IMS10

IMS V9 System, TM and Application Enhancements

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System Enhancements

- **Packaging**
- **Documentation**
- **IMS Application Menu**
- **Syntax Checker enhancements**
- **Knowledge Based Log Analysis**
- **IVP enhancements**
- **Shared SDFSRESL for different configurations**
- **DBRC Type 4 SVC enhancement**
- **IMS Resource Cleanup Module enhancement**
- **Online Change Utility enhancement**
- **Greater than 255 transaction classes**

- **CRC Registration**
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- **Restart enhancements**
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- **ETO enhancements**
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- **MNPS replacement of XRF USERVAR**
- **OTMA and APPC enhancements**

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  - ▶ **IMS Java & Cobol Interoperability**
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  - ▶ **IMS Java SQL Enhancements**
- **DLIModel utility & GUI Enhancements**
- **zAAP – z/Series Application Assist Processor**
- **IMS Java Remote Database Services**

System Enhancements

IMS Application Menu

- **A new IMS primary option menu**
  - ▶ Provides a common ISPF interface to IMS-provided applications
  - ▶ Allows easy invocation to the following applications:
    - Single Point of Control
    - Knowledge Based Log Analysis (KBLA)
    - HALDB Partition Definition Utility
    - Syntax Checker
    - Installation Verification Program
    - IVP Export Utility
    - IMS Dump Formatter

```
                         IMS Application Menu
Command=➜_____

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Select the desired application and press Enter.


        1   Single Point of Control (SPOC)

        2   Knowledge-Based Log Analysis (KBLA)

        3   HALDB Partition Definition Utility (PDU)

        4   Syntax Checker for IMS parameters (SC)

        5   Installation Verification Program (IVP)

        6   IVP Export Utility (IVPEX)

        7   IPCS with IMS Dump Formatter (IPCS)

To exit the application, press F3.
```

Syntax Checker

- **Enhancements**
  - ▶ Support for new IMS V9 parameters for DFSPBxxx
  - ▶ Processing of additional members
    - DFSDCxxx & DFSSQxxx
  - ▶ Optional display of the default values
  - ▶ New Select command: "P" (Process)
    - Allows processing of another member in PROCLIB

- **Benefits**
  - ▶ Assists with IMS release to release migrations when converting PROCLIB members
    - Ability to define, verify and validate parameters

Knowledge Based Log Analysis (KBLA)

- **New utility for IMS log record analysis**
  - ▸ ISPF driven interface
    - • 39 panels
  - ▸ Set of log record formatting and analysis routines

- **Benefits**
  - ▸ Provides an easy to use, easy to read interpreted version of the IMS log records
  - ▸ Creates syntactically correct control statements and valid JCL for the utilities
  - ▸ Reduces the need to reference the manuals and minimizes errors

```
               Knowledge Based Log Analysis    IMS Version 9.1
Command ===>
                                                  TIME....12:01:59
                                                  DATE....2004/09/07
                                                  JULIAN..2004.251
Select any of the following tasks and press ENTER .  USERID..COUGHTA
        Tasks . . 0  0. KBLA Environment Maintenance
                     1. IMS Log Utilities
                     2. IMS Log Formatting
                     3. IMS Log Data Set Summary
                     4. IMS Knowledge Based Analysis
                     5. Log Selection
                     6. User Supplied Utilities


To Exit the KBLA MAIN menu, press END.
For Help place cursor on any field and press PF1.
```

IVP Enhancements

- **Enhancements**
    - ▶ Support for export and import of IVP variables between IMS releases
        - • Relieves the task of keying in the values for over 280 IVP variables
    - ▶ Improved support for JES3 environments
        - • Support for JES3 job classes of up to eight characters
            - − Based on whether IXUJESTY specifies JES2 or JES3
        - • Data set allocation uses DISP=(,pass) and cataloged in last step
    - ▶ Support of SMS allocation for all IMS data sets
        - • Not just IVP sample application datasets
    - ▶ New IVP variable that defines high level qualifier for VSAM data sets
    - ▶ Enhanced IMS Dump Formatter setup
        - • Additional steps to complete and test the installation of IPCS for IMS dumps
    - ▶ …

Shared SDFSRESL for Different Configurations

- **Removal of sysgen conditional binds**
  - ▶ Non-suffixed modules that were formerly conditionally bound in sysgen are now bound as part of SMP/E install
  - ▶ Depending on the execution environment
    - • Optional standalone modules are loaded during IMS initialization
- **Generic DFSVC000**
  - ▶ New control region parameters: SVC2, MCS, DESC
  - ▶ New batch region parameter - RGSUF for DFSPBxxx suffix
    - − Batch specific overrides

- **Benefits**
  - ▶ Removes the need to maintain separate resource libraries (SDFSRESLs) for different IMS systems
    - • Fast Path, non-Fast Path, DB/DC, DBCTL, DCCTL
  - ▶ Allows generation of a generic DFSVC000 that can be used by multiple IMS environments

DBRC Type 4 SVC Enhancement

- **Enhancement to the IMS SVC Update Utility (DFSUSVC0)**
    - ▶ Support dynamic update of the DBRC Type 4 SVC
        - Utility previously only supported Type 2 SVC
    - ▶ IMS System programmer actions:
        - Run system definition to create IGC00xxx
            - As before
        - Bind the module into SYS1.LPALIB or MLPA
        - Run DFSUSVC0 and specify SVCTYPE=(4) | (2,4)

    - ▶ **Benefits**
        - No longer need an MVS IPL to install maintenance for the DBRC Type 4 SVC
            - DFSUSVC0 dynamically changes the z/OS SVC table to point to new version of the SVC module

IMS Resource Cleanup Module Enhancement

- **Invocation of the z/OS RESMGR service**
  - Dynamic installation of a new IMS Resource Cleanup Module DFSMRC20
    - Defined dynamically to z/OS using RESMGR services
      - Registration to z/OS is done during IMS V9 system initialization
  - IMS install tasks that can be bypassed:
    - Bypass copy of module DFSMRCL0 into SYS1.LPALIB
    - Bypass adding the name "DFSMRCL0" to the IEAVTRML CSECT of the z/OS module IGC0001C
      - Static method

- **Benefits**
  - No longer need to install IMS Resource Cleanup as part of the z/OS system for IMS V9
    - DFSMRCL0 still needs to be there if previous IMS releases exist on the same LPAR as IMS V9

Enhanced Online Change Utility - IEBCOPY

- **Enhancement to the Online Change Utility (DFSUOCU0)**
  - ▸ Ability to override IEBCOPY parameter values
    - Optional 4th-6th positional parameters
      - WORK=, SIZE=, LIST=

- **Benefit**
  - ▸ Provides a means to ensure that the IEBCOPY default execution values do not cause OLC Utility failures

Greater than 255 Transaction Classes

- **Increase in the maximum transaction scheduling class specification**

- **Benefit**
  - Lifts the current restriction on the number of transaction scheduling classes that can be specified
    - From 255 to 999

Command Recognition Character Registration

- **During Control Region initialization IMS registers CRC with z/OS**

  ▸ If the CRC= is not unique IMS issues:

  `DFS1946W IMS CRC OF 'x' ALREADY EXISTS WITHIN SYSTEM OR SYSPLEX`

- **Benefit**
  ▸ Allows operator to detect if CRC is unique to allow routing of commands to appropriate subsystem for execution

Virtual Storage Constraint Relief

- **CSA to ECSA**
  - ▸ IMS V7 to IMS V9: 112K with FP, 48K without FP
    - • Plus 172 bytes * BUFNO (single logging)
      or 352 bytes * BUFNO (dual logging)
  - ▸ IMS V8 to IMS V9: 8K (Load modules moved from 24-bit to 31-bit addressing)

- **PVT to EPVT – z/OS 1.5**
  - ▸ Data Set Association Blocks (DSABs)
    - • Control blocks associate with dynamically allocated databases
      - − 96 bytes per data set
        - ▫ Full Function: DLISAS PVT to EPVT
        - ▫ Fast Path: IMS Control Region PVT to EPVT
    - • Databases allocated via JCL maintain their DSABs in the PVT storage of the appropriate address space

Virtual Storage Constraint Relief ...

- **ECSA to EPVT**
  - ▶ DEDB storage in an FDBR environment
    - Optional FDBR parameter in DFSFDRxx
      - − FPBUFF=LOCAL
        - □ Specifies that storage for DEDB processing is to be placed in FDBR control region EPVT
      - − Amount of storage is installation dependent (DBFCONT0):
        - □ DEDB common buffer pool
        - □ Shared VSO buffer pools
  - ▶ If option is not specified, control blocks are placed in ECSA

Restart Enhancements

- **Restart reads secondary WADS after reading primary WADS**
  - ▶ Checks for data missing on primary
    - • Rarely required, but DASD malfunction could cause data to be missing on primary
    - • If additional data found on secondary it is added to OLDS

- **Restart allowed with ERROR=CLOSE OLDS**
  - ▶ IMS restart will read data from OLDS marked in error
    - • Single OLDS with error does not have to be closed before IMS restart
  - ▶ OLDS still needs to be processed by Log Recovery Utility in CLS mode before it can be archived
  - ▶ Available in IMS V7 (PQ59736) and IMS V8 (PQ59737)

/DIAGNOSE Command

- **New classic command (Type-1 command)**
  - ▶ Logs IMS resource data to the OLDS or Trace datasets as type X'6701' records
    - Uses existing log record mapping and facilities
    - Allows users to take a snap shot of IMS resources
      - Provides detailed diagnostic information for problem determination
    - The command itself is also logged as a X'02' record
  - ▶ Provides information for IMS Level 2 support

  `/DIAGNOSE SNAP BLOCK(xxx) NODE(yyy) TRAN(zzz) OPTION(OLDS|TRACE)`

  - ▶ Control blocks supported: ALL, CMDE, ESCD, LSCD, MWA, QSCD, SCD, SQM, TSCD

- **Benefit**
  - ▶ Provides a way to obtain IMS diagnostic information, at any time, without impacting operations
    - Can reduce need for a console dump

Tracing Enhancements

- **From IMS V9, the DL/I trace and the Lock trace are both on by default**
  - ▸ Use the /TRACE command to deactivate either

```
I9PLX                        IMS Single Point of Control
Command ===>_____

                                Plex ._____Route . _____ Wait .  _____

Log for . . : DIS TRACE ALL
IM9A           NO LINE TRACES FOUND
IM9A           NO LINK TRACES FOUND
IM9A           NO NODE TRACES FOUND
IM9A           NO PSB TRACES FOUND
IM9A
IM9A           MONITOR IS ACTIVE:  LA SCHD APMQ APDB
IM9A           NO TRANSACTION TRACES FOUND
IM9A           NO PROGRAM TRACES FOUND
IM9A
IM9A           TABLE    TRACE   LOGGING  ENTRIES VOLUME
IM9A            RETR       ON       N/A   128/PST  N/A
IM9A            DL/I
IM9A            DL/I      ON                         HIGH
IM9A            LOCK      ON                         HIGH
IM9A             PI      OFF                   OFF
IM9A            LATC     OFF       OFF       3024  OFF
 F1=Help      F3=Exit       F4=Showlist  F6=Expand    F9=Retrieve F12=Cancel
```

SAF Enhancements to Replace SMU

- **Enhancements to the SAF interface to support:**
  - ▶ Application Group Name (AGN) security
  - ▶ Type 1 and Type 2 Automated Operator Interface (AOI)
  - ▶ Terminal security for Time-Controlled Operations (TCO)
  - ▶ MSC link receive security
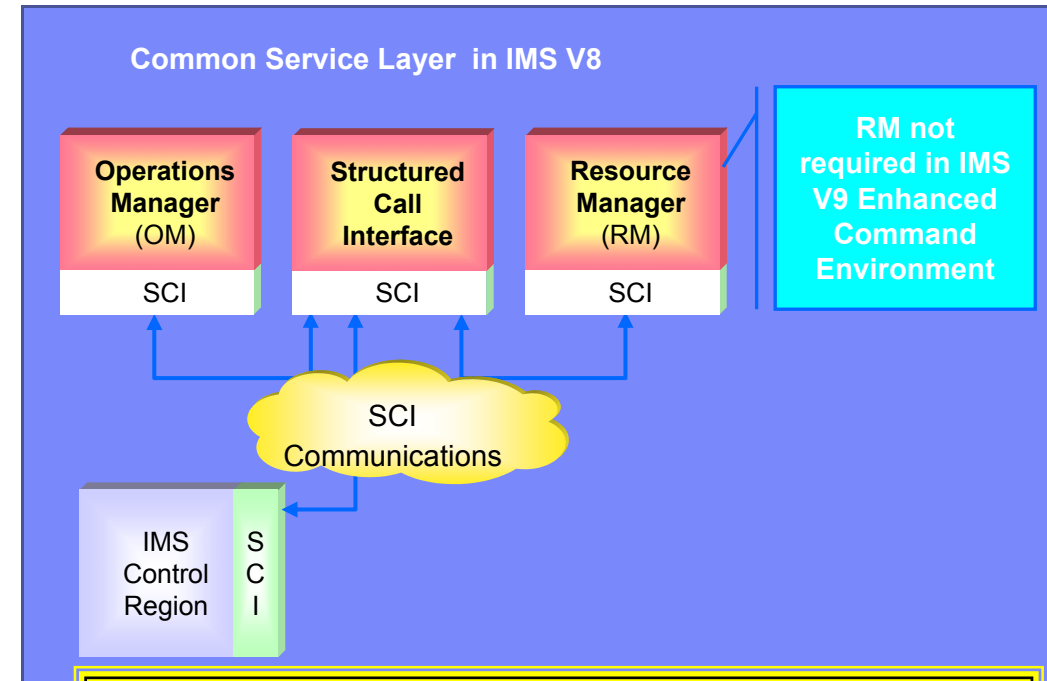 - ▶ /LOCK and /UNLOCK commands
  - ▶ Signon verification

Last release to support SMU

- **Benefits**
  - ▶ Overcomes limitations that prevent migration from SMU

Enhanced Command Environment

- **Resource Manager (RM) address space _not required_ to support type-2 commands**

- **Allows the IMS control region to optionally start the SCI and OM address spaces**

- **Support a Common Service Layer that includes only SCI and OM**
 - ▸ You can run in a parallel sysplex without RM

Common Service Layer in IMS V8

Operations Manager (OM)	Structured Call Interface	Resource Manager (RM)
SCI	SCI	SCI

RM not required in IMS V9 Enhanced Command Environment

SCI Communications

IMS Control Region | S C I

```
BROWSE      IMS.V9.DBDC.PROCLIB(DFSCGECE)
Command=➜_____
*-----------------------------------------*
*  IMS COMMON  SERVICE  LAYER  MEMBER      *
*-----------------------------------------*
CMSEC=N,              /* NO CMD AUTH CHECK*
IMSPLEX=PISC2,        /* IMSPLEX NAME     *
RMENV=N,
OMPROC=OMA,
SCIPROC=SCIA
```

IMS Control Center

- **Enhanced to support:**
  - ▶ IMS V9 Resources
  - ▶ Command Shortcuts
  - ▶ Command Editor
  - ▶ Results can be edited
  - ▶ Two sets of results can be compared
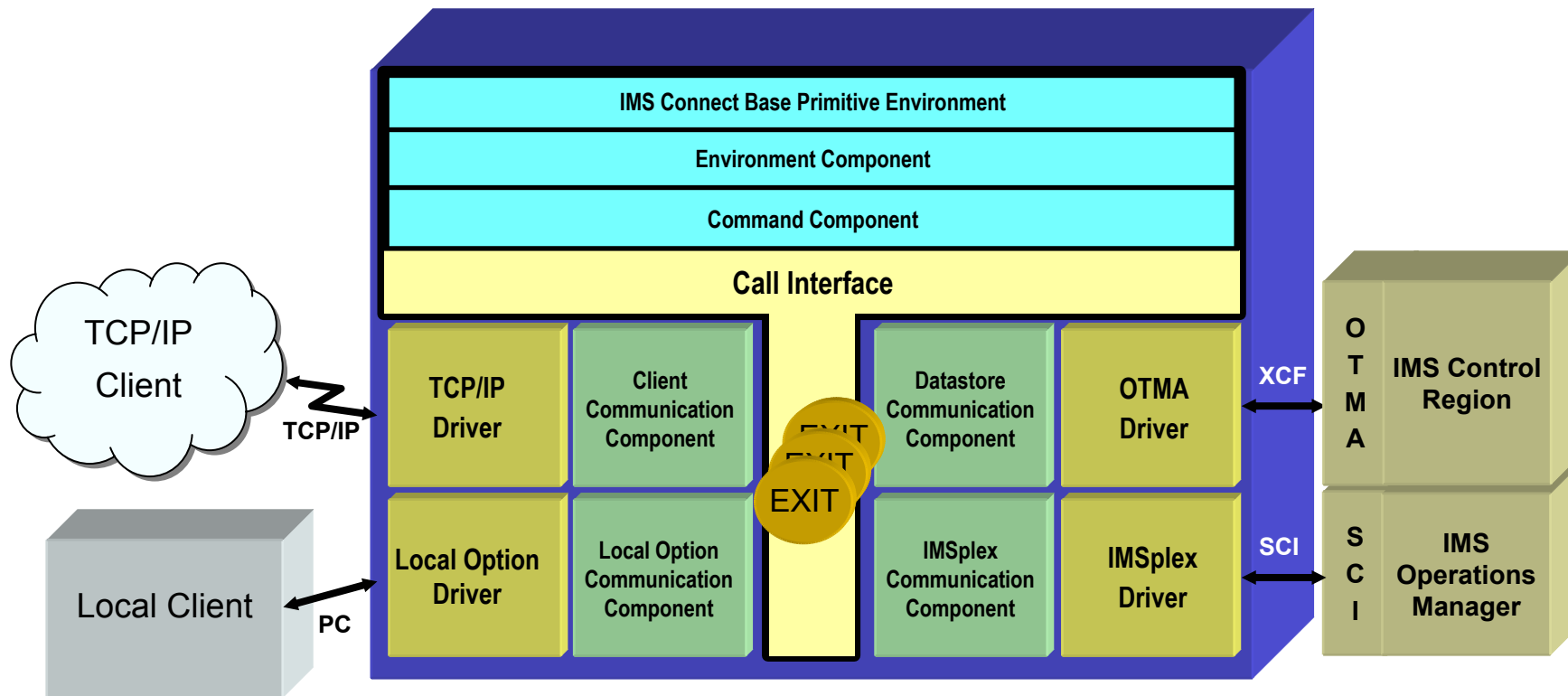- **Freely available with IBM DB2 V8.2 Admin Client**
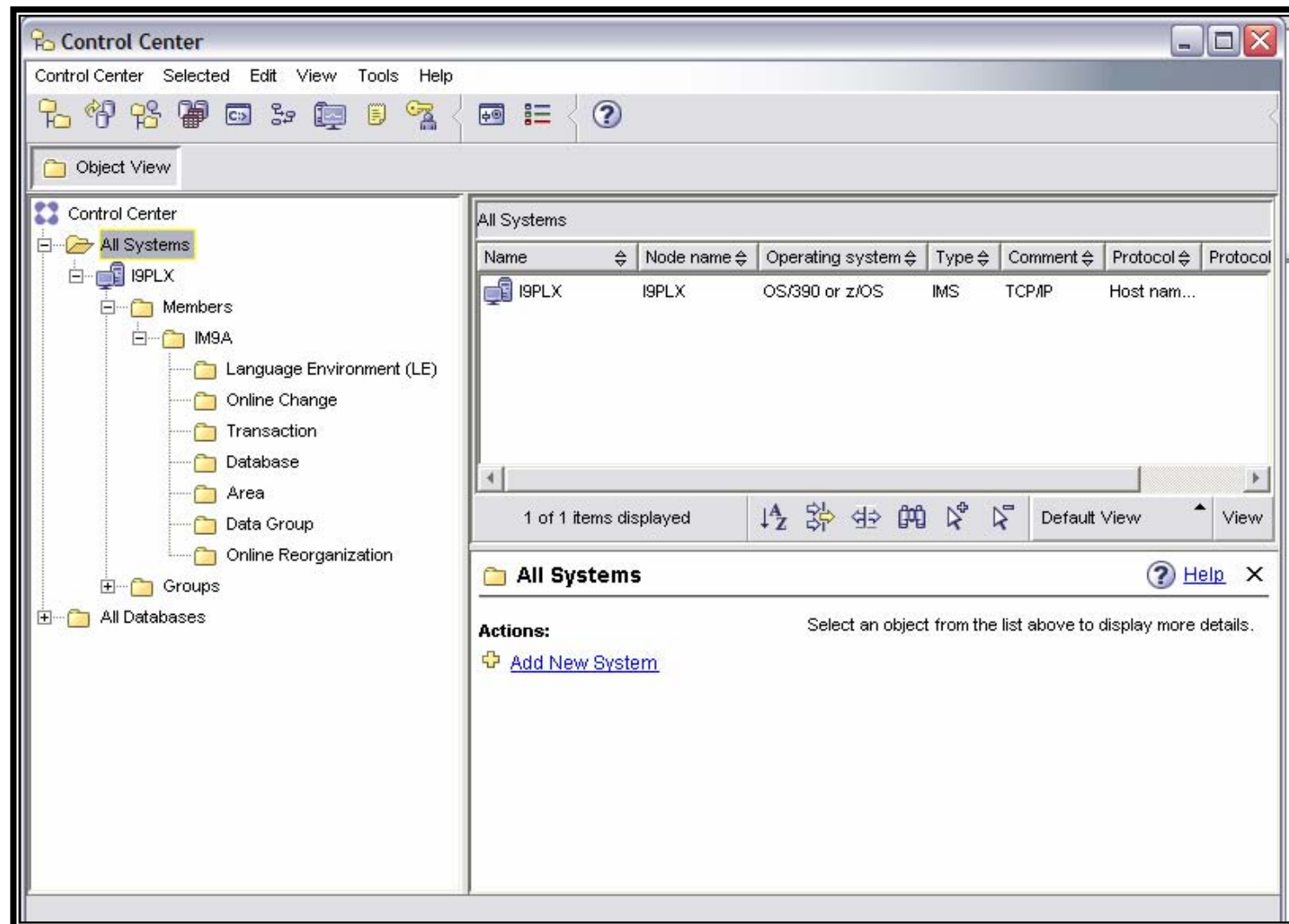
TM Enhancements

Integrated IMS Connect Support

- **Functionality of IMS Connect V2R2 is integrated into IMS V9**
  - Included in System Services FMID – HMK9900

ETO Enhancements

- **Allow SLU3 devices to connect as SLU1 or 3270P**
  - ▸ Specified globally in DFSINTX0 (Initialization Exit Routine)
    - • Done only for ETO terminals

- **ETO feature checking**
  - ▸ Validation occurs during IMS initialization rather than during sysgen
    - • Installation continues to be done through SMP/E
    - • Descriptor generation continues to be done during sysgen

- **Benefits**
  - ▸ Eases migration to ETO for networks with devices defined to VTAM as SLU3
  - ▸ Removes the requirement to run system generation after installation of ETO

MNPS Replacement of XRF USERVAR

- **Enhancement to use VTAM's Multinode Persistent Session support for XRF takeover of VTAM terminals**
  - ▸ IMS V9 supports
    - • Traditional XRF with VTAM USERVAR
    - • New XRF with VTAM MNPS

- **Benefits**
  - ▸ Provides an alternative for XRF users
    - • Withdrawal from marketing of 3745 controller and 3746 multiprotocol controller
  - ▸ MNPS XRF users can exploit VTAM Generic Resources

OTMA Enhancements

- **New "Auto-One" option for OTMA Resume TPIPE protocol**
  - ▶ After receiving the Resume TPIPE command from IMS Connect, if there are messages on the asynchronous hold queue, OTMA sends one message
  - ▶ If there are currently no messages, OTMA will send one message when it arrives
  - ▶ Once an message is delivered, the RESUME TPIPE option will be reset to "NO-AUTO"
  - ▶ Also delivered in IMS V8
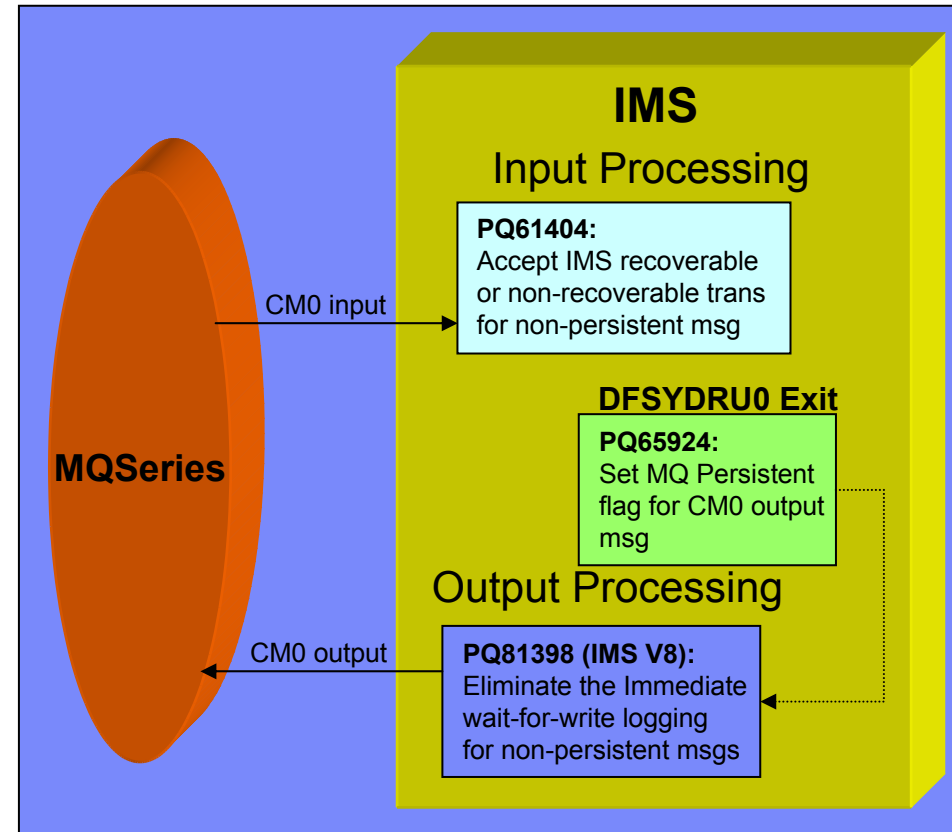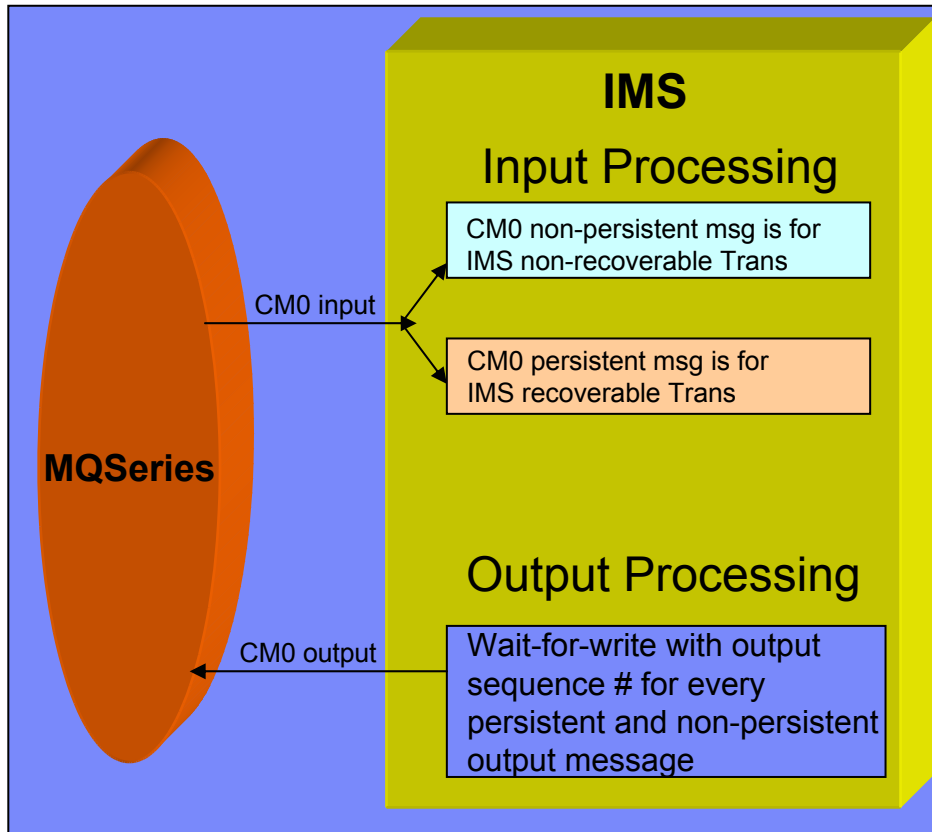   - • PQ79040

- **Message level ACEE aging value override**
  - ▶ Allows OTMA clients to set override at an input message level for a userid
    - • Default continues to be the global value in the OTMA client-bid
  - ▶ Provides greater granularity and control

OTMA Enhancements

- **MQ/OTMA CM0 Non-Persistent Message Enhancements**
  - Removed unnecessary "OTMA sequence number" logic for processing CM0 non-persistent output messages
    - For this type of message, there is no need to track the sequence number
  - Customer feedback on the reduced elapsed time:
    - *"Wow - what a difference .... it goes down from 0.491 sec/trx before to 0.248 sec/trx with the change. Pretty consistently half the elapsed time."*
  - Also delivered in IMS V8
    - PQ81398

MQSeries

IMS

Input Processing

CM0 input

CM0 non-persistent msg is for IMS non-recoverable Trans

CM0 persistent msg is for IMS recoverable Trans

Output Processing

CM0 output

Wait-for-write with output sequence # for every persistent and non-persistent output message

MQSeries

IMS

Input Processing

CM0 input

PQ61404: Accept IMS recoverable or non-recoverable trans for non-persistent msg

DFSYDRU0 Exit

PQ65924: Set MQ Persistent flag for CM0 output msg

Output Processing

CM0 output

PQ81398 (IMS V8): Eliminate the Immediate wait-for-write logging for non-persistent msgs

OTMA Enhancements …

- **OTMA TPIPE trace for every input and output message**

- **DFSYPRX0 Pre-routing Exit enhancement**
  - ▶ Allows specification of the OTMA destination TPIPE name
    - Minimizes the need for the OTMA Destination Resolution Exit DFSYDRU0
  - ▶ With this enhancement, all information that is set in DFSYDRU0 can be set in a combination of startup parameters and DFSYPRX0

- **Input message ZZ protection**
  - ▶ Allows values set by remote program to pass through untouched
    - Preservation of the Z2 field of the LLZZ input message
    - Can be set or modified by OTMA Input/Output Edit Exit DFSYIOE0

OTMA Enhancements …

- **/DISPLAY TMEMBER TPIPE**
  - ▶ Command is enhanced to show the wait status for an expected ACK or NAK for CM0 messages

- **Also delivered in IMS V8**
  - ▶ PQ87087

- **Ability to Delete Undeliverable CM0 Output**
  - ▶ When IMS Connect is disconnected from the XCF group
    - • IMS Connect applications have an option to inform OTMA to purge CM0 IOPCB output

See the IMS Newsletter, Winter 2004 edition, "IMS Connect, CM0 Persistent Sockets for IMS Connect" , pg 13, for more information

OTMA Enhancements …

- **OTMA trace table enhancement**
  - ▶ New OTMT trace table entries for activity in and out of exits DFSYIOE0, DFSYPRX0, DFSYDRU0

/EXIT Command for APPC/OTMA

- **Ability for IMS operators to terminate IMS conversations originated by APPC or OTMA**

  ▸ /EXIT can also be issued from APPC/OTMA devices

  ▸ Enhancement to /EXIT and /DISPLAY CONVERSATION (for OTMA) commands

  > **/EXIT CONV convid LUNAME luname**
  >
  > **/EXIT CONV convid TMEMBER tmembername TPIPE tpipename**

- **Benefit**

  ▸ Greater control of IMS conversations in APPC/OTMA environments

    • Allows IMS conversational processing to be terminated for processing such as Online Change

Synchronous APPC/OTMA Shared Queues Parm

- **AOS = Y / <u>N</u> / F**

  ▸ New DFSDCxxx parameter

  ▸ Specifies whether the synchronous APPC/OTMA SMQ Enablement function should be active (Y) or inactive (N)

    • Y - allows IMSplex users to execute transactions originated by APPC or OTMA on a back-end system

    • N - deactivates the capability for all the members within the IMSplex

    • F - (Force) activates the function even if another member in the IMSplex cannot activate the function

  ▸ Enablement is deactivated by default for all members within the IMSplex, except members with the Force option specified

  ▸ Available in IMS V8 (PQ66303)

APPC Enhancement

- **New specification for application timeout**
  - ▶ Enhancement to APPCIOT in DFSDCxxx

  - ▶ Limits the amount of time that an application is allowed to be inactive
    - Supports termination of conversations
    - APPCIOT = (xxxx,yyyy)
      - First parameter specifies APPC/MVS timeout
        - Number of minutes an APPC/MVS service is allowed to wait for completion
      - New second parameter specifies APPC/IMS timeout
        - Number of minutes an application can be inactive for (i.e.IMS didn't issue any APPC/MVS service for this application)
    - Valid values for both parameters: 0 - 1440
      - Specification of 0 deactivates timeout for the parameter

Additional APPC/OTMA Enhancements

- **DFSLUEE0**
  - ▶ Ability to change APPC synclevel

- **DFSCMUX0**
  - ▶ Ability to reroute DFSxxxxx error messages

- **Also delivered in IMS V8**
  - ▶ PQ76389

Sharing TM Resources in an IMSplex with RM

- **New STM= keyword on DFSDCxxx Proclib member**
  - ▶ STM=**YES**/NO
    - STM=YES
      - − As in IMS V8, TM resources are shared automatically if RM structure exists
    - STM=No
      - − TM resources are not to be shared
  - ▶ TM Resources
    - Terminals, users, user-ids, LTERMs, MSNAMEs and APPC Descriptors

Application Enhancements

IMS Java Enhancements

- **IMS-DB2 interoperability**
  - ▸ Supports DB2 access from an IMS JMP or JBP region
    - Part of base IMS V9
    - IMS V8
      - PQ73326 (UQ80615)
      - Prereq PQ73897 (latest level of IMS Java)
      - Prereq PQ75284 (IMS code using DB2's attachment facility)
    - DB2
      - DB2 V8 (PQ74629)
      - DB2 V7 (PQ69861)
  - ▸ Uses DB2 RRS attach facility
    - Requires SSM= and RRS=Y in the IMS startup definitions
  - ▸ Allows only one active DB2 connection at a time
    - Future support for multiple connections

IMS Java Interoperability with Cobol

- **Cobol**
  - Requires Enterprise Cobol for z/OS V 3.2
    - Object oriented syntax
      - Cobol applications that run in a JBP or JMP must use the AIB interface
        - All PCBs in the PSB must be named
    - Also available in IMS V7 and IMS V8 (PQ69684 & PQ70354)

IMS Java Enhancements …

- **IMS Java Symbolic checkpoint/restart**

  ▶ Extends the IMS symbolic checkpoint/restart capability to the IMS Java environment

    - Only applies to JBP (Java Batch Processing) applications
    - Take application checkpoints
      - Restart from the last checkpoint after failure
    - Save critical application Java objects as part of the checkpoint
      - Restore those objects at restart
    - Save database positions as part of the checkpoint
      - Verify repositioning of those databases at restart

IMS Java Enhancements …

- **IMS Java GSAM Support**

  - ▶ Provides a Java interface to access GSAM
    - • Only applies to JBP (Java Batch Processing) applications
      - − Access (open and close) GSAM databases
      - − Write to GSAM databases
      - − Read from GSAM databases (sequentially and randomly)

- **XPLINK Support with IBM SDK for z/OS V1.4.1**

  - ▶ JMP and JBP regions MUST specify XPLINK=Y
    - • IBM LE Extra Performance Linkage runtime option
  - ▶ Also supported in IMS V7 & V8 (PQ76609 & PQ77590)

IMS Java Enhancements ...

- **IMS Java SQL Enhancements**

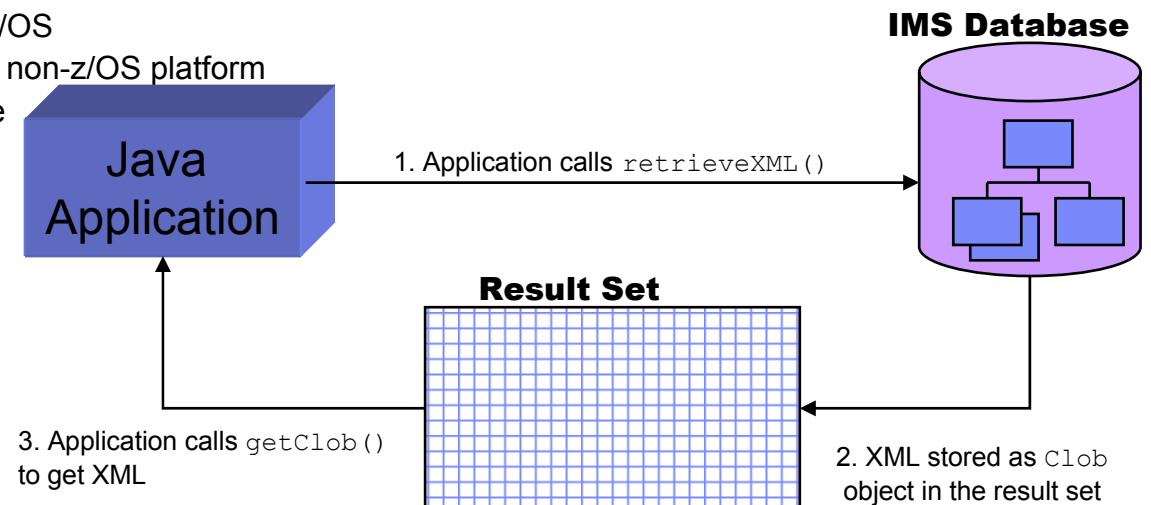 ▶ Select all fields within multiple segments using the asterisk (*) operator
    - SELECT * FROM DealershipDB.Model
    - SELECT Dealer.*, Model.* FROM DealershipDB.Model

  ▶ SQL Extensions for XML Storage and Retrieval in IMS Databases
    - retrieveXML
    - storeXML
      − Supported for Java application programs running in any of the following environments:
        ▫ IMS dependent region (JMP or JBP)
        ▫ WebSphere Application Server for z/OS
        ▫ WebSphere Application Server on a non-z/OS platform
        ▫ DB2 UDB for z/OS stored procedure
        ▫ CICS JCICS region

IMS Database

Java Application

1. Application calls `retrieveXML()`

Result Set

3. Application calls `getClob()` to get XML

2. XML stored as `Clob` object in the result set

IMS Java Enhancements ...

- **DLIModel utility Enhancements**

  ▸ Generates XML Schemas to validate XML documents being stored into or retrieved from IMS

Control statements:

1) Choose PSBs/DBDs

2) Choose copybook members

3) Aliases, data types, new fields.

If you can read this you do not need glasses; however this is just silly writting to represent the control statements that are the input to the utility.
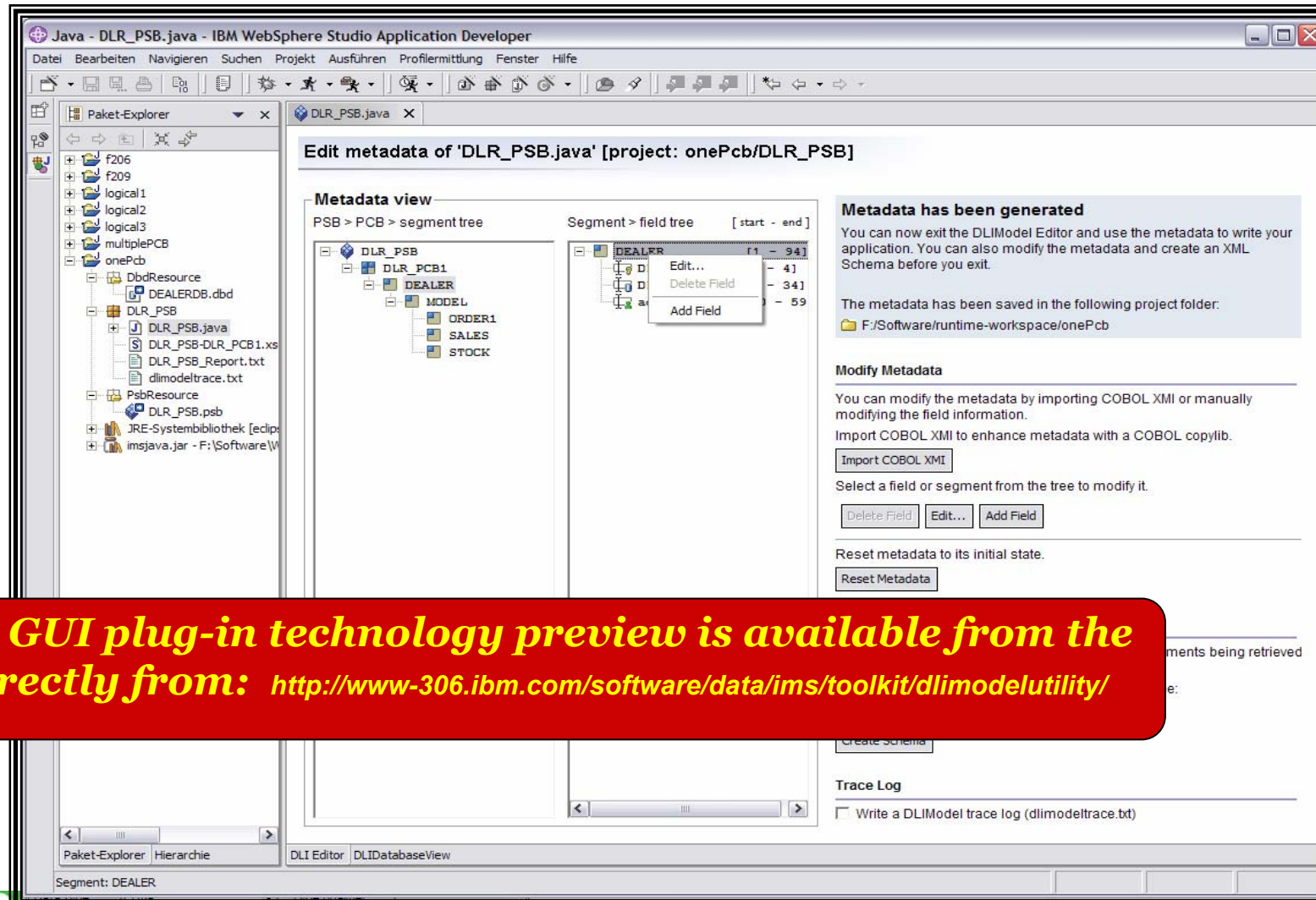
COBOL

Copybook XMI members

PSB

DBD

DLIModel utility

XMI 1.2

New!

XML Schema(s)

IMS Java classes
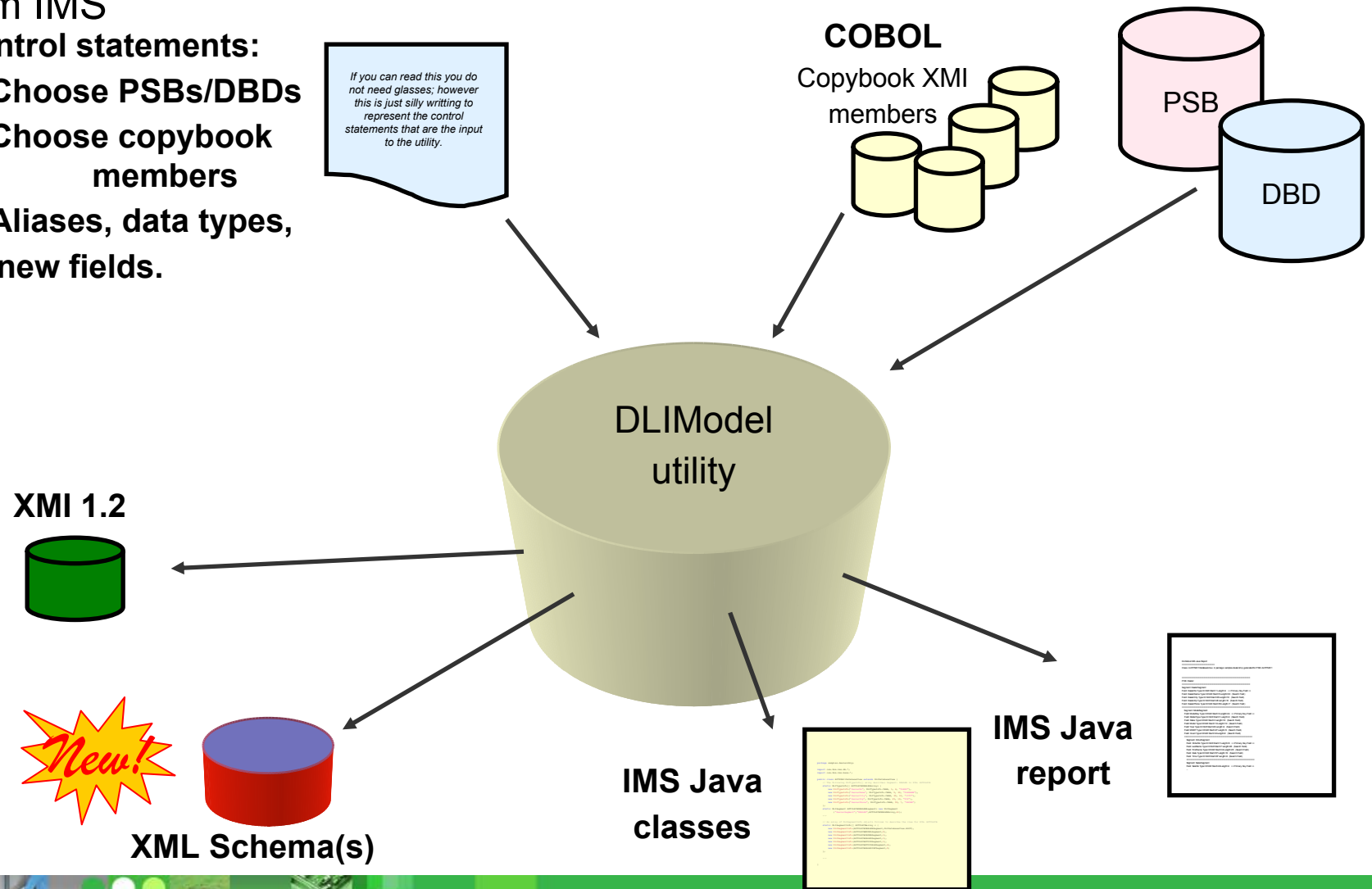
IMS Java report

IMS Java Enhancements …

- **DLIModel utility _Graphical User Interface_ Eclipse "plug-in" or WSADIE 5.1+**

- **Allows you to generate**
  - Schema

  - IMS Java metadata classes

  - Java Report

The DLIModel Utility GUI plug-in technology preview is available from the IMS Home page or directly from: http://www-306.ibm.com/software/data/ims/toolkit/dlimodelutility/

zAAP – zSeries Application Assist Processor

- **Specialized processing unit for z990 and IBM ℮server zSeries 890 (z890)**

  ‣ Requires z/OS 1.6

- **Provides a highly strategic z/OS Java execution environment**

  ‣ Increases system productivity by reducing the demands on general purpose processors, making capacity available for reallocation to other workloads.

  ‣ Allows Java workloads to run at a lower total cost of ownership

  ‣ Java workloads are transparently executed on the zAAP processors

    • No requirement to change applications

zAAP – z/Series Application Assist Processor ...

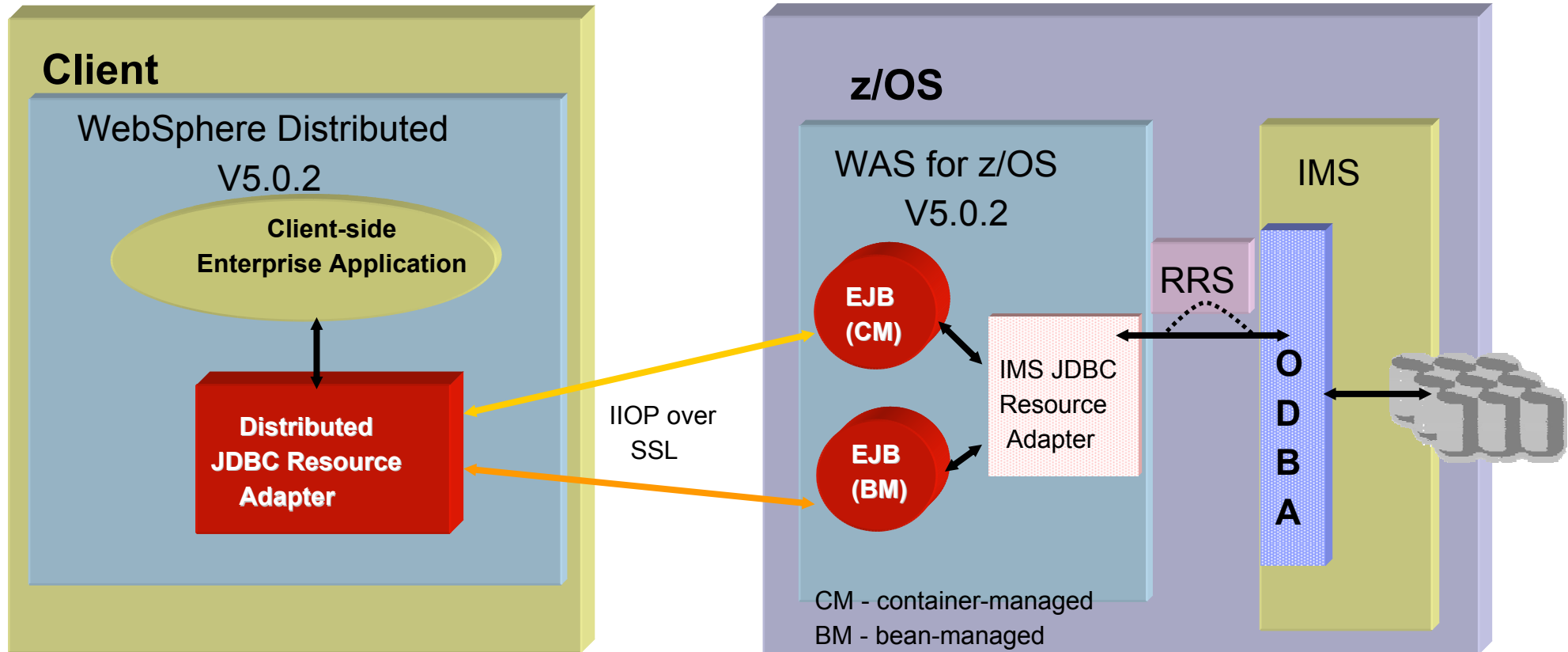| Minimum Java Levels for zAAP exploitation or determining zAAP execution potential		
Subsystem Version	**zAAP Projection Tool for Java 2 Technology Edition, SDK 1.3.1**	**IBM SDK for z/OS, Java 2 Technology Edition, V1.4, with PTF for APAR PQ86689**
WAS 5.0.2	X	
WAS 5.1		X
IMS™ V7	X	X
IMS V8	X	X
IMS V9	X	X
CICS® 2.2	X	
CICS 2.3		X
DB2® V7	X	X
DB2 V8	X	X
WBI Brokers V5	X	X

IMS Java Remote Database Services (RDS)

- **Set of J2EE components that provide remote access to IMS data (IMS ODBA)**
  - ▶ Consists of client-side and server-side components
  - ▶ Supports: Retrieve, Update, Delete, Insert
  - ▶ Provides an architected solution that allows remote Enterprise Applications to issue JDBC calls to access IMS Databases
    - • Prerequisites:
      - – Distributed WebSphere Application Server 5.0.2 or later
      - – z/OS
        - ▫ IMS V9
        - ▫ z/OS V1.4 or later
        - ▫ WebSphere Application Server for z/OS V5.0.2 or later
        - ▫ IBM SDK for z/OS Java 2 Technology Edition V1.3.1 or later
        - ▫ Resource Recovery Services (RRS)
  - ▶ No need to develop or access a legacy z/OS application to have access to IMS data – ideal for application development in a WebSphere environment

IMS Java Remote Database Services (RDS)

❖*From a client application deployed on a distributed WebSphere Application Server*
❖*Client-server communication handled by IMS Java*

Client

WebSphere Distributed V5.0.2

Client-side Enterprise Application

Distributed JDBC Resource Adapter

IIOP over SSL

z/OS

WAS for z/OS V5.0.2

EJB (CM)

EJB (BM)

IMS JDBC Resource Adapter

RRS

IMS

ODBA

CM - container-managed
BM - bean-managed

IVPs can be used to test container & bean managed EJBs on WAS on a non-z/OS platform (see IMS Java Guide and Reference for details)

Packaging

- **IMS V9 product number - 5655-J38**

FMID	Feature Description
HMK9900	System Services
JMK9901	Database Manager
JMK9902	Transaction Manager
JMK9903	Extended Terminal Option (ETO)
JMK9904	Recovery Level Tracking (RSR)
JMK9905	Database Level Tracking (RSR)
JMK9906	IMS Java
HIR2101	IRLM 2.1
HIR2102	IRLM 2.2

- **Integrated IMS Connect function**
  - ▶ Included in the IMS Systems Services FMID, HMK9900
- **IMS Java Remote Data Services**
  - ▶ Download IMS Java Files from IMS Website
    - • *http://www.ibm.com/ims*

Documentation

- **IMS V9 Information:**
  - ▶ Unlicensed publications included in DB2 Information Management Software Information Center for z/OS Solutions
    - *http://publib.boulder.ibm.com/infocenter/dzichelp*
  - ▶ Licensed and unlicensed publications available in PDF and Bookmanager formats from the IMS Website
    - *http://www.ibm.com/ims*
    - Licensed IMS books require a valid IMS license or customer number to download
  - ▶ New book
    - *IMS V9: IMS Connect Guide and Reference*
  - ▶ DLIModel utility info. moved to *IMS Version 9: Utilities Reference: System*.
  - ▶ *"An Introduction to IMS"* – ISBN # 0-13-185671-5
    - Available from Pearson Publishing

Summary

Summary

Performance   **Usability**   **Availability**
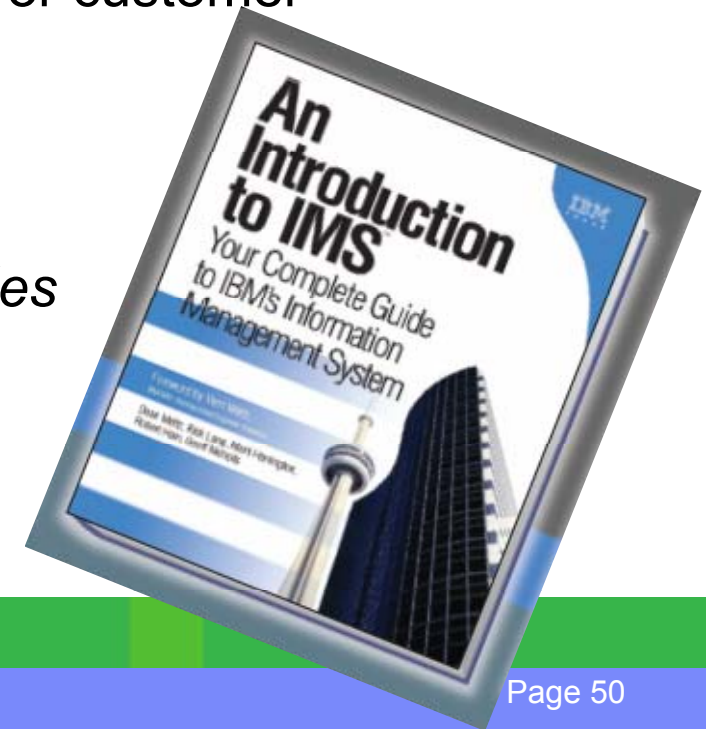
- **IMS Application Menu**
  - ▸ ISPF interface to IMS-provided applications
- **Syntax Checker**
  - ▸ New members added to the processing capability
- **KBLA**
  - ▸ New utilities for log record analysis
- **IVP**
  - ▸ Provides a new utility to input parameters from previous releases
- **Shared SDFSRESL**
  - ▸ Conditional binds moved to SMP/E install
  - ▸ Generic DFSVC000 support
- **Type 4 SVC**
  - ▸ Dynamic support
- **IMS Resource Cleanup Module**
  - ▸ Defined dynamically to z/OS using RESMGR services

- **Online Change Utility enhancement**
  - ▸ Enhanced parameter support for the IEBCOPY step
- **Greater than 255 transaction classes**
- **CRC Registration**
- **VSCR**
- **Restart enhancements**
  - ▸ IMS restart reads data from OLDS marked in error
- **/DIAGNOSE command**
  - ▸ Easier way to gather information
- **SAF enhancements to support replacement of SMU**
- **Enhanced Command Environment**
- **IMS Control Center**
- **Integrated IMS Connect function**
- **ETO Enhancements**
  - ▸ SLU3
  - ▸ ETO Feature Checking
- **MNPS Replacement of XRF Uservar**

Summary ...

Performance	Usability	Availability

- **OTMA Enhancements**
  - Message level ACEE aging value
  - OTMA trace table enhancement
  - DFSYPRX0 Pre-routing Exit enhancement
  - Input message ZZ protection
- **/EXIT command for APPC/OTMA**
- **AOS Parameter for APPC/OTMA Shared Queues**
- **APPC Enhancement**
  - New timeout parameter
- **STM= keyword in DFSDCxxx**
- **IMS Java enhancements**
  - IMS-DB2 interoperability
  - IMS Java & Cobol Interoperability
  - Symbolic checkpoint/restart in a JBP region
  - IMS Java GSAM Support
  - IMS Java SQL Enhancements
- **DLIModel utility & GUI Enhancements**

- **zAAP – z/Series Application Assist Processor**

- **IMS Java Remote Database Services**
  - Remote client access to IMS DB using JDBC calls

For the rest of the story:

Session IMS05

IMS V9 DB & DBRC Enhancements