.
- Refresh of TXN and APP causes them to be added when not defined to the system.
- Initial positioning for new IMS V13 events.

–[PM88073 / UK95968 \(FSL\)](#) – This APAR is addressing the same issues as above.



- IMS Batch Terminal Simulator





The basic idea is BTS allows users to reduce cost by testing with BTS (which is much lighter weight than a full IMS – less MIPS – and doesn't require individual licenses).

It also has a playback utility which can capture both the MOD input messages into a BTSIN (to be used later as a regression test), and prints out screens for automated documentation of those regression tests.

BTS V4: What's new in base BTS

- Supports IMS callout (ICAL) under BMP and JBP regions

ICAL call enables an application program to send a synchronous request to a non-IMS program or a service that runs in a z/OS or distributed environment.

Request and response areas on ICAL call are traced.

- Supports for variable-length BTSIN data sets

A whole data in a record is handled as a command or a transaction data without any continuation non-blank characters though a non-blank character in column 72 indicates continuation in a fixed format. A developer/tester can simulate input coming from a mid tier application using this BTSIN without worrying about existing 80 byte length limit. The record length in a variable format can be from 5 to 32756.

- Provides new reporting features for improved analysis and prediction of performance behavior

IMS Tools Supporting IMS V13

•IMS Database Control Suite

–[PM75489 / UK90875](#) – This APAR provides support for IMS V13 and exploits the following new DBRC command parameters:

•Command	New Parm.
•CHANGE.DB	ALTER NOALTER
•CHANGE.PART	ALTERSIZE(nnnnn)
•NOTIFY.REORG	ALTER
•INIT.ADS	SHADOW
•INIT.ADS	IC

•IMS Batch Terminal Simulator

–[PM70739 / UK90240](#) –

- BTS is changed to support IMS Version 13
- MQCONN call with KW=DLI.
- It is also changed to fix MQCONN outputs with KW=BMP.

•SUPPORT FOR IMS VERSION 13. UPDATE COPYRIGHT INFORMATION IN EXTERNAL PARTS.

–IMS Batch Backout Manager [PM75612 / UK90905](#)

–IMS Command Control Facility [PM76073 / UK91079](#)

–IMS Buffer Pool Analyzer [PM75613 / UK90934](#)

–IMS Program Restart Facility [PM75617 / UK90879](#)

–IMS HP Sysgen Tools [PM75614 / UK90992](#)

IMS Tools Supporting IMS V13 (cont)

•IMS Queue Control Facility

–PM75713 / UK90617 –

- UNLOAD function is changed to preserve the full shared queue name (destination plus affinity) in TMR segment, LOAD function is changed to set the queue according to TMR segment info before inserting the message.

•IMS Sysplex Manager

–PM76076 / UK90640 –

- Install the APAR and restart all SM components to have the IMS V13 capability- control region, server, data collector, TSO client.

•IMS Network Compression Facility

–PM75616 / UK90350 –

- PROVIDE SUPPORT FOR IMS 13.1.
- UPDATE COPYRIGHT INFORMATION IN EXTERNAL PARTS.
- LIST OF ENABLED TRACES DISPLAYED FROM THE IMS OPTIONS
- SCREEN MAY BE INCORRECT.
- FIGURE 20 IN THE NCF USER'S GUIDE IS INCORRECT.

•IMS Workload Router

–PM72991 / UK90761 –

- Code is being added to support a future function of IMS Workload Router. QPP13

IMS Tools Supporting IMS V13 (cont)

•IMS ETO Support

–PM76074 / UK90989 –

- IMS APAR ([PM71035](#)) changed the length of one of its OTMA table entries. If you use the ETO Support version of the IMS Partner Product User Exit (DFSPUE0) you will need to install this APAR prior to the IMS APAR ([PM71035](#)). Note: This APAR can be installed anytime prior to [PM71035](#), and is not a co-req.
- The wrong screen is being displayed when IMS is unable to open DBIZT1. Message IZT3163E and IZT3143E with status code=AI are displaying the wrong screen.
- After applying IMS APAR [PM69539](#) started receiving message "DFS3662W 10:31:43 COMMAND REJECTED BY DFSCCMD0" for commands entered from the z/OS system console.

IMS Tools Supporting IMS V13 (cont)

- **InfoSphere Guardium Data Encryption for DB2 and IMS Databases**
 - IMS release independent - does not require a PTF.
- **IBM DB/DC Data Dictionary**
 - IMS release independent - does not require a PTF.
- **IMS ADF II**
 - IMS release independent - does not require a PTF.
- **IMS Audit Management Expert**
 - Replaced by **IBM InfoSphere Guardium S-TAP for IMS**

IMS Tools Solution Packs



IMS Database Solution Pack

- ❖ Autonomics
- ❖ IBM Administration Console

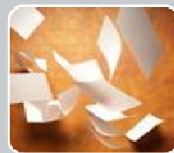
- ❖ IMS Online Reorg Facility
- ❖ DB Reorg Expert
 - ❖ Unload
 - ❖ Load
- ❖ Prefix Resolution / Update
- ❖ Index Builder
- ❖ HP Image Copy
- ❖ HP Pointer Checker
 - IMS DB Repair Facility
- ❖ IMS Library Integrity Utilities



IMS Fast Path Solution Pack

- ❖ Autonomics
- ❖ IMS Administration Console

- ❖ HP FP Utilities
 - FP Advanced Utilities
 - FP Online Utilities
- ❖ IMS DB Repair Facility
- ❖ IMS HP Image Copy
- ❖ IMS Library Integrity Utilities



IMS Recovery Solution Pack

- ❖ IMS Administration Console

- ❖ DB Recovery Facility
- ❖ HP Change Accumulation
- ❖ HP Image Copy
- ❖ DRF Extended Functions



IMS Performance Solution Pack

- ❖ IMS Administration Console

- ❖ IMS Connect Extensions
- ❖ IMS Performance Analyzer
- ❖ IMS Problem Investigator



Break for questions about every 20-30 minutes.