IMS Tools Talk   IMS02

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DB2 Information Management Software

ON DEMAND BUSINESS™

IMS Tools Update

- IMS Tools for zSERIES Business Overview

- IMS Tools Portfolio
  - Utility Administration
  - Database Administration
  - Recovery Administration
  - TM Administration
  - Performance Administration
  - Application Administration
  - Replication Administration

- What's New?
  - September & December Announcements

- IMS Connect Extensions

- IMS Problem Investigator

- Summary

IMS Tools for zSERIES - Business Overview

- The IMS Tools are a unique model in the zSERIES tools industry
- Continued commitment and investment to support future needs
- Comprehensive solutions now and more coming
- Independent of database server versions (release cycles)
- Cross-tool integration
- Products tested under same configurations and workloads as the IMS engine

Not just a database tools vendor.

IMS Tools Portfolio

Utilities Management
- IMS Database Control Suite
- IMS Database Repair Facility
- IMS High Performance Fast Path Utilities
- IMS Fast Path Basic Tools
- IMS Fast Path Online Tools
- IMS High Performance Load
- IMS High Performance Pointer Checker
- IMS High Performance Prefix Resolution
- IMS High Performance Unload
- IMS Index Builder
- IMS Parallel Reorganization

Database Administration
- IMS HALDB Conversion and Maintenance Aid
- IMS Hardware Data Compression Extended
- IMS Library Integrity Utilities
- IMS Sequential Randomizer Generator

Recovery Management
- Application Recovery Tool for IMS and DB2
- IMS DEDB Fast Recovery
- IMS Database Recovery Facility
- IMS High Performance Change Accumulation
- IMS High Performance Image Copy

TM Management
- IMS Command Control Facility
- IMS ETO Support
- IMS High Performance System Generation Tools
- IMS Multi-Dialog Manager
- IMS Parameter Manager
- IMS Queue Control Facility

Performance Management
- IMS Buffer Pool Analyzer
- IMS Performance Analyzer
- Tivoli Omegamon XE for IMSplex
- IMS Problem Investigator
- IMS Network Compression Facility

Application Management
- IMS Batch Backout Manager
- IMS Batch Terminal Simulator
- IMS Connect
- IMS Connect Extensions
- IMS MFS Reversal Utilities
- IMS Program Restart Facility
- Data Encryption for IMS and DB2 Databases
- DB2 II Classic Federation for z/OS

Replication Management
- DB2 II Classic Event Publisher for IMS
- DB2 II Classic Event Publisher for VSAM
- DB2 II Classic Event Publisher for CA-IDMS

Utilities Management

- **Full Function Reorganization**
  - ▶ HP Unload
  - ▶ HP Load
  - ▶ Index Builder
  - ▶ HP Prefix Resolution
  - ▶ IMS Parallel Reorganization

- **Fast Path Utilities**
  - ▶ HP Fast Path Utilities
    - • Offline/Online Tools
- **Health Checking**
  - ▶ HP Pointer Checker
  - ▶ DB Repair Facility
- **Utilities Management**
  - ▶ Database Control Suite
    - • DBA Workbench
      - − Reorg thresholds
      - − Utility JCL
      - − DBRC Interface
      - − Interface to other tools

Database Administration

- **IMS HALDB Conversion and Maintenance Aid**
  - ISPF Application
  - Project Oriented
  - Conversion
  - Maintenance

- **IMS Hardware Data Compression Extended**
  - HW Compression Analysis and migration assistance

- **IMS Library Integrity Utilities**
  - Library Mgmt Utilities
  - Advanced ACB Generator
  - Integrity checking
    - DBD Verification
  - Consistency checking
    - RECON, DFSMDA, & MOD Blocks

- **IMS Sequential Randomizer Generator**

Recovery Management

- **Application Recovery for IMS and DB2 Databases**
  - ▶ Sync point generation and management

- **IMS DEDB Fast Recovery**
  - ▶ Avoids full DEDB AREA recoveries during enforced cold start

- **IMS Database Recovery Facility**
  - ▶ Parallel Recovery to point in time

- **IMS High Performance Change Accumulation**
  - ▶ Parallel execution of multiple IMS CA jobs in a single address space

- **IMS High Performance Image Copy**

TM Management

- IMS ETO Support
  - ▶ ISPF implementation and maintenance of ETO

- IMS High Performance System Generation Tools
  - ▶ Fast SYSGEN (Offline and Online)
  - ▶ Merge/Clone utilities
  - ▶ Sysgen Compare utility

- IMS Parameter Manager

- IMS Command Control Facility
  - ▶ Sysplex commands in online/batch with retry capabilities

- IMS Multi-Dialog Manager
  - ▶ Allows terminal users to suspend & resume a conversation

- IMS Queue Control Facility
  - ▶ Queue Management functions
  - ▶ Queue Overflow Protection

Performance Management

- **IMS Performance Analyzer**
  - ▸ IMS Log and IMS Monitor Analysis Tool
  - ▸ Reports range from Management Exception, to Summary, to Analysis, to Detailed Traces

- **Tivoli Omegamon XE for IMSplex**
  - ▸ IMS Active Performance Monitoring with integration with MVS Monitoring

- **IMS Buffer Pool Analyzer**
  - ▸ Bufferpool Analysis / Evaluation of potential bufferpools

- **IMS Problem Investigator**
  - ▸ Interactive Log analysis

- **IMS Network Compression Facility**
  - ▸ Compression of LU2 (3270) outbound data streams

Application Management

- **IMS Batch Backout Manager**
  - ▸ Automate batch backouts
  - ▸ Enforce log standards

- **IMS Batch Terminal Simulator**
  - ▸ Testing of TM programs offline

- **IMS Program Restart Facility**
  - ▸ Restarting of programs with correct checkpoint
  - ▸ Implement standards without JCL Changes

- **Data Encryption for IMS and DB2 Databases**
  - ▸ Protection of IMS data at the segment level

- **IMS Connect**
  - ▸ Web enable IMS

- **IMS Connect Extensions**
  - ▸ IMS Connect Event collection

- **IMS MFS Reversal Utilities**
  - ▸ Re-created control cards for MID/MOD/DIF/DOF

- **DB2 II Classic Federation for z/OS**
  - ▸ SQL access

Replication Management

- **DB2 II Classic Event Publisher for IMS**
  - IMS update replication
- **DB2 II Classic Event Publisher for VSAM**
  - VSAM update replication
- **DB2 II Classic Event Publisher for CA-IDMS**
  - IDMS update replication

What's New?

What's New?

Planned GA Date

- DB2 Information Integrator Classic Event Publisher for IMS V8.2 ⇨ October 15, 2004

- DB2 Information Integrator Classic Event Publisher for VSAM ⇨ October 15, 2004

- DB2 Information Integrator Classic Federation for z/OS ⇨ October 15, 2004

- IMS Database Repair Facility V 1.2 ⇨ November 5, 2004
- IMS High Performance Image Copy V3.2 ⇨ November 5, 2004
- IMS High Performance Load V2.1 ⇨ November 5, 2004
- IMS High Performance Prefix Resolution V3.1 ⇨ November 5, 2004
- IMS High Performance Fast Path Utilities V2.1 ⇨ September 24, 2004
- IMS Parallel Reorganization V2.1 ⇨ November 5, 2004
- IMS Parameter Manager V1.1 ⇨ September 24, 2004

- IMS Queue Control Facility ⇨ December 17, 2004
- DB2 Information Integrator Classic Event Publisher for CA-IDMS ⇨ December 17, 2004

IMS Database Repair Facility V1.2

- Interactively, and in batch mode, repairs VSAM and OSAM organized IMS databases that contain pointer or data errors.
- In interactive mode,
  - ▶ you can view entire blocks of data or individual IMS segments and you can navigate to other segments.
  - ▶ Any changes you make are tracked and can be undone.
- In batch mode
  - ▶ you can dump blocks from the data set or submit changes to the block data but there is no undo capability.
- Performs repairs quickly, thereby reducing the time the affected database is taken offline.
- Supports IMS Fast Path Databases.
- Features VSAM and OSAM pointer repair, pointer navigation, a backout safety feature and an ISPF front end.
- Automates batch job generation.

IMS High Performance Image Copy V3.2

- Enables running the image copy function with the hash checking
- *NEW!!* Integration in IMS Parallel Reorg
- Optional creation of compressed image copies (3 compression options)
- Dynamic allocation of input/output datasets:
  - ▶ *NEW!!* A separate optional parameter for controlling the secondary image copy data set.
  - ▶ Supports dynamic allocation for the specification of SMS classes
  - ▶ Database group processing
  - ▶ Stacked image copies
- Provides a Parallel Image Copy function
- Allows you to check the accuracy of an image copy in one time-saving step, eliminating several programs and data sets that would otherwise be necessary.
- Creation Image Copy function creates new copies from
  - ▶ IMS standard image copy data set,
  - ▶ ICE compresses image copy data set,
  - ▶ IMS Online Image Copy data set, or
  - ▶ IMS Image Copy 2 data set.

IMS High Performance Load V2.1

- IMS High Performance Load consists of two utilities,
  - ➢ IMS High Performance Load
  - ➢ Physical Sequence Sort for Reload.

HP Load:
- Option to load compressed data
- Multiple standard formats for load data sets
- Variety of statistical reports for improved tuning.
- Supports IMS HD organized databases, including PHDAM and PHIDAM.

NEW!!
- Improved Performance
- Reorganization reload support for HALDB partitions, including partitions defined in RECON as online reorganization capable (OLRCAP).
- Support for ILDSBLD=YES option, which reduces EXCPs for HALDB Indirect List Data Set (ILDS) during HALDB reorganization reload.
- Support for unloaded files with customized segment header.
- Option of writing secondary index records and logical relationship records in separate data sets, helping to improve the performance of Index Builder and High Performance Prefix Resolution

IMS High Performance Prefix Resolution V3.1

- *NEW!!* Enables you to resolve and update prefixes of IMS databases involved in logical relationships as a single job step.

- Intermediate data sets are eliminated
- With the use of HPPR pipe and buffer handler, each function improves the performance considerably over the IMS Database Prefix Resolution utility or the IMS Database Prefix Update utility.

IMS High Performance Fast Path Utilities V2.1

- IMS High Performance Fast Path Utilities provide you with extensive functions that include all the features that are available in Fast Path Basic Tools, Fast Path Online Tools, and HPFP Reorganization.
- Features that are available in Fast Path Basic Tools are:
    - ▶ DEDB Pointer Checker
    - ▶ DEDB Tuning Aid
    - ▶ DEDB Unload and Reload
- Features that are available in Fast Path Online Tools are:
    - ▶ DEDB Online Pointer Checker
    - ▶ DEDB Online Data Extract
    - ▶ DEDB Online Area Extender
- *NEW!!* HPFP Reorganization provides the ease-of-use for creating JCL that are used for unloading and reloading DEDBs.
    - ▶ It uses a single driver, for unloading and reloading DEDBs.
    - ▶ Multiple areas of a DEDB can be unloaded or reloaded concurrently in multiple subtasks.

IMS Parallel Reorganization V2.1

- Provides infrastructure to integrate IBM IMS tools for database reorganization and to operate them in a single job step –
    - ▶ IMS HP Unload
    - ▶ IMS HP Load
    - ▶ IMS Index Builder
    - ▶ *NEW!!* IMS HP Image Copy V3.2
    - ▶ *NEW!!* IMS HP Pointer Checker
    - ▶ *NEW!!* IMS HP Prefix Resolution

- *NEW!!* Executes the image copy task with optional hash pointer checking concurrently with the unload, reload, and index builder steps.

- *NEW!!* Executes the prefix resolution/update task in a parallel reorganization job step for a database that has internal logical relationships.

- Supports IMSDALIB for specifying the library of dynamic allocation members.

- Provides optional deletion of the old database data sets

- *NEW!!* Supports parallel reorganization of HISAM and SHISAM databases.

- Supports parallel reorganization of IMS V8 and IMS V9 HALDB partitions, including HALDB partitions defined in RECON as online reorganization capable (OLRCAP).

IMS Parameter Manager V1.1

NEW!!

- Enables IMS Administrators to control the specification and maintenance of IMS parameter library members.
    - buffer pool allocations, dependent region execution options, recovery options, shared queue management….
    - 420 parameters in >20 proclib members
- Simplifies parameter management and provides increased levels of parameter control.
- Allows parameter specification by ISPF dialog panels or the integrated ISPF editor.
- Contains extensive online help and parameter descriptions.
- Provides parameter syntax and value checking, and automatic parameter card construction.
- Provides a view of active (current) parameter members by IMS system.
- Enables the creation of a "back-up" member immediately prior to applying changes.
- Automatically collects previous version histories for altered parameter members.
- Includes facilities to assist with IMS software version migration.

Sample Proclib member update screen

```
  File  Settings  Help
------------------------------------------------------------------
EDIT      IMSP.PROD.PROCLIB(DFSHSB02)
Command ===> _____

Description . . . : Extended Recovery Facility (XRF) options

Member Suffixes            Default       Alternative values
  FIX (Deferfix)    __       n/a

Parameter Settings
  ALARM . . . . .  ___   +   No            Yes
  AUTO  . . . . .  ___   +   No            Yes
  KEYEVENT  . . .  _____ +   NOMSG         MSG
  PSDEPAB . . . .  ___   +   Yes           No
  RSENAME . . . .  _____   n/a
  USERVAR . . . .  _____   n/a           Required if VTAM is used

Enter "/" to activate SURVEILLANCE by the alternative IMS subsystem
  _   LNK
    Interval  . . __        3             1-99
    Timeout . . . ___       9             1-999
  _   LOG
    Interval  . . __        1             1-99
    Timeout . . . ___       3             1-999
  _   RDS
    Interval  . . __        1             1-99
    Timeout . . . ___       3             1-999

Enter "/" to SWITCH to alternative IMS subsystem if a failure occurs
  _   LNK
  _   LOG
  _   RDS
  _   IRLM             Utilized       Not utilized
  _   TPEND            Utilized       Not utilized
```

Tivoli Omegamon XE for IMSplex

- Integrated solution for IMS management of Parallel Sysplex environment
- Provides a global exception overview and comprehensive information and analysis from a single point of control
- Features:
  - ▶ Lock conflicts are displayed in easy-to-read charts
  - ▶ Key statistics of the coupling facility structures are shown in graphical and tabular formats to detect when these structures are becoming full
  - ▶ Shared queue summary and details
  - ▶ Multiple systems coupling report

DB2 II Classic Event Publisher for IMS   *NEW!!*

- Captures changes made to IMS files using an IMS logger exit.
- Captured data is held until a commit triggers the reformatting and publications of all of the IMS data associated with that unit-of-work.
- Rollback causes captured data to be discarded.

- Captured changes are first reformatted into a relational data format based on a metadata mapping between the IMS segment(s) layout and DB2 II Classic Event Publisher logical table definitions.
- The relational format data is then packaged as a self-describing XML message.
- All DB2 II event publishing solution utilize the same XML format to simplify integration of changed-data events with IBM® and 3rd party tools and applications.
- The XML messages are then published to WebSphere® MQ for z/OS.
- Data events can be read by one or many tools and applications once the data has been published to WebSphere MQ.

  All DB2 II Event Publisher products use WebSphere MQ for its high performance, reliability, and wide support by IBM and non-IBM tools.

  The DB2 II Classic Event Publisher for IMS is a fully recoverable solution, ensuring that all data changes are published.

DB2 II Classic Event Publisher for VSAM   *NEW!!*

- DB2® II Classic Event Publisher for VSAM captures changes made to VSAM files through CICS from MVS logs.
- Captured data is held until a commit triggers the reformatting and publication of all of the VSAM data associated with that unit-of-work.
- Rollback causes captured data to be discarded.
- Captured changes are first reformatted into a relational data format based on a metadata mapping between the VSAM record layout and DB2 II Classic Event Publisher logical table definitions.
- The relational format data is then packaged as a self-describing XML message.
- All DB2 II event publishing products utilize the same XML format to simplify integration of changed-data events with IBM and 3rd party tools and applications.
- The XML messages are published to WebSphere® MQ for z/OS.
- Data events can be read by one or many tools and applications once the data has been published to WebSphere MQ.

DB2 II Classic Federation for z/OS   *NEW!!*

- DB2® II Classic Federation for z/OS provides direct, real-time SQL access to mainframe databases and files without mainframe programming.

  ▶ Windows® and UNIX tools and applications are supported.

  ▶ JDBC or ODBC SQL statements are dynamically translated into native read/write APIs.

  ▶ It can access data stored in VSAM, **IMS**, CA-IDMS, CA-Datacom, Software AG Adabas, and DB2 UDB for z/OS databases.

  ▶ Driven by metadata that contains a mapping of physical databases and files to logical relational tables, mainframe data appears to be one relational database.

  ▶ SELECT, INSERT, UPDATE, DELETE SQL statements and stored procedure calls are supported.

  ▶ Stand-alone, DB2 II Classic Federation provides high performing, scalable mainframe data integration.

  ▶ Combined with DB2 Information Integrator V8.2, it delivers enterprise-wide structured and unstructured data integration.

DB2 II Classic Event Publisher for CA-IDMS

- DB2® Information Integrator (DB2 II) Classic Event Publisher for CA-IDMS makes it easy to link data events with business processes.
- It captures database changes to CA-IDMS by:
  - reading the active or recovery log
  - formatting the changes into relational XML messages
  - publishing the changes to WebSphere® MQ for z/OS®

NEW!!

IMS Queue Control Facility

- IMS Queue Control Facility for z/OS is updated to use information maintained by DBRC so that several of the manual functions you perform are now automated.

- The benefits of adding an IMS Queue Control Facility/DBRC interface are:
  - **Automatic checkpoint location** The specification of an IMS system checkpoint ID is now available through a standard LIST.RECON command output. IMS Queue Control Facility is enhanced to completely automate the selection of an IMS system checkpoint ID.
  - **Automatic log selection** The selection and the dynamic allocation of IMS log data sets is completely automated.
  - **Cold queue recovery for IMS/SMQ** In V1, the cold queue recovery provided the ability to choose whether to requeue or delete messages on the SMQ cold queue.
    - V2 provides an automated solution for making this determination; you can take the proper action to either requeue or delete cold queue messages.

- The implementation of the SAF/RACF security interface, offers three levels of authorization:
  - ACCESS (NONE)
  - ACCESS (READ) in order to LIST/VIEW functions only
  - ACCESS (UPDATE)

IMS Queue Control Facility

- IMS Queue Control Facility now provides support for the INCLUDE and EXCLUDE statement of the LOAD function.
  - ▶ INCLUDE and EXCLUDE statements specify selection criteria specific to message sources and destinations.
  - ▶ INCLUDE and EXCLUDE statements are unrestricted in number.
  - ▶ LOAD places messages into one or more message queues (specified by the user) from a data set created by the BROWSE, UNLOAD, RECOVER, or SORTB function.
- Sysplex support is added.
- Messages can be requeued between different LTERMs and OTMA.
- Multiple line commands are accepted in the Display Destination panels.
- The program conforms to user installation standards for execution libraries.

Summary

- IMS V9 Support