



IMS 11

Easier than ever!

Information Management software



IMS 11: Easier than Ever

■ Availability and Prerequisites

■ IMS 11 Overview

– System

- ACBLIB Dynamic Allocation
- 64-bit ACB Storage Pool
- GSAM XRST Enhancement
- /DIAG Command
- Improved U0845 Diagnostic Information
- Dump Formatter Enhancement
- Dynamic Dump Formatter Module Installation
- LSQA Storage Reduction
- New User Exits
- KBLA Enhancements
- Mixed Case Passwords With RACF

– Transaction Manager

- QUERY Commands for TM Resources
- Transaction Expiration
- IMSplex Affinity Routing for APPC/OTMA
- Shared Queues False Scheduling Reduction
- OTMA Commit Mode 0 ACK Timeout
- OTMA Resource Monitoring
- OTMA Type-2 Commands

– IMS Connect

- IMS Connect TCP/IP Auto Reconnect
- Keep Alive Values for IMS Connect
- Warning for Approach to MAXSOC
- Port Message Edit Exit
- Enhanced IMS Connect Commands
- IMS Connect Recorder Trace Enhancements
- User-Defined IMS Connect Messages
- IMS Connect Generated Client ID
- Multiple Super Member Support

– Open Database and Universal Drivers

– Database

- Database Quiesce
- Fast Path Dynamic 64-bit Buffer Manager
- Open Option for DEDB UPD Commands
- Unique Subcode for PROCOPT=GO U1026 abend
- Fast Path Performance and Problem Determination
- HALDB OLR Performance

– DBRC

- BPE Based DBRC Region
- Clean Up Command for RECONS
- RECON Security Override

■ Migration

Availability and Prerequisites

- **IMS Version 11 - 5635-A02**
 - Announced on September 16, 2008
 - General availability on October 30, 2009

- **Prerequisites:**
 - z/OS V1R9 (5694-A01)
 - High Level Assembler Toolkit Release 5 (5696-234)
 - IRLM 2.2, if IRLM is used
 - Java Universal Drivers in JMP and JBP regions require JDK 6.0
 - JDK 5.0 is sufficient for other Java environments
 - See *IMS 11 Release Planning* (GC19-2442) for details

IMS System Enhancements



ACBLIB Dynamic Allocation

- DFSMDA members are allowed for IMSACBA and IMSACBB
 - DFSMDA members are used if DD statements are not present
 - Active ACBLIB allocated
 - Inactive ACBLIB is not allocated until needed
 - After online change inactive ACBLIB is deallocated

- Benefits
 - Restart of IMS is not required for:
 - Increasing the size of an ACBLIB
 - Correcting errors in the inactive ACBLIB
 - Adding data sets to the ACBLIB concatenation

64-bit ACB Storage Pool

- Optional storage pool to cache ACB members in 64-bit storage
 - Size specified in gigabytes on ACBIN64= parameter in DFSDFxxx member
 - Non-resident DMBs and PSBs are placed in storage pool when first read into 31-bit pools
 - Later requests for these DMBs and PSBs are satisfied from the storage pool
 - Eliminates reads from DASD
 - Resident DMBs and PSBs and Fast Path DEDBs do not use the 64-bit pool

- Benefits
 - Improved performance for users currently doing ACBLIB I/Os
 - Reduced I/Os to ACBLIB
 - Improved performance from managing smaller PSB pool
 - Smaller pool may be used without causing more I/Os

GSAM XRST Enhancement

- XRST processing enhanced to detect an empty output data set
 - Problem typically occurs due to an incorrect generation number with generation data groups (GDGs)
 - Previous IMS versions did not detect problem and allowed program to restart with resultant loss of data
 - When IMS 11 detects the condition
 - DFS1000I is issued with U0102 abend
 - Exception:
 - If no output was created by original job, it is restarted successfully
- Benefit
 - Operational error is easily detected and corrected.

/DIAGNOSE Command Enhancements

- **New options for the /DIAGNOSE command**
 - DIAGNOSE SNAP MODULE(modname)
 - Returns module entry point address and prolog information
 - Entry point address can be used as input to the MVS SLIP command
 - Prolog information includes the maintenance level
 - /DIAGNOSE SNAP BLOCK(CSCD)
 - Allows the user to capture storage information for the APPC/OTMA Shared Message Queues SCD Extension control block
 - /DIAGNOSE SNAP STRUCTURE(structurename)
 - Returns Shared Queues structure control block information
- **Benefits**
 - Improved diagnostic information
 - Eliminates need for some dumps

Improved U0845 Diagnostic Information

- U0845 abend is for some database system errors
- IMS 11 adds DFS1058E message before U0845 abend
- DFS1058E - REASON = xxx – cc
 - Written to system console
 - xxx = reason code
 - ccc... = brief text message indicating the type of system error
 - Example:
 - DFS1058E – REASON = 010 - NON-VSAM BQEL - BUFFER NOT WRITTEN, CANNOT FREE BQEL
- Benefit
 - Quicker determination of the location and cause of the abend

Dump Formatter Enhancement

- Ability to write log records from a dump
 - Used when some log records are not written to log on an IMS failure
 - IMS Dump Formatter can write records to new data set
 - Writes log records which were in buffers in memory
 - KBLA, DFSERA10, or other tools may be used to analyze log records
 - A batch job version is also available

- Benefit
 - Simplified analysis of log records
 - Records previously only available from dump are now easily accessible

Dynamic Dump Formatter Module Installation

- New dump formatter module (DFSAFMX0)
 - Does not require user installation
 - New module is automatically installed when IMS 11 is first used in a z/OS
 - Old module (DFSAFMD0) required user installation
 - Previous IMS versions required user to ZAP IEAVADFM CSECT in z/OS IGC0805A module

- Benefit
 - Simplifies installation of IMS

LSQA Storage Reduction

- **Reduced LSQA usage for storage management**
 - IMS tracks some storage it acquires with control blocks in 64-bit storage
 - Previous releases use control blocks below the line
 - Can cause 40D abends (end-of-memory) forcing an IPL

- **Related storage enhancement**
 - All 31-bit storage for IMS BCB and DFSPPOOL blocks are defined as 31-bit storage only
 - They cannot wrap to 24-bit storage

- **Benefits**
 - Eliminates potential IPL outages for storage clean up

New User Exits

- **Early Initialization**
 - Called early in the IMS initialization process and after exit refresh
- **CQS Event**
 - Called when IMS receives notification of a CQS event, such as CQS termination
- **CQS Structure Event**
 - Called after IMS receives notification of a CQS structure event, such as a structure rebuild
- **Exit properties**
 - Multiple exit routines of each type may be defined
 - Exit routines may be refreshed by command without an IMS outage

KBLA Enhancements

- Scrolling capability added to data entry panels
 - Split screens can hide lines on the panel
 - Scrolling provides access to these lines

- Output datasets may be defined as multiple volumes
 - 'Number of vols' parameter added to the 'Define KBLA Environment' panel
 - Avoids potential out of space (x37) abends

- Benefits
 - Improved usability for KBLA

Mixed Case Password Support Enhancement

- **IMS 10 added support for mixed-case passwords**
 - IMS and IMS Connect
 - Parameters specified whether or not mixed case was used by RACF
- **IMS 11 has new parameter values for IMS and IMS Connect**
 - New values say to use mixed-case if RACF is using mixed case
 - New values are the defaults
- **Benefits**
 - Users do not have to change IMS and IMS Connect parameters when RACF implements mixed case passwords
 - IMS and IMS Connect automatically use correct setting
 - IMS restart and IMS Connect command are not required when RACF changes to mixed case passwords

Transaction Manager Enhancements



QUERY Commands for TM Resources

- **QUERY commands added for**

- LTERMs

- Includes support for filtering by message age and queue counts

- NODEs

- USERs

- ETO Users and ISC Subpools

- USERIDs

- Security User IDs

- Includes support for wildcards

- **Benefits**

- Improved ease of use in managing resources

- Consolidation of output of several type-1 commands into one type-2 command response

- IMS 8, 9, and 10 have QUERY TRAN command
- IMS 10 has QUERY command for MSC resources

TM Transaction Expiration

- **Transaction Expiration (Input Message Timeout)**
 - Input messages expire and are deleted prior to processing
 - Value checked at application program GU for input message
 - If time exceeded, the message is not returned
 - U0243 abend and information message is sent to terminal
 - Specified with EXPRTIME attribute for transactions
 - TRANSACT macro
 - CREATE and UPDATE commands for TRAN and TRANDESC
 - DFSINSX0 - Output Creation Exit

- **Benefit**
 - Reduces unnecessary processing when unexpected delays in the network or IMS result in remote client timeout before the input message is processed
 - Response no longer required

Message Level Transaction Expiration

- Enhanced support only for OTMA

- Available with IMS 10 and IMS 11

PK74017 (IMS 10) PK74024 (IMS Connect)

- Expiration times may be specified for each message

- Overrides transaction timeout specification

- Message timeout may be

- Elapsed time

- Timestamp (STCK time)

- Benefits

- Reduces unnecessary processing when unexpected delays in the network or IMS result in remote client timeout before the input message is processed

- Response no longer required

Affinity Routing for APPC/OTMA in an IMSplex

- **DFSMSCE0 exit routine enhancement for shared queues**
 - Exit may route message to a specific IMS in the IMSplex
 - Sample DFSMSCE0 includes example of use
- **QUERY TRAN NAME(...) SHOW(STATUS)**
 - Returns 'AFFIN' when a transaction is registered for affinity processing in an IMS system
- **QUERY TRAN(names|ALL) STATUS(AFFIN)**
 - Returns transactions with affinity registration
- **Benefits**
 - Potential scheduling efficiency without the need for special classes or regions
 - Only the selected IMS system will ask for the routed message
 - Commands to improve operations with affinity processing

Shared Queues False Scheduling Reduction

- False schedules reduced when transactions reach PARLIM count
 - Prior to change
 - When dependent region reaches PARLIM count
 - Transaction scheduled in another region
 - If no more message exist
 - Schedule is a false schedule
 - With this change
 - IMS will not schedule another region if there are no more messages on the queue
 - Primarily affects customers with PARLIM values of 0 or 1
 - With shared queues the PARLIM value is the number of successful GU calls done in a scheduling of the transaction in a region

- Benefit
 - Reduced resource consumption

OTMA Commit-then-Send (CM0) ACK Timeout

- OTMA CM0 message ACK timeout
 - Without timeout, TPIPE is hung until ACK occurs
 - Enhancement moves message to timeout message queue
 - Other messages on output message queue may be sent
 - Timeout value
 - Set by OTMA descriptor, IMS command, or OTMA member
 - IMS Connect support
 - Timeout message queue name and timeout value may be specified

- Benefit
 - Allows delivery of other messages when problem occurs with a message

OTMA Resource Monitoring

- Client-server protocol that allows early detection and warning of possible OTMA problems
 - OTMA:
 - Monitors resources - control blocks associated with unprocessed messages
 - Possible flood condition and incomplete Send-then-Commit CM1 messages
 - Detects possible degraded levels
 - Sends messages to clients (OTMA members) about the resources
 - OTMA members, such as IMS Connect
 - Stay informed of the status of OTMA resources and problem conditions
 - Support corrective actions such as rerouting the request to another IMS

OTMA Resource Monitoring

■ Benefits

- Allows OTMA member clients to take advantage of early flood detection and failure notification
 - Detect and address a problem when it is starting
 - Reject remote clients from sending in new messages
 - Reroute the messages to another IMS that can process the transactions
 - Each member can choose how to take advantage of the capability
 - IMS Connect provides the information to user message exits and vendor products

OTMA Commands for OTMA Transaction Instances

- **QUERY OTMATI** command
 - Used to monitor the OTMA workload and diagnose potential problems
 - Displays OTMA "transaction instance" information including:
 - Count of queued messages for each TPIPE
 - Number of messages older than specified age in seconds
 - And other data

```
QUERY OTMATI MSGAGE(5) SHOW(TRAN)
```

TSO SPOC output:

MbrName	Tmember	TpipeName	CC	MsgCnt	MessageAge	Transaction
IMSA	MQ	CSQ81234	0	2	5	ACCTINQ
IMSA	MQ	CSQ81234	0	1	7	NEWACCT
IMSB	ICONN1	APPLB	0	2	8	INVQRY
IMSB	ICONN1	APPLB	0	9	6	CHKSTAT
IMSB	WAS	APPLC	0	4	9	SRCHPART

Type-2 Commands for OTMA Descriptors

- CREATE|UPDATE|DELETE|QUERY OTMADESC
 - Dynamically create, modify, and query OTMA descriptors

```
CREATE OTMADESC NAME (OTMACL9) TYPE (IMSCON) TMEMBER (HWS1)
```

- Creates an OTMA descriptor for use with IMS Connect TMEMBER HWS1

```
UPDATE OTMADESC NAME (OTMAKRB) SET (SYNTIME (5000))
```

- Changes the timeout value for the ICAL (synchronous callout) call using this descriptor

OTMA Type-2 Commands

- **Benefits**
 - Ability to monitor OTMA activity
 - Ability to add and change OTMA descriptors to adjust workload balancing
 - Automated operations benefits of type-2 commands

IMS Connect Enhancements



IMS Connect TCP/IP Auto Reconnect

- Automatic reconnection to TCP/IP when network becomes available after a failure
 - IMS Connect internally issues OPENPORT with loop and timer logic

- Benefit
 - Eliminates need for operator intervention (OPENPORT command)
 - Minimizes recovery time for connections after network outage



Keep Alive Values for IMS Connect

- IMS Connect may have its own "keep alive" value(s)
 - Keep alive requests that a signal be sent at predefined intervals
 - Keeps a long running session active during periods of inactivity
 - Overrides TCPIP stack value for a particular port
 - Specified on PORT parameter of TCPIP statement
 - KEEPAV= specified in seconds

- Benefits
 - More granular specification of keep alive value
 - Can reduce time it takes TCP/IP to determine when a socket has terminated ungracefully

Enforcement of Single SSL Port

- **SSLPORT=portid** parameter on TCPIP statement
 - Previous IMS Connect versions allowed multiple SSL ports to be specified
 - Only one port could be active
 - Now enforces the single SSL port restriction
 - Example: SSLPORT=(8887,8888) results in an abend

- **If multiple SSL ports are required**
 - Use AT-TLS SSL
 - Ports are specified as normal ports, e.g., PORTID=
 - Use multiple instances of IMS Connect

Warning for Approach to IMS Connect MAXSOC

- **Warning message issued when number of sockets reaches threshold**
 - Threshold set by WARNSOC= parameter on HWSCFGx TCPIP statement
 - Specified as a percent of the MAXSOC= value
 - HWSS0772W message issued
- **Warning message reissued when number of sockets grows by increment**
 - Increment set by WANRINC= parameter on HWSCFGx TCPIP statement
 - Specified as a percent of the MAXSOC= value
- **Message issued when number of sockets falls below warning level**
 - HWSS0773I message
- **Benefit**
 - Easier management of IMS Connect when many sockets are used

HWSP1410W Message Enhancement

- Message issued when IMS Connect has error when freeing storage
 - IMS 11 adds address of storage in error
 - Existing messages already includes error return code, type of storage and the module that encountered the error

HWSP1410W FAILED TO RELEASE STORAGE; R=*rc*, B=*bn*, A=*a*, M=*mc*

- *rc* - return code
- *bn* - buffer type
- *a* - address of buffer
- *mc* - module issuing message

- Benefit
 - Greater assistance in problem determination
 - Enhances message content for problem determination

IMS Connect Port Message Edit Exit

- **New Port Message Edit Exit routine**
 - Allows modification of
 - Input message received from TCP/IP before IMS Connect processing
 - For example, IRM header may be added
 - Output message after IMS Connect formatting before being sent to TCP/IP
 - For example, IRM header may be deleted
 - Similar to IMS's physical terminal edit exit routine functionality
 - Specified with PORT parameter on HWSCFGx TCPIP statement

- **Benefit**
 - Allows IMS Connect to work with remote programs which cannot conform to IMS Connect standard message requirements (e.g. IRM header)

IMS Connect Enhanced Commands

- SUMMARY enhancement to VIEWHWS and QUERY commands
 - VIEWHWS {**SUMMARY**}
 - QUERY MEMBER TYPE(IMSCON) SHOW(ALL | **SUMMARY**)
- Addition of DATASTORE name on client output
 - VIEWHWS, VIEWPORT, QUERY MEMBER, QUERY PORT

HWSC0001I	CLIENTID	USERID	TRANCODE	DATASTORE	STATUS	SECOND	CLNTPORT	IP-ADDRESS
HWSC0001I	CLIENT01	USRT001	APOL12	IMS1	CONN	7	1026	009.030.123.148

- Benefits
 - Summarized output allows the display to be more readable in situations where there are many sockets
 - DATASTORE name on output makes it easier to determine the IMS system to which the transaction has been routed

IMS Connect Recorder Trace Enhancements

- **IMS Connect Recorder Trace written to BPE External Trace**
 - Optional, but highly recommended
 - Eliminates trace data set full conditions
 - Provides greater flexibility in the amount of data recorded

- **Benefits**
 - Improved reliability of trace data
 - Improved efficiency of trace writing

IMS Connect User-Defined Messages

- Enhancement to the Message Exit interface
 - Allows an exit-defined user message to be sent in reply to an input message
 - Message can be up from 1 - 128 characters
 - Along with a request to keep the persistent socket connected
 - Implemented in HWSJAVA0, HWSSMPL0, HWSSMPL1

- Benefits
 - Allows a user-friendly message to be sent in error situations
 - Maintains persistent socket connections for user message
 - Prevents disconnection after error condition
 - Reduces the overhead for a client having to reestablish the persistent connection for the next interaction

IMS Connect Generated Client ID

- Mechanism to request that IMS Connect generate a Client ID
 - Impacts IMS TM Resource Adapter (ITMRA) environments
 - For shareable persistent sockets
 - Where the client ID representing a unique socket/TPIPE must be generated rather than end-user specified
- Addresses duplicate client ID error
 - When multiple WAS instances are configured
 - Each ITMRA generates a unique client ID which may or may not be unique across multiple WAS instances
- Benefit
 - Eliminates the requirement for different IMS Connect PORTs for instances of distributed WAS using ITMRA Shareable Persistent sockets
 - Simplifies WAS configuration and operations management

Multiple Super Member Support

- One IMS Connect can support multiple super members
 - SMEMBER= parameter added to DATASTORE statement
 - Applies only to this IMS system
 - Overrides value on HWS statement

- Benefits
 - Allows one IMS Connect to support multiple super members
 - Previous versions required multiple IMS Connects to support multiple super members

Open Database and Universal Drivers



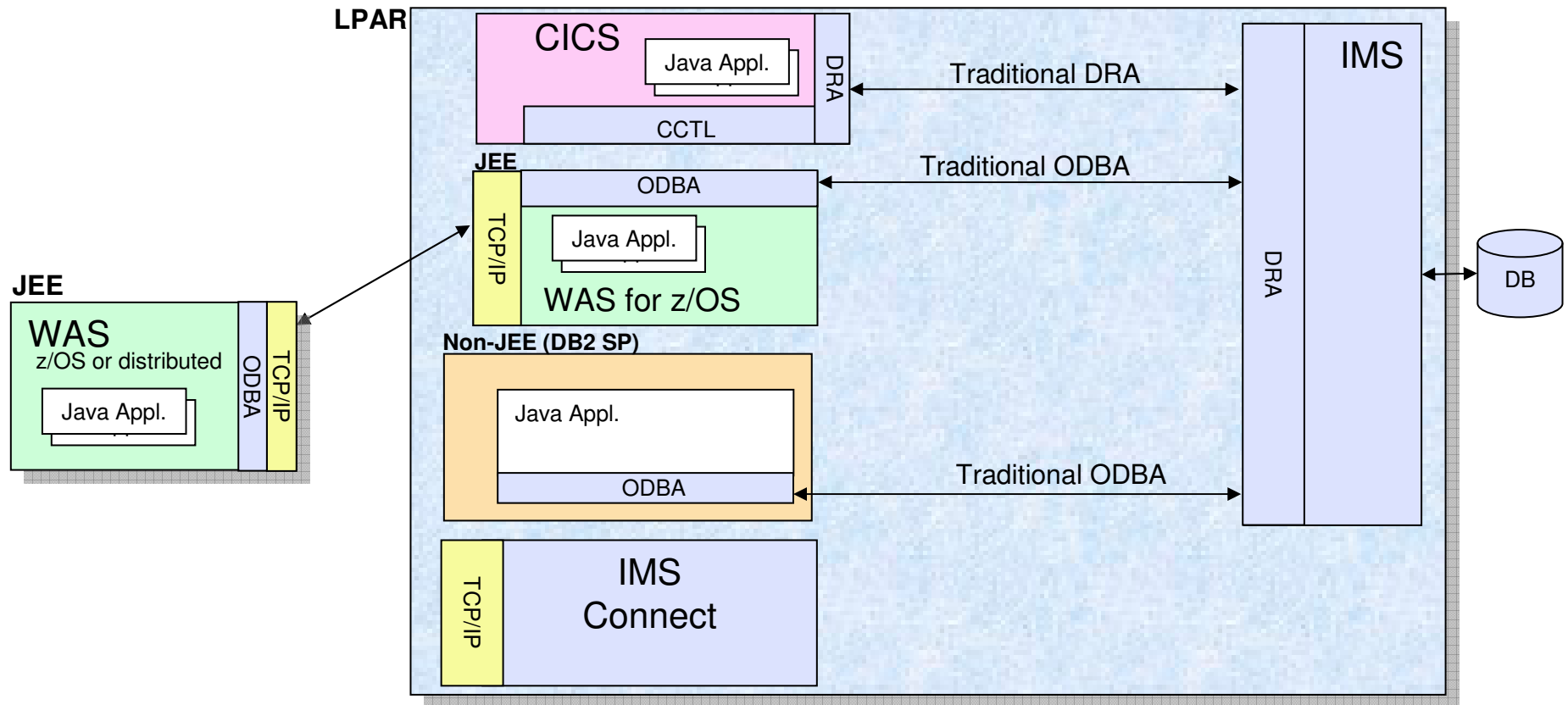
Open Database

- **Open Database**
 - Direct access to IMS databases from programs on any platform
 - z/OS
 - Distributed

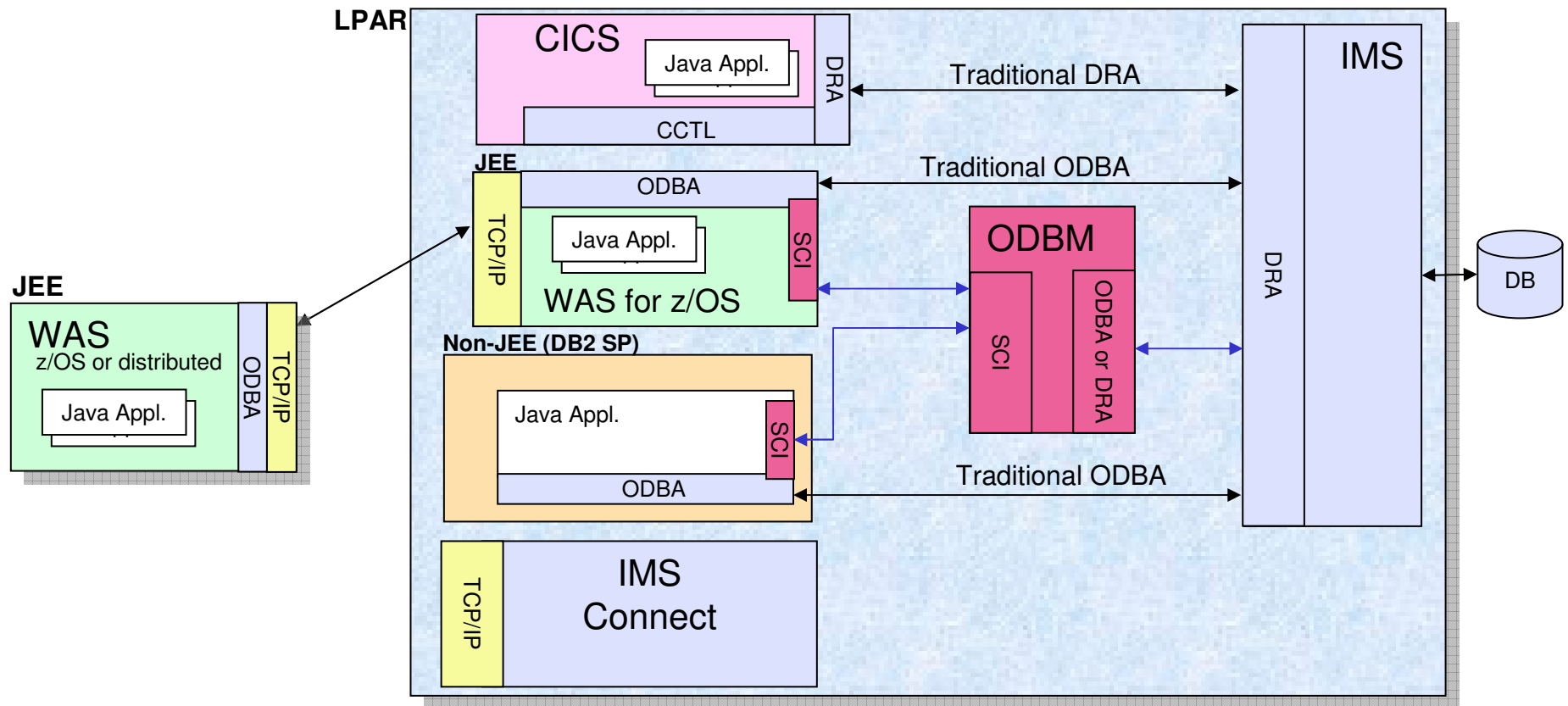
 - Standards based
 - DRDA (Distributed Relational Database Architecture) to communicate with IMS Connect
 - Universal drivers for different APIs
 - JEE and Non-JEE environments

 - IMS Connect provides access from distributed platforms and other z/OS LPARs
 - IMS Connect becomes gateway to IMS transactions and IMS databases

IMS 10 and IMS 9 Environment

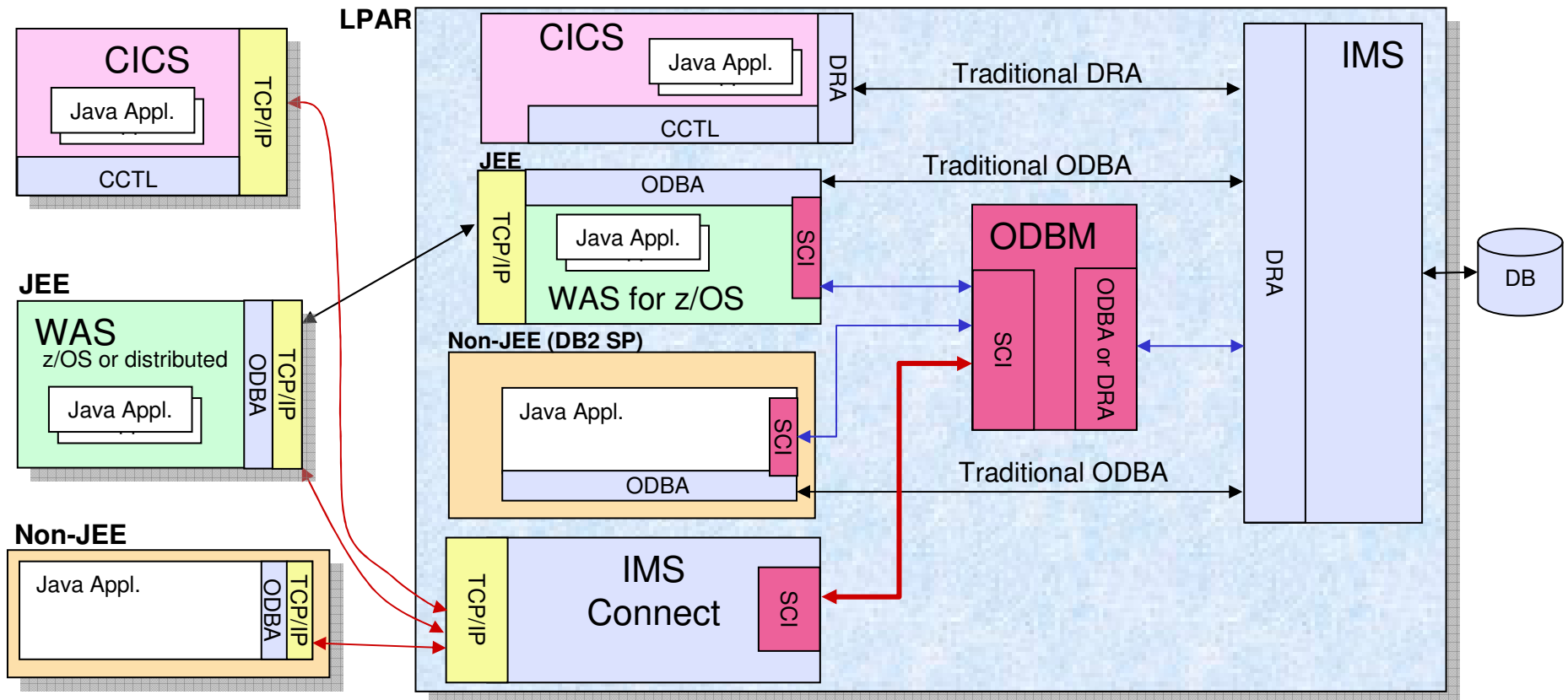


Open Database



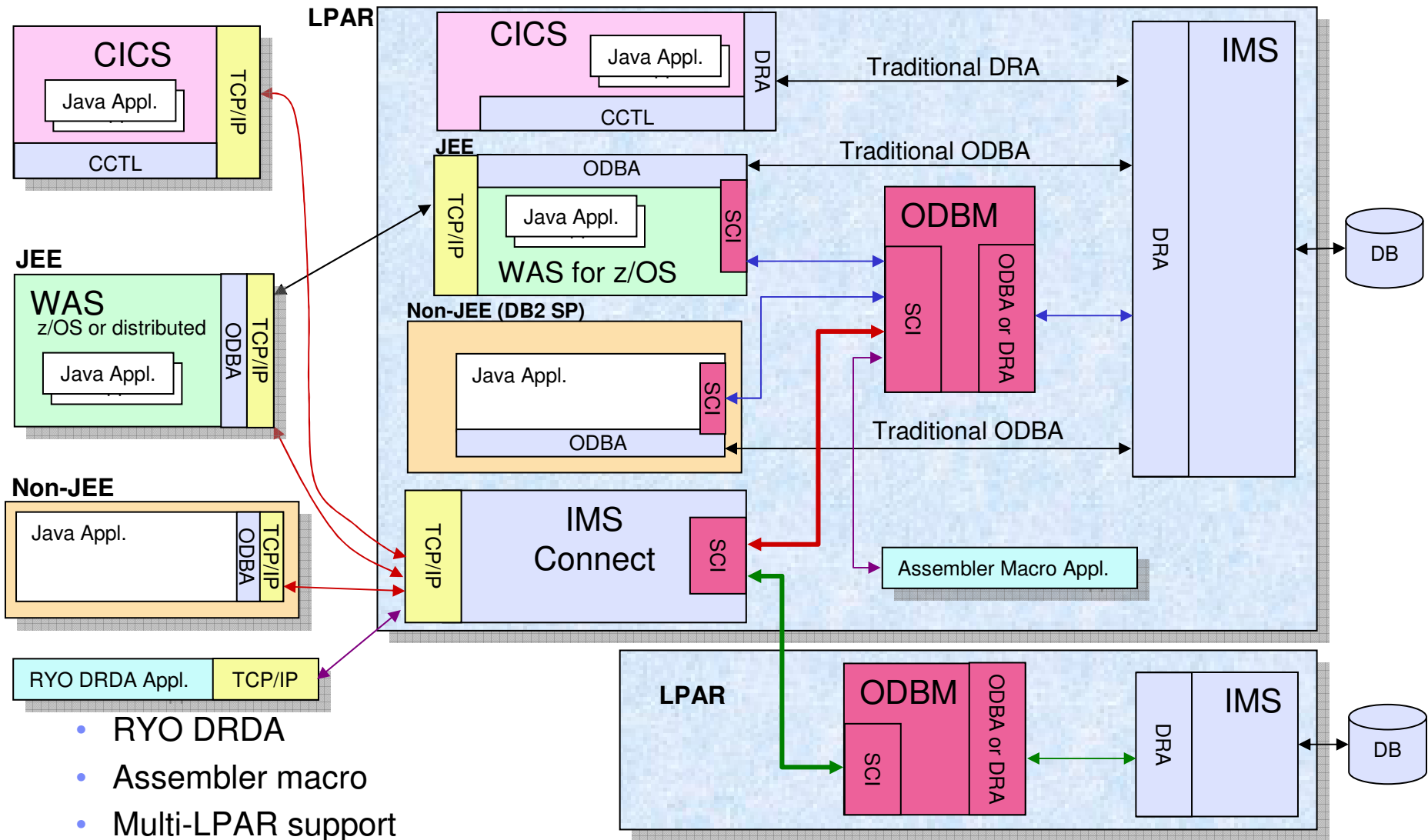
- Open Database Manager address space
 - SCI interface for JEE and non-JEE environments

Open Database



- Access from other LPARs and other platforms
 - TCP/IP interface through IMS Connect

Open Database



- RYO DRDA
- Assembler macro
- Multi-LPAR support

Open Database

- **Open Database Manager (ODBM)**
 - z/OS address space
 - Common Service Layer component
 - Functions
 - Manages connections to ODBA
 - Receives database connection requests from IMS Connect
 - Translates incoming database requests from DDM protocol to DL/I calls
 - Translates responses to the client into the DDM protocol
 - Provides isolation of application containers from IMS
 - Abend of container during DL/I call does not cause IMS U0113 abend
 - Distributed Syncpoint (global transaction) requires RRS on z/OS
 - Use of RRS with ODBM is optional
 - If RRS=Y (default), ODBM uses ODBA interface
 - If RRS=N, ODBM uses DRA interface (like CICS)

Open Database

- **Universal drivers concept**
 - Single driver supports both type-4 (cross platform) and type-2 (same platform) connectivity
 - Java access to IMS in a uniform way with relevant industry standards
 - DRDA communications with IMS Connect for type-4 connectivity
- **Universal drivers**
 - **Universal DB Resource Adapter**
 - JEE environments (e.g. WebSphere Appl. Server)
 - JCA
 - **Universal JDBC driver**
 - Non-JEE and JEE environments
 - JDBC
 - **Universal DLI driver**
 - Non-JEE and JEE environments
 - DL/I call concepts (SSAs, paths,...)

Open Database

- **JDBC support**
 - JDBC 3.0
 - Local commit/rollback support
 - Standard SQL implementation for the SQL subset
 - Keys of parent segments are included in table as foreign keys
 - Updatable result set
 - Metadata discovery API implementation
 - Uses metadata generated by DLIModel Utility as "catalog data"
 - Enables JDBC tooling to work with IMS DBs as they do with DB2 DBs

Open Database

■ Benefits

- Access to IMS databases from any platform
 - z/OS and distributed
 - Java JEE and non-JEE

- Universal drivers
 - Type-2 and type-4 connectivity
 - Standards based

- Protection from Control Region U0113 abends

Database Enhancements



Database Quiesce

- DB Quiesce
 - Provides UPDATE command to create a Recovery Point
 - Command specifies databases, partitions, areas or data groups
 - Recovery point is recorded in RECONs
 - OLDS is switched
 - May be used for timestamp recoveries
 - Databases are not taken offline
 - Database data sets are not closed
 - Transaction programs and BMPs are not terminated
 - Internally quiesced at their next sync point
 - Database updates are quiesced
 - Recovery point is coordinated across IMSplex

Database Quiesce

- DB Quiesce
 - Quiesce and HOLD
 - Database activity is quiesced until specifically released by command
 - Allows a clean image copy to be taken
 - Quiesce and NOHOLD
 - Quiesce ends when all update applications have reached a sync point
 - Minimizes the disruption from the quiesce
 - Typically takes only a few seconds

Database Quiesce

- Benefits
 - Minimal disruption to create recovery points
 - Databases data sets not deallocated or closed
 - Transactions and BMPs are not terminated
 - Coordinated across the IMSplex
 - May be used to eliminated regular (daily) /DBRs of databases

Fast Path 64-bit Dynamic Buffer Manager

- Fast Path buffers above the bar in control region address space
 - Optional
 - Specified in DFSDFxxx PROCLIB member
 - I/O is done directly to and from the 64-bit buffers
 - Autonomically allocates and manages buffers
 - Multiple subpools with different buffer sizes
 - User does not specify buffers
 - OBA is not serialized
 - Multiple dependent regions and threads may have OBA buffers at the same time

Fast Path 64-bit Dynamic Buffer Manager

- **Benefits**
 - ECSA constraint relief
 - Eliminates U1011 abends due to ECSA fragmentation
 - Supports multiple buffer sizes
 - Better use of buffers for areas with different CI sizes
 - Self tuning
 - User does not specify number of buffers
 - System dynamically adds buffers on demand
 - Eliminates need for IMS restart to add more Fast Path buffers
 - New dependent regions or threads may be added

OPEN Option for UPD DB and UPD AREA command

- OPEN Option on UPD DB|AREA START(Access) for DEDBs
 - Opens all areas of specified DEDB or the specified AREA
 - Examples:

```
UPD DB NAME (DEDB001) START (ACCESS) OPTION (OPEN)
```

- Opens all areas for DEDB001

```
UPD AREA NAME (AREA0102) START (ACCESS) OPTION (OPEN)
```

- Opens area AREA0102

- Benefit
 - Operations may open areas before their first use by applications

Unique Subcode for PROCOPT=GO U1026 Abend

- New Fast Path abend subcode for PROCOPT=GO "pointer errors"
 - U1026 subcode x'5A' used with PROCOPT=GO
 - Previous releases returned subcode x'53' for both:
 - Actual pointer errors using PROCOPT=G, I, R, D, or A
 - Apparent pointer errors using PROCOPT=GO

- Benefits
 - Lengthy analysis is not required to determine that an actual pointer error has not occurred

Fast Path Performance and Problem Determination

- Reduced GETMAIN and FREEMAIN processing
 - Eliminated for MPP reschedules when current work area is satisfactory
- Benefit
 - Reduced CPU usage

- Area name added to x'6705' snap log record for U0035 abends
 - U0035 is SYNC failure for DBCTL
 - May be caused by close of Area during CICS transaction processing
- Benefit
 - Easier to determine the name of the area that caused the problem

HALDB OLR Performance Enhancements

- HALDB Online Reorganization Performance Enhancements
 - One log record written for all updates to a block
 - Sequential access for VSAM KSDS get processing
 - GNP calls eliminated for root-only databases
 - Reduced use of the data set (ZID) busy lock
 - PHIDAM index inserts are batched at end of each unit of reorganization
 - Block locks eliminated for ILDS updates
 - IRLM lock look-aside
 - Avoids requesting locks already held

- Benefits
 - Reduced CPU consumption, shorten elapsed times, reduced logging

DBRC Enhancements



BPE Based DBRC Region

- BPE for online system DBRC region
 - Only applies to online DBRC region
- Optional
- BPE provides improved tracing
 - Four DBRC traces
 - Errors, requests, module flow, and group services and notifications
 - BPE external trace may be used
- BPE provides improved user exit management
 - RECON I/O, Security (command authorization), and Statistics exits
 - Multiple exits of each type
 - Refreshable exits without terminating IMS
- LSR buffers defined in PROCLIB member

BPE Based DBRC Region

- Benefits
 - Improved tracing capabilities
 - Improved user exit management
 - New statistics exit
 - Simplified definition of LSR buffers for the RECONs

Unconditional Deletion of RECON Information

- **CLEANUP.RECON** command
 - Used to delete old information in RECONs
 - Either time interval or time stamp is specified
 - Determines the time before which information is deleted
 - Deletes PRILOG, IC, ALLOC, REORG, and RECOV information
 - Information deleted even though IC requirements are not met
 - GENMAX and RECOVPD are ignored
 - Range of database names may be specified
 - Logs are deleted if closed before the specified time
 - Other logs are compressed in the PRILOG records

Unconditional Deletion of RECON Information

- **Benefits**
 - Simplifies maintenance of RECONs
 - Useful when data sets are deleted by expiration policy
 - Data sets older than a specified age are automatically deleted
 - May be used to identify data sets which are no longer in use
 - Command may be issued for a copy of the production RECONs

RECON Security Override

- DBRC command authorization security not invoked on copies of RECON
 - Controlled by RECON data set name
 - Security enforced only when COPY1 data set name includes specified substring
 - Substring specified in the INIT.RECON or CHANGE.RECON command

- Benefits
 - Simplifies the handling of security for copies of RECONs
 - Especially important when shipping copies outside your installation
 - Others do not have to be given security information to investigate a problem
 - Problems could be resolved faster

Migration



Migration

- Migration for IMS 9 and IMS 10 is supported
 - RECON upgrades directly from IMS 9 and IMS 10
 - DB recovery utilities accept IMS 9, IMS 10, and IMS 11 image copies, logs, and change accum data sets

- Applications and databases are compatible
 - Program recompiles and relinks are not required

- Coexistence support
 - Data sharing, shared queues, ISC, and MSC are supported with IMS 9 and IMS 10
 - Connectivity with CICS and DB2 supported with all supported releases of CICS and DB2

Coexistence Maintenance

- Coexistence APARs

Function	IMS 9 APAR	IMS 10 APAR
RECONs	PK61582	PK61583
IMS Connect	PK24912 PK29938 PK00895 PK87088	None
IMSpIex	PK23402 PK32970 PK27280 PK30189	None
Global Online Change	PK23402 PK32970	None
ODBA	PK66020	PK66022
OTMA	PK47172	None
System Management	PK30189	None

Dynamic Abend Formatting Module Installation

- **IMS 11 dynamically installs online abend formatting module**
 - Installed as a subsystem interface (SSI) exit
 - Eliminates the modification and linking of z/OS module IGC0805A as part of the IMS installation process

- **Benefit**
 - Simpler installation of IMS

Syntax Checker Enhancements

- Syntax Checker supports PROCLIB members for IMS 11, IMS 10, and IMS 9
- All previously supported members are supported
 - Including new, changed, or obsolete keywords
- New members supported
 - CSLDIxxx - ODBM initialization member
 - CSLDCxxx - ODBM configuration member
 - DSPBIxxx - DBRC initialization member
- IMS 11 Syntax Checker expands selected sections at start time
 - User does not have to "Expand all" under the View action bar

Installation and Migration Tasks

- Migration Tasks
 - Review the IMS 11 *Release Planning* publication
 - Check PSP bucket
 - PSP upgrade name is IMS1110
 - Review the Program Directory
 - Available through the Info Center
 - Review the installation information in Chapter 1 of the *IMS 11 Installation* publication
 - Install prerequisite software and maintenance
 - Check your IMS tools and related products
 - Apply coexistence maintenance to other IMS systems

Installation and Migration Tasks

- Migration Tasks (continued)
 - Evaluate and update IMS exit routines
 - RECON I/O Exit Routine (DSPCEXT0)
 - DFSMSCE0 must be reassembled
 - All IMS Connect exits must be reassembled when migrating IMS Connect
 - HWSIMSO0 and HWSIMSO1 are not shipped with IMS 11
 - Install IMS 11 using SMP/E installation process
 - CBPDO or ServerPac may be used
 - System definition

Installation and Migration Tasks

- Migration Tasks (continued)
 - Install the Type 2 and Type 4 SVCs
 - Upgrade RECONs
 - Specify RECON qualifier after the upgrade
 - ACBGEN
 - Run the IVP

More Information on IMS 11

- **IMS 11 Release Planning, GC19-2442**

- **IMS 11 Publications**
 - The Release Planning Guide and all the IMS Version 11 publications are available from the Information Management Software for z/OS® Solutions Information Center
 - publib.boulder.ibm.com/infocenter/imzic
 - Look under IMS Version 11

- **IMS Family Web site:**
 - www.ibm.com/ims

IMS 11 Highlights

- Open Database
 - Easier distributed access to IMS databases
- Database Quiesce
 - Easier creation of recovery points with greater database availability
- OTMA Resource Monitoring
 - Easier management of remote transactions through IMS Connect
- Fast Path 64-Bit Buffer Manager and 64-Bit ACB Storage Pool
 - Easier performance management
- ACBLIB Dynamic Allocation
 - Easier management of ACBLIB data sets
- IMS Enterprise Suite
 - Easier installation and development for integrating IMS with other platforms

Easier than Ever!