

IMS 10 at General Availability (10/2007)

- Dynamic Resource Definition
- ACBLIB Member Online Change
- Parallel RECON Access
- Operations and Systems Management Improvements
- DBRC API Enhancements
- MSC Bandwidth Improvement
- XQuery Support
- New PROCLIB member DFSDFxxx
- Plus many more



What's New in IMS 10 since GA

- Message Level Transaction Expiration
- DFSMSCEO Exit Enhancement
- SPOC Print Options
- HALDB Online Reorg QUERY and /DIS Commands
- Non-recoverable DEDBs with SDEPs
- Change Accumulation Enhancement
- DELETE.DB Performance Enhancement
- DRD Commands and Utilities
- Persistent JVM support for MPP/BMP/IFP
- Availability of IMS Enterprise Suite



Message Level Transaction Expiration

- **Enhanced support only for OTMA**
 - 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

DFSMSCE0 Exit Enhancement

- **New entry point for GU IOPCB calls**
 - Allows creation or modification of user prefix
 - Information, such as accounting data, may be added to prefix
 - Does not support message routing (done in CHNG and ISRT entry points)

- **Benefits**
 - Provides entry point for installations to add data to prefix
 - Prefix is logged as part of message
 - Prefix and entry point may be used by tools

SPOC Print Options

- Options for formatting the printed output from SPOC
 - TSO SPOC, Batch SPOC, and REXX SPOC API
 - OM audit trail CSLULALE print exit with DFSERA10
- Three styles of formatting
 - Wrap
 - By Column
 - By Resource
- Benefits
 - Improved readability
 - Improved usability

Examples follow

SPOC Print Option - Wrap

Trancode	MbrName	CC	PSBname	LClS	LQCnt	LLCT	LPLCT	LPLCTTime	LCPRI	LNPRI	LLPRI	LSegSz	LSegNo	LParLim	RegCnt	
	LMaxRgn	EditRtn	FP	EMHBSz	CmtMode	MsgType	SPATrunc	SPASz	SIDR	SIDL	DCLWA	DirRoute	EditUC	Inq	Recover	Resp
	Remote	Serial	WFI	AOCMD	Conv	TranStat	LclStat	ModelName	ModelType	MSName	TimeAccess					
	TimeUpdate			TimeCreate		TimeImport		DefnType								
ADDINV	IMS1	0	DFSSAM04	4	0	2	65535	6553500	7	7	10	0	0	65535	0	
	0		N	0	MULT	MULTSEG		0	10	10	Y	N	Y	N	Y	N
	N	N	N	N	N	N										
				2008.267		12:32:05.43										
MODBLKS																
ADDPART	IMS1	0	DFSSAM04	4	0	2	65535	6553500	7	7	10	0	0	65535	0	
	0		N	0	MULT	MULTSEG		0	10	10	Y	N	Y	N	Y	N
	N	N	N	N	N	N										
				2008.267		12:32:05.43										
MODBLKS																
AOBMP	IMS1	0	TS2IAOB0	23	0	65535	65535	6553500	0	0	0	0	0	65535	0	
	0		N	0	SNGL	MULTSEG		0	10	10	Y	N	Y	N	Y	N
	N	N	Y	N	N	N										
				2008.267		12:32:05.43										
MODBLKS																
AOP	IMS1	0	TS1IAOP0	4	0	4	4	500	10	10	12	0	500	65535	0	
	0		N	0	SNGL	SNGLSEG		0	10	10	Y	N	Y	N	Y	Y
	N	N	N	N	N	N										
				2008.267		12:32:05.43										
MODBLKS																

SPOC Print Option - By Column ... page 1

Trancode	MbrName	CC	PSBname	LCls	LQCnt	LLCT	LPLCT	LPLCTTime	LCPRI	LNPRI	LLPRI	LSegSz	LSegNo	LParLim	RegCnt
ADDINV	IMS1	0	DFSSAM04	4	0	2	65535	6553500	7	7	10	0	0	65535	0
ADDPART	IMS1	0	DFSSAM04	4	0	2	65535	6553500	7	7	10	0	0	65535	0
AOBMP	IMS1	0	TS2IAOB0	23	0	65535	65535	6553500	0	0	0	0	0	65535	0
AOP	IMS1	0	TS1IAOP0	4	0	4	4	500	10	10	12	0	500	65535	0
APOL11	IMS1	0	APOL1	1	0	65535	65535	6553500	1	1	1	0	0	65535	0
APOL12	IMS1	0	APOL1	1	0	65535	65535	6553500	9	9	9	0	0	65535	0
APOL13	IMS1	0	APOL1	1	0	65535	65535	6553500	1	1	1	5	3	65535	0
APOL14	IMS1	0	APOL1	1	0	65535	65535	6553500	1	1	1	65535	65535	65535	0
APOL15	IMS1	0	APOL1	1	0	65535	65535	6553500	1	1	1	80	1	65535	0
APOL16	IMS1	0	APOL1	1	0	65535	65535	6553500	1	1	1	80	3	65535	0
APOL17	IMS1	0	APOL1	1	0	65535	65535	6553500	1	1	1	0	0	65535	0
APOL18	IMS1	0	APOL1	1	0	65535	65535	6553500	1	1	1	0	0	65535	0
APOL21	IMS1	0	APOL1	1	0	65535	65535	6553500	1	1	1	0	0	65535	0
APOL22	IMS1	0	APOL1	1	0	65535	65535	6553500	1	1	1	0	0	65535	0
AUTRAN1H	IMS1	0	AUTPSB1H	1	0	2	65535	6553500	7	7	10	0	0	65535	0
AUTRAN11	IMS1	0	AUTPSB11	1	0	2	65535	6553500	7	7	10	0	0	65535	0
AUTRAN12	IMS1	0	AUTPSB11	1	0	2	65535	6553500	7	7	10	0	0	65535	0
AUTRAN2H	IMS1	0	AUTPSB1H	1	0	2	65535	6553500	7	7	10	0	0	65535	0
A1111111	IMS1	0	A11APP	1	0	65535	65535	6553500	1	1	1	0	0	65535	0

SPOC Print Option - By Column ... page 2

Trancode	MbrName	CC	PSBname	LCls	LQCnt	LLCT	LPLCT	LPLCTTime	LCPRI	LNPRI	LLPRI	LSegSz	LSegNo	LParLim	RegCnt
BHA1	IMS1	0	PMAPJK13	1	0	65535	65535	6553500	1	1	1	0	0	65535	0
BHA2	IMS1	0	PMAPJK23	1	0	65535	65535	6553500	1	1	1	0	0	65535	0
BHD1	IMS1	0	PMAPJK14	1	0	65535	65535	6553500	1	1	1	0	0	65535	0
BHD2	IMS1	0	PMAPJK24	1	0	65535	65535	6553500	1	1	1	0	0	65535	0
BHD3	IMS1	0	PMAPJK34	1	0	65535	65535	6553500	1	1	1	0	0	65535	0
BHE1	IMS1	0	BMAPJK11	1	0	65535	65535	6553500	1	1	1	0	0	65535	0
BHE2	IMS1	0	BMAPJK21	1	0	65535	65535	6553500	1	1	1	0	0	65535	0
BHE4	IMS1	0	BMAPJK21	1	0	65535	65535	6553500	1	1	1	0	0	65535	0
BHF1	IMS1	0	PMVAPZ12	1	0	65535	65535	6553500	1	1	1	0	0	65535	0
BHF2	IMS1	0	PMVAPZ22	1	0	65535	65535	6553500	1	1	1	0	0	65535	0
BHF3	IMS1	0	PMVAPZ32	1	0	65535	65535	6553500	1	1	1	0	0	65535	0
BHF4	IMS1	0	PMVAAZ42	1	0	65535	65535	6553500	1	1	1	0	0	65535	0
BHHA1	IMS1	0	PMHAJK13	1	0	65535	65535	6553500	1	1	1	0	0	65535	0
BHHC1	IMS1	0	PMHCJK15	1	0	65535	65535	6553500	1	1	1	0	0	65535	0
BHHD1	IMS1	0	PMHDJK14	1	0	65535	65535	6553500	1	1	1	0	0	65535	0
BHHF1	IMS1	0	PMHFJK12	1	0	65535	65535	6553500	1	1	1	0	0	65535	0
BHHX1	IMS1	0	PMHXJK19	1	0	65535	65535	6553500	1	1	1	0	0	65535	0
BHI1	IMS1	0	PMAPJK15	1	0	65535	65535	6553500	1	1	1	0	0	65535	0
BHI2	IMS1	0	PMAPJK25	1	0	65535	65535	6553500	1	1	1	0	0	65535	0

SPOC Print Option - By Column ... page 6

Trancode	MbrName	LMaxRgn	EditRtn	FP	EMHBSz	CmtMode	MsgType	SPATrunc	SPASz	SIDR	SIDL	DCLWA	DirRoute	EditUC	Inq
ADDINV	IMS1	0		N	0	MULT	MULTSEG		0	10	10	Y	N	Y	N
ADDPART	IMS1	0		N	0	MULT	MULTSEG		0	10	10	Y	N	Y	N
AOBMP	IMS1	0		N	0	SNGL	MULTSEG		0	10	10	Y	N	Y	N
AOP	IMS1	0		N	0	SNGL	SNGLSEG		0	10	10	Y	N	Y	N
APOL11	IMS1	0		N	0	MULT	MULTSEG		0	10	10	Y	N	Y	Y
APOL12	IMS1	0		N	0	MULT	MULTSEG		0	10	10	Y	N	Y	N
APOL13	IMS1	0		N	0	MULT	MULTSEG		0	10	10	Y	N	Y	N
APOL14	IMS1	0		N	0	MULT	MULTSEG		0	10	10	Y	N	Y	Y
APOL15	IMS1	0		N	0	MULT	MULTSEG		0	10	10	Y	N	Y	N
APOL16	IMS1	0		N	0	MULT	MULTSEG		0	10	10	Y	N	Y	N
APOL17	IMS1	0		N	0	MULT	MULTSEG		0	10	10	Y	N	Y	Y
APOL18	IMS1	0		N	0	SNGL	MULTSEG		0	10	10	Y	N	Y	N
APOL21	IMS1	0		N	0	MULT	MULTSEG		0	10	10	Y	N	Y	Y
APOL22	IMS1	0		N	0	MULT	MULTSEG		0	10	10	Y	N	Y	N
AUTRAN1H	IMS1	0		N	0	SNGL	SNGLSEG		0	10	10	Y	N	Y	N
AUTRAN11	IMS1	0		N	0	SNGL	SNGLSEG		0	10	10	Y	N	Y	N
AUTRAN12	IMS1	0		N	0	SNGL	SNGLSEG		0	10	10	Y	N	Y	N
AUTRAN2H	IMS1	0		N	0	SNGL	SNGLSEG		0	10	10	Y	N	Y	N
A1111111	IMS1	0		N	0	SNGL	SNGLSEG	S	80	10	10	Y	N	Y	N

SPOC Print Option - By Resource ... page 1

Trancode	MbrName	CC	PSBname	LCls	LQCnt	LLCT	LPLCT	LPLCTTime	LCPRI	LNPRI	LLPRI	LSegSz	LSegNo	LParLim	RegCnt
ADDINV	IMS1	0	DFSSAM04	4	0	2	65535	6553500	7	7	10	0	0	65535	0
ADDPART	IMS1	0	DFSSAM04	4	0	2	65535	6553500	7	7	10	0	0	65535	0
AOBMP	IMS1	0	TS2IAOB0	23	0	65535	65535	6553500	0	0	0	0	0	65535	0
AOP	IMS1	0	TS1IAOP0	4	0	4	4	500	10	10	12	0	500	65535	0

Trancode	MbrName	LMaxRgn	EditRtn	FP	EMHBSz	CmtMode	MsgType	SPATrunc	SPASz	SIDR	SIDL	DCLWA	DirRoute	EditUC	Inq
ADDINV	IMS1	0		N	0	MULT	MULTSEG		0	10	10	Y	N	Y	N
ADDPART	IMS1	0		N	0	MULT	MULTSEG		0	10	10	Y	N	Y	N
AOBMP	IMS1	0		N	0	SNGL	MULTSEG		0	10	10	Y	N	Y	N
AOP	IMS1	0		N	0	SNGL	SNGLSEG		0	10	10	Y	N	Y	N

Trancode	MbrName	Recover	Resp	Remote	Serial	WFI	AOCMD	Conv	TranStat	LclStat	ModelName	ModelType	MSName
ADDINV	IMS1	Y	N	N	N	N	N	N	N				
ADDPART	IMS1	Y	N	N	N	N	N	N	N				
AOBMP	IMS1	Y	N	N	N	Y	N	N	N				
AOP	IMS1	Y	Y	N	N	N	N	N	N				

Trancode	MbrName	TimeAccess	TimeUpdate	TimeCreate	TimeImport	DefnType
ADDINV	IMS1			2008.267 12:32:05.43		MODBLKS
ADDPART	IMS1			2008.267 12:32:05.43		MODBLKS
AOBMP	IMS1			2008.267 12:32:05.43		MODBLKS
AOP	IMS1			2008.267 12:32:05.43		MODBLKS

SPOC Print Option - By Resource ... page 2

Trancode	MbrName	CC	PSBname	LClS	LQCnt	LLCT	LPLCT	LPLCTTime	LCPRI	LNPRI	LLPRI	LSegSz	LSegNo	LParLim	RegCnt
APOL11	IMS1	0	APOL1	1	0	65535	65535	6553500	1	1	1	0	0	65535	0
APOL12	IMS1	0	APOL1	1	0	65535	65535	6553500	9	9	9	0	0	65535	0
APOL13	IMS1	0	APOL1	1	0	65535	65535	6553500	1	1	1	5	3	65535	0
APOL14	IMS1	0	APOL1	1	0	65535	65535	6553500	1	1	1	65535	65535	65535	0
Trancode	MbrName	LMaxRgn	EditRtn	FP	EMHBSz	CmtMode	MsgType	SPATrunc	SPASz	SIDR	SIDL	DCLWA	DirRoute	EditUC	Inq
APOL11	IMS1	0		N	0	MULT	MULTSEG		0	10	10	Y	N	Y	Y
APOL12	IMS1	0		N	0	MULT	MULTSEG		0	10	10	Y	N	Y	N
APOL13	IMS1	0		N	0	MULT	MULTSEG		0	10	10	Y	N	Y	N
APOL14	IMS1	0		N	0	MULT	MULTSEG		0	10	10	Y	N	Y	Y
Trancode	MbrName	Recover	Resp	Remote	Serial	WFI	AOCMD	Conv	TranStat	LclStat	ModelName	ModelType	MSName		
APOL11	IMS1	Y	Y	N	N	N	N	N	N						
APOL12	IMS1	Y	N	N	N	N	N	N	N						
APOL13	IMS1	Y	N	N	N	N	N	N	N						
APOL14	IMS1	N	N	N	N	N	N	N	N						
Trancode	MbrName	TimeAccess	TimeUpdate	TimeCreate	TimeImport	DefnType									
APOL11	IMS1			2008.267 12:32:05.43		MODBLKS									
APOL12	IMS1			2008.267 12:32:05.43		MODBLKS									
APOL13	IMS1			2008.267 12:32:05.43		MODBLKS									
APOL14	IMS1			2008.267 12:32:05.43		MODBLKS									

HALDB Online Reorg QUERY and /DIS Commands

- New statistics are shown by QRY OLREORG and /DIS DB OLR
 - Segments moved, roots moved, option, status, and start time

Examples follow

- Statistics are retained across a termination and restart of OLR
 - QRY OLREORG and /DIS DB OLR after a restart of OLR will show the total bytes, roots, and segments moved by the OLR
- Statistics are available in RECON for suspended OLR
 - OLR is suspended by TERM or /TERM command
 - LIST.DB for partition database record returns the statistics
- Benefits
 - Easier to track the progress of OLR

HALDB Online Reorg QUERY and /DIS Commands

QRY OLREORG example:

```
QRY OLREORG NAME(POHIDKA) SHOW(ALL)
```

```
Partition MbrName      CC LclStat  Rate  Bytes-Moved Segs-Moved
POHIDKA   IMS1           0 WAITRATE  50      334720      2310

Roots-Moved Option  Start
          250 NODEL  2009.027 11:50:41.35
```

/DIS DB OLR example:

```
/DIS DB OLR
```

```
DATABASE PART      RATE      BYTES      SEGS      ROOTS STARTTIM
DBHDOJ01 PDHDOJD    50      72156778   423551    72686 08107/115049

STATUS
WAITRATE, OPTNODEL
```

Non-recoverable DEDBs with SDEPs

- DEDBs with sequential dependents may be made non-recoverable
 - Eliminates logging for these DEDBs
 - Previously, only DEDBs without SDEPs could be made non-recoverable
 - DBRC command:
 - INIT.DB ...NONRECOV
 - CHANGE.DB ... NONRECOV

- Benefits
 - More efficient way to write data that is not critical

Change Accumulation Enhancement

- Allow changes in RECON contents between the time the CA JCL is generated and executed
 - Changes allowed by IMS 10 SPE:
 - New Image Copy
 - OLDS archived which changes the purge time
 - HALDB Online Reorganization
 - Offline Reorganization
 - Previously, these changes would cause a utility execution failure
 - DBRC will allow the JCL generated for Change Accumulation to execute using the purge time in the JCL as long as input logs verify

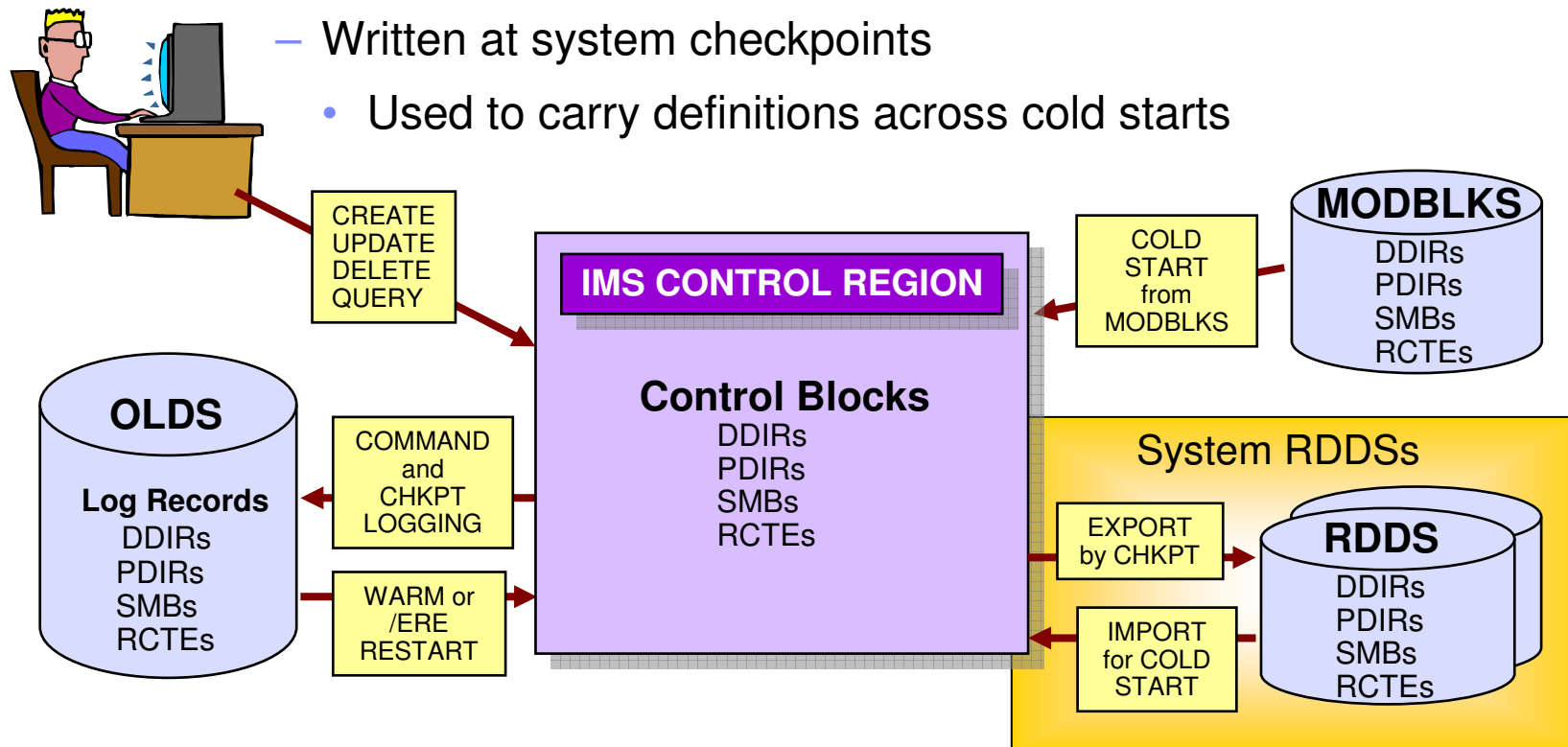
- Benefit
 - Image copies, archives, and reorgs will not cause Change Accum failures

DELETE.DB Performance Enhancement

- DBRC RECON Performance enhancement for deleting a DB record that has many DBDS and/or AREA records that have associated ALLOC records
 - Only 1 MUP (multiple update) record used for required deletion processing
 - Previously, many MUP records were written/updated when deleting ALLOC records for DBDSs and AREAs
 - No external changes
 - Applies only to systems NOT using Parallel RECON Access (PRA)
- **Benefit**
 - Reduces RECON I/O for deleting a DB record
 - Improves RECON availability for other DBRC processes

DRD RDDS Review

- System Resource Definition Data Sets (RDDS)
 - Set of data sets used in round-robin fashion
 - Hold information on DRD definitions
 - Programs, databases, transactions, routing codes, and descriptors
 - Written at system checkpoints
 - Used to carry definitions across cold starts



Non-System RDDSs and EXPORT Command

- **Non-system RDDSs**
 - May be shared between IMSs
 - May contain a subset of IMS resource and descriptor definitions

- **EXPORT DEFN command**
 - Used to export definitions to system or non-system RDDS
 - System RDDS is the default target
 - All resource and descriptor definitions are exported to system RDDS
 - Non-system RDDS may be the target
 - Subset of resource and descriptor definitions may be exported

IMPORT Command

- **IMPORT DEFN command**
 - Used to import definitions from system or non-system RDDS
 - System RDDS is the default source
 - All resource and descriptor definitions are imported from system RDDS
 - Non-system RDDS may be the source
 - System RDDS of another IMS system could be used as a non-system RDDS
 - Subset of resource and descriptor definitions may be imported

- **Benefits of EXPORT and IMPORT**
 - Migrate definitions from an IMS system which is not DRD enabled using EXPORT
 - Clone systems
 - Migrate definitions for applications

DRD Extract Utility Enhancement

- **Extract Utility**
 - Offline batch utility which reads an RDDS
 - Writes either
 - IMS Stage 1 macros
 - DATABASE, APPLCTN, TRANSACT, and RTCODE
 - or
 - CREATE commands
 - Database, application, transaction, and routing code resources and descriptors
- **Enhancement**
 - Query capability added to the Extract utility
 - Reports all resources and descriptors with their attribute values
- **Benefit**
 - Simplifies administration of definitions

New DRD Utilities

- **New utilities to**
 - Generate RDDS from checkpoint and command log records
 - Generate RDDS from MODBLKS data set
 - Generate RDDS from Stage 1 macros
 - Generate CREATE commands from MODBLKS data set
 - Generate CREATE commands from Stage 1 macros
 - Copy RDDS contents
- **Benefit**
 - Facilitates implementation of DRD
 - Provides facility to recreate a "lost" RDDS

Persistent JVM support in MPP/BMP/IFP regions

- JVM now created only at region initialization and destroyed at region termination for non-Java dependent regions
 - Previously created/destroyed for each JAVA call
- Now works like JMP and JBP
 - ENVIRON and JVMOPMAS parameters in region JCL
- Also supports DB2 JDBC calls
 - DB2 SPE APAR PK93123
- Requires z/OS 1.9

- Benefits
 - Improves performance of JVM creation and management

Availability of IMS Enterprise Suite

- A non-charge product
 - A delivery mechanism for IMS components not dependent on IMS versions
- Components
 - IMS SOAP Gateway
 - IMS Connect APIs for Java and C
 - JMS API for synchronous callout support in Java dependent regions
 - DLIModel Utility plug-in
- Supports IMS 10 and IMS 11
- Available November 6, 2009

- Benefits
 - Improves installation and support

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- Availability of IMS Enterprise Suite

