What's New with IMS Since General Availability of IMS V7

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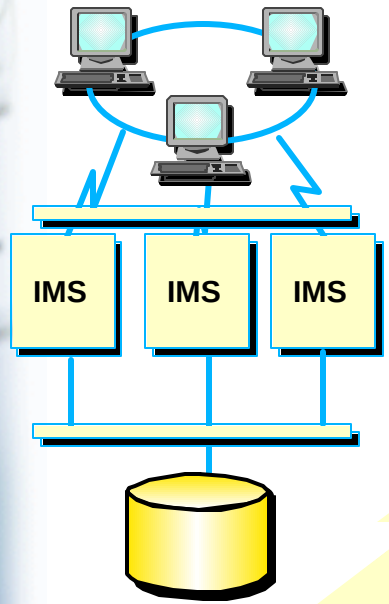
IMS - Version 7

Ideal for e-business

- ✓ Information Integration with Application Development and Connectivity
- ✓ Manageability
- ✓ Scalability in Performance, Capacity, and Availability



Enhancements

- Extended Large DB support
- Enhanced DB recovery
- Faster Restart with Multinode Persistent Sessions
- IMS Java Application support
- Enhanced Connectivity
- Enhanced Systems Mgmt Tools

Benefits

- ✓ Enable Customer Growth
- ✓ Enhance Workload Balancing
- ✓ Increase Availability; Ease of Use
- ✓ Preserve Current Application Investment
- ✓ Enable New Applications

Strategic Open Access for S/390 and z/Series Enterprise Servers

IMS V7 Database Manager Enhancements

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Integration with Applic Devt/Connectivity

- **IMS Java and XML support**
- **Open Database Access (ODBA)**

Manageability

- **Installation enhancements**
  - Usability enhancements
  - HALDB samples
- **Logger enhancements**
  - Administration and Control
- **External Subsystem Attach Facility diagnostic enhancements**
- **IMS systems parameter display**
- **Fast Path Enhancements**
  - I/O toleration enhancements
  - Performance monitoring support
  - Multiple Area Data Set I/O Timing
  - Expansion of compressed data for Single dependent segment Scan
  - IMS Monitor enhancements for FP

Scalability in Performance, Capacity and Availability

- **High Availability Large Database**
- **Application Control Block Generation (ACBGEN) enhancements**
  - increased number of program limits
  - time/version info added
- **DBRC Enhancements**
  - Recovery Control (RECON) online upgrade, online access, large record warning, loss notification, improved diagnostics
  - Image Copy Genmax and Recovery enhancement
  - DB administration enhancements
- **Forward Recovery enhancements**
  - Change accumulation spill record handling for smaller, faster change accums
- **Image Copy 2 Enhancements**
  - compression option added for space savings
- **I/O Performance enhancements**
  - Ficon support
  - ESS support
- **CSA Constraint relief**

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IMS V7 Transaction Manager Enhancements

e-business

Integration with Application Devt and Connectivity

- **IMS Java and XML support**
- **OTMA Callable Interface**
- **ETO Enhancements**
  - ► Associated Printer support
  - ► Autologon enhancements
  - ► LTERM assignment flexibility
  - ► ETO descriptor record limit removed
  - ► Command Compatibility

Manageability

- **Sysplex Queue Sharing Enhanced**
  - ► CQS enhancements for Shared Queues
  - ► Asynch APPC/OTMA for Shared Queues
- **Routing Exit enhancements**
- **RACF Pass Ticket Support**
- **Clarified USERID for applications**
- **External Subsystem Attach Facility (for DB2) Trace enhancements**
- **Installation enhancements**
  - ► Usability enhancements
  - ► Java samples
- **IMS systems parameter display**

Scalability in performance, capacity, and availability

- **Rapid Network Reconnect**
- **Deferred VTAM ACB Open to prevent time-outs**
- **Improved checkpoint frequency control**
- **SLUP Finance Session Coldstart capability**
- **VTAM Generic Resources enhancement for VTAM to manage the affinity**
- **Queue Space Notification Exit**
- **I/O SPOOL usability and performance enhancements**
- **SLU2 exception response enhancement**

IMS V7 High Availability Large DB

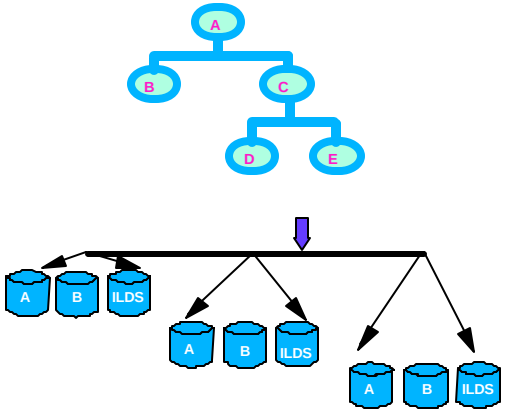
Highlights

- **Database records are grouped into partitions**
  - A single database consists of 1 or more partitions
  - Hierarchic structure is maintained within a partition
  - A partition is selected based on High Key or Partition Selection Exit
- **Partition independence is maintained**
  - Each partition can be managed independently -- commands, scheduling, utilities
- **V7 extends capacity significantly**
  - Each partition can be size of non-partitioned DB
  - Up to 10 Data Set Groups per partition, 1001 partitions maximum

Benefits

- **High availability (not just for large databases)**
  - Partition independence for operator commands, reorganization, recovery, and scheduling
  - Parallel Partition processing offers shorter total recovery and admin times
- **Larger capacity**
  - Each partition can be size of non-partitioned database
- **Manageability**
  - Smaller partitions are easier to manage
- **Usability**
  - Partition definition is via an ISPF Partition Definition Utility

IMS V7 HALDB for IMPROVED CAPACITY & DATA AVAILABILITY



- ✓ Extends IMS Full Function database size
  - ➡ 1001 Partitions x 10 data set groups x 4G = 40 Terabytes
- ✓ Provides data availability through partition independence
- ✓ Provides easier manageability with smaller partitions of the database
- ✓ **Enhancements since IMS V7 GA:**
  - ➡ **Performance enhancements**
  - ➡ **Manageability enhancements**

IMS HALDB Enhancements since V7 GA

- **Performance Improvements in**
  - Secondary index migration
  - Indirect list data sets (ILDS) creation
  - DFSMAID0
  - Secondary index option during Load
- **Management Improvements with**
  - Recon Partition List Command support
  - Batch command initialization of HALDB and associated partitions
  - Limit BMP/Batch/JBP Calls to one partition

Assicurazioni Generali implementing HALDB

Challenge:

- Partition DB Support solved the database size limit back in 1997, but availability issues also needed to be addressed.

Solution:

- IMS V7 HALDB

Benefits:

- Secondary Index Partitioning
- Concurrency
- IMS code
- Availability with Parallel IC/REORG/RECOVERY
- Capacity for planned 30GB DB with 9 partitions

Data Base Recovery Control Facility Enhancements

- **DBRC Concurrent RECON Upgrade**
  - RECON can be upgraded without stopping pre-IMS V7 systems
- **RECON Loss Notification**
  - MVS console message for RECON loss
  - Benefit - automation aid
- **DBRC Support for PROCOPT=L/LS**
  - Image Copy required at initial database load
  - Benefit - improved data integrity
- **DBRC Image Copy GENMAX**
  - GENMAX no longer automatically increased when number of image copies specified is exceeded
  - Benefit - usability
- **Large RECON record warning**
  - Warning message
  - Benefit - automation aid, increased availability
- **RECON Access improvement**
  - Change to scheme to serialize accesses to RECON
    - online system favored over batch jobs
  - Benefit - reduced I/O bottlenecks that impact online systems
- **DBRC serviceability**
  - LIST.DBDSGRP, LIST.HISTORY enhancements

✓ **Enhancements since IMS V7 GA:**

- Support of HALDB performance/management enhancements
- List History timeline - can just point to the timeline only
- DD Cards - alt DD for Sysin
- Genjcl user partition support

IMS V7 Java supports Integrated e-business Application Development

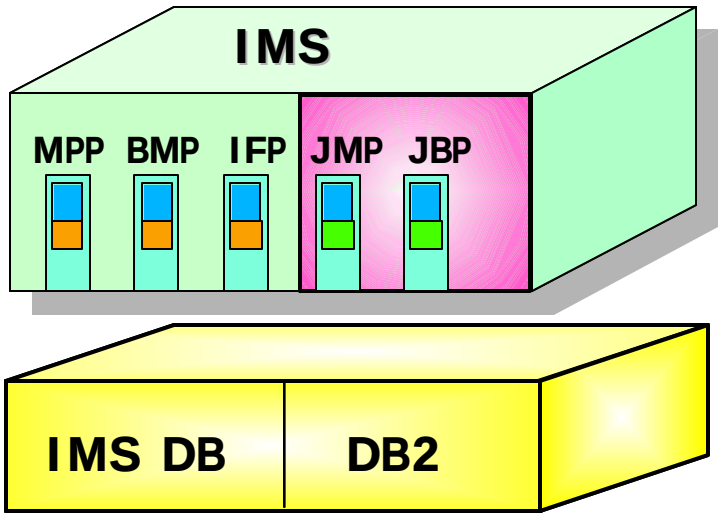
- **Providing the capability to write, compile and run IMS Java programs**
  - Provides a set of packages (groups of classes) for input-output message handling and access to IMS services, and support APIs familiar to Java programmers
  - Applications written in Java can run in IMS as MPPs, BMPs, IFPs
- **Using the APIs/Tools familiar to Java programmers**
  - JDBC for data access to IMS DB and/or DB2
  - Host and VisualAge tools for development
    - Compile using High Performance Java Compiler or Persistent Reusable Java Virtual Machine
      - ►Create VisualAge projects and do Remote Build
      - ►Edit using VisualAge editor
    - Remote debugging using VAJava Remote Debug tool
    - Performance Tracing

IMS V7 Java for Integrated e-business Application Development/Connectivity

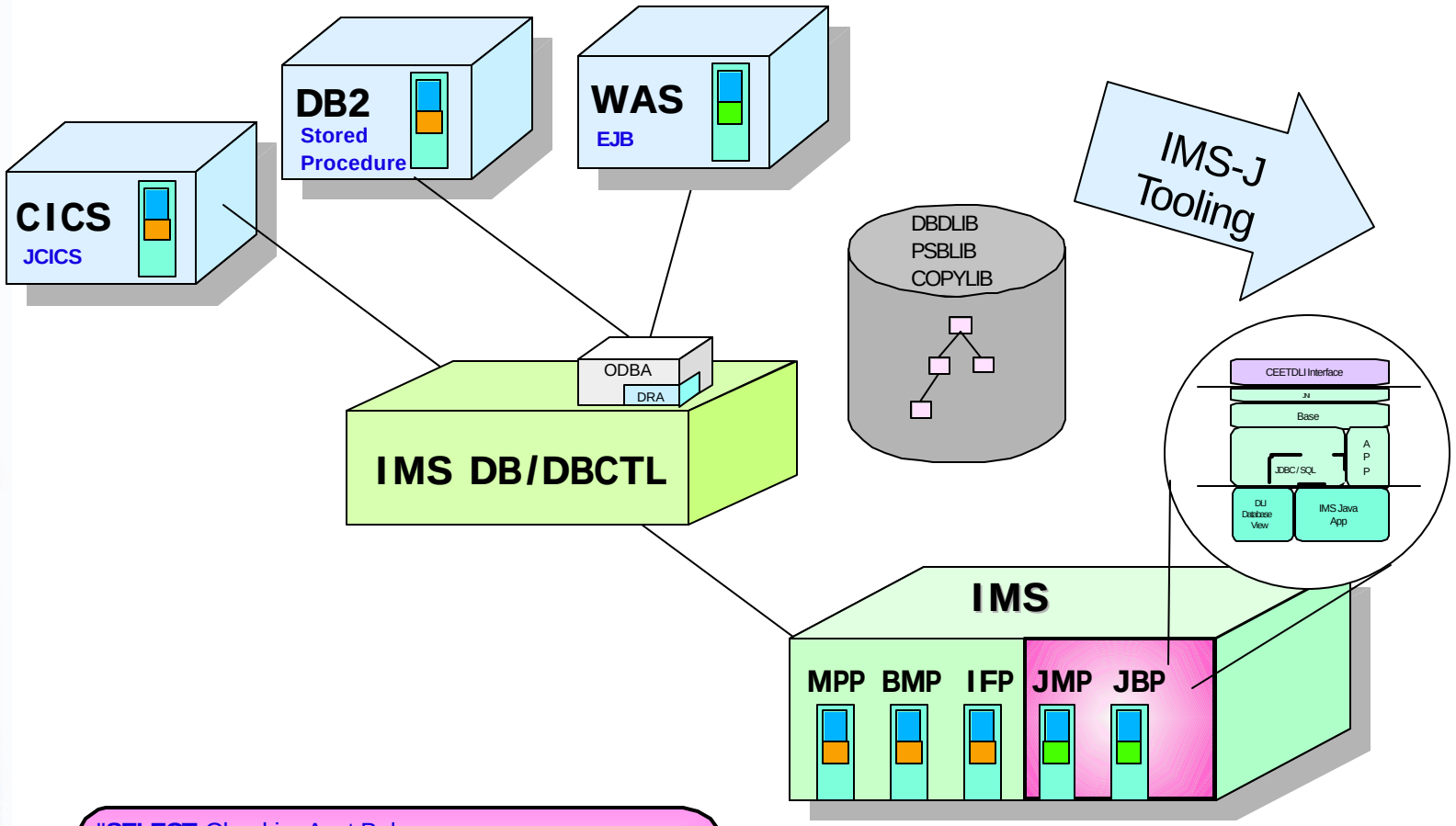
- ✓ Application programmer productivity
  - Java access to IMS input/output message queues
  - JDBC to access IMS DB and DB2 data
  - Uses VisualAge tools for development
- ✓ **Enhanced since IMS V7 GA**
  - **New Java Dependent Region support for Persistent Reusable Java Virtual Machine**
  - **JDBC access to IMS DB from CICS/390 Java applications and DB2 for OS/390 and z/OS Stored Procedures**
  - **New Java Tool support**

New Java Dependent Region Types

- **New Environment**
  - IMS TM with JVM -- no HPJ needed!
- **Two new IMS dependent region types**
  - JMP, JBP using the resetable JVM
    - Saves over 2,000,000 lines of code per transaction
    - Use is no different for user
    - JDK 1.3.1S (JDK 1.3 with Persistent Reusable JVM)
    - Environment Variables (no more hardcode during compile)
    - JDBC 2.0 support

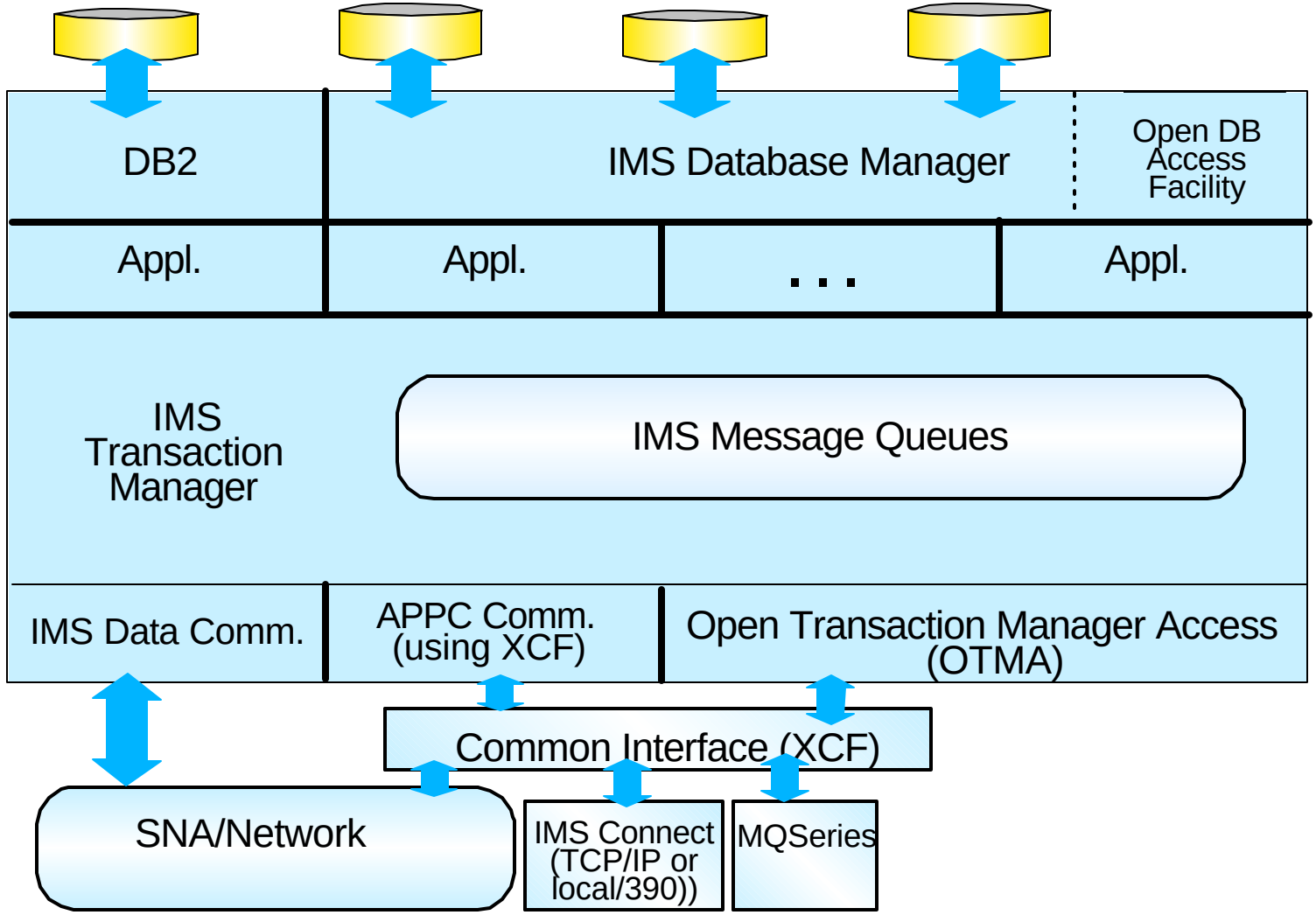


The Big Picture: JDBC Access to IMS Data




```
"SELECT CheckingAcct.Balance,
SavingAcct.Balance,CheckingAcct.Name" +
        "FROM MyBankPCB.Accounts " +
        "WHERE CheckingAcct.Balance > 10000" +
        "AND SavingAcct.Balance > 20000 "
```

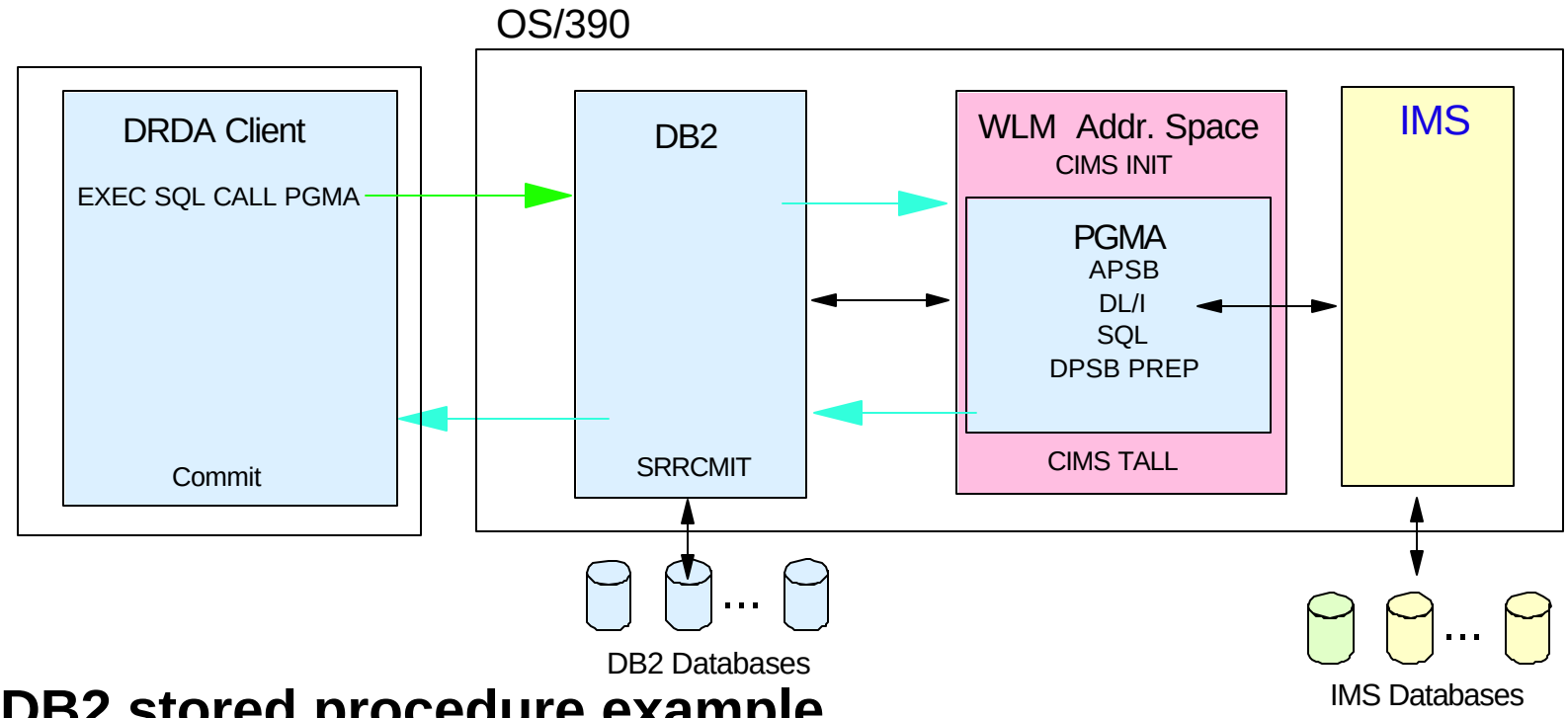
Middleware Subsystem Access



What is Open Database Access?

- **Open Database Access (ODBA) is a callable interface for accessing data managed by IMS DB**
  - Based on the DRA interface provided for CICS applications
  - Also provided through the IMS V6 service process
- **ODBA allows IMS DB and OS/390 application programs to be developed, installed, and maintained independently of each other**
- **ODBA provides for failure isolation and independent resource recoverability**
  - Requires OS/390 Resource Recovery Services (RRS)

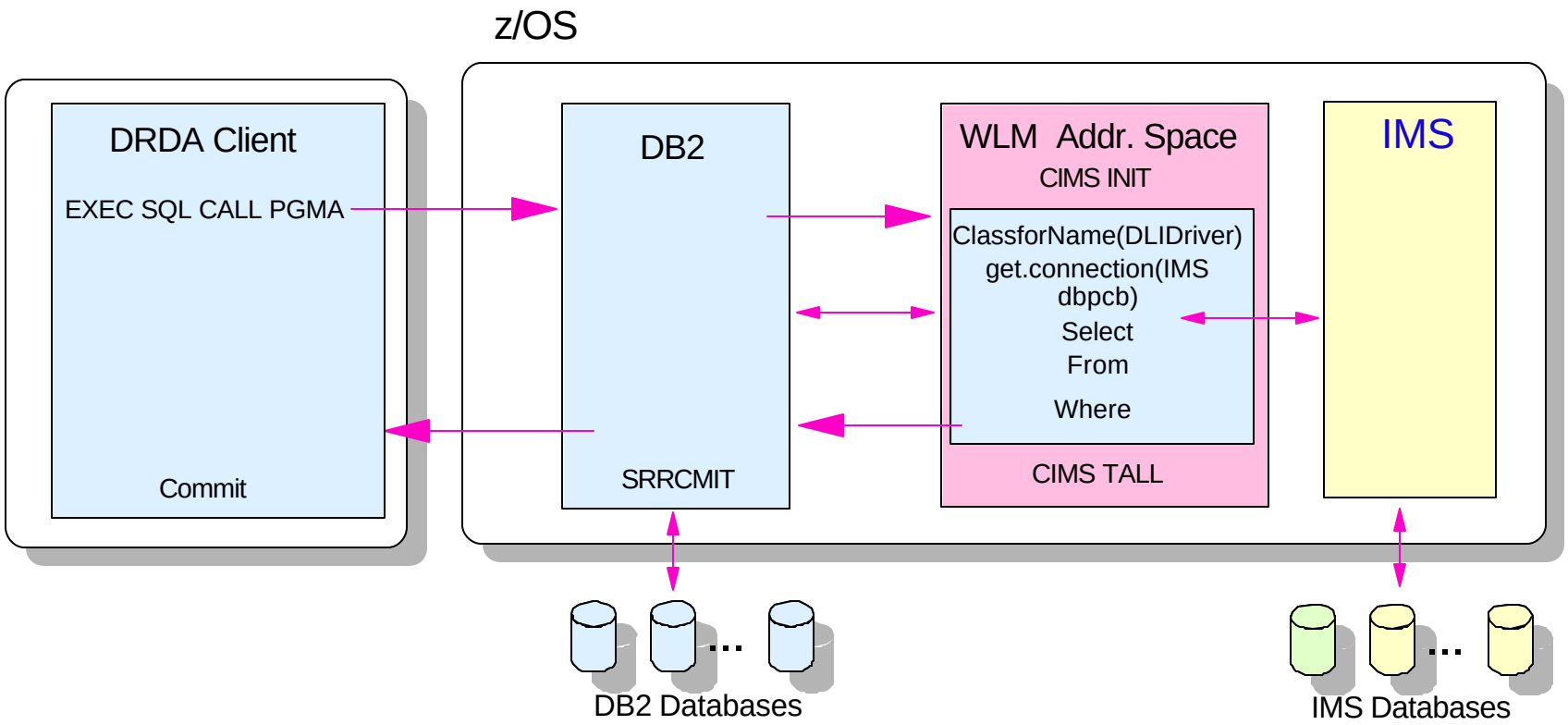
DB2 Stored Procedure Example



- **DB2 stored procedure example**
  - DL/I calls to IMS DB
  - Client program does commit when stored procedure returns or DB2 can issue SRRCMIT
- **Enhancements since IMS V7 GA**
  - JDBC calls to IMS DB from DB2 for z/OS Java Stored Procedures and from CICS/390 Java applications

DB2 Stored Procedure Example

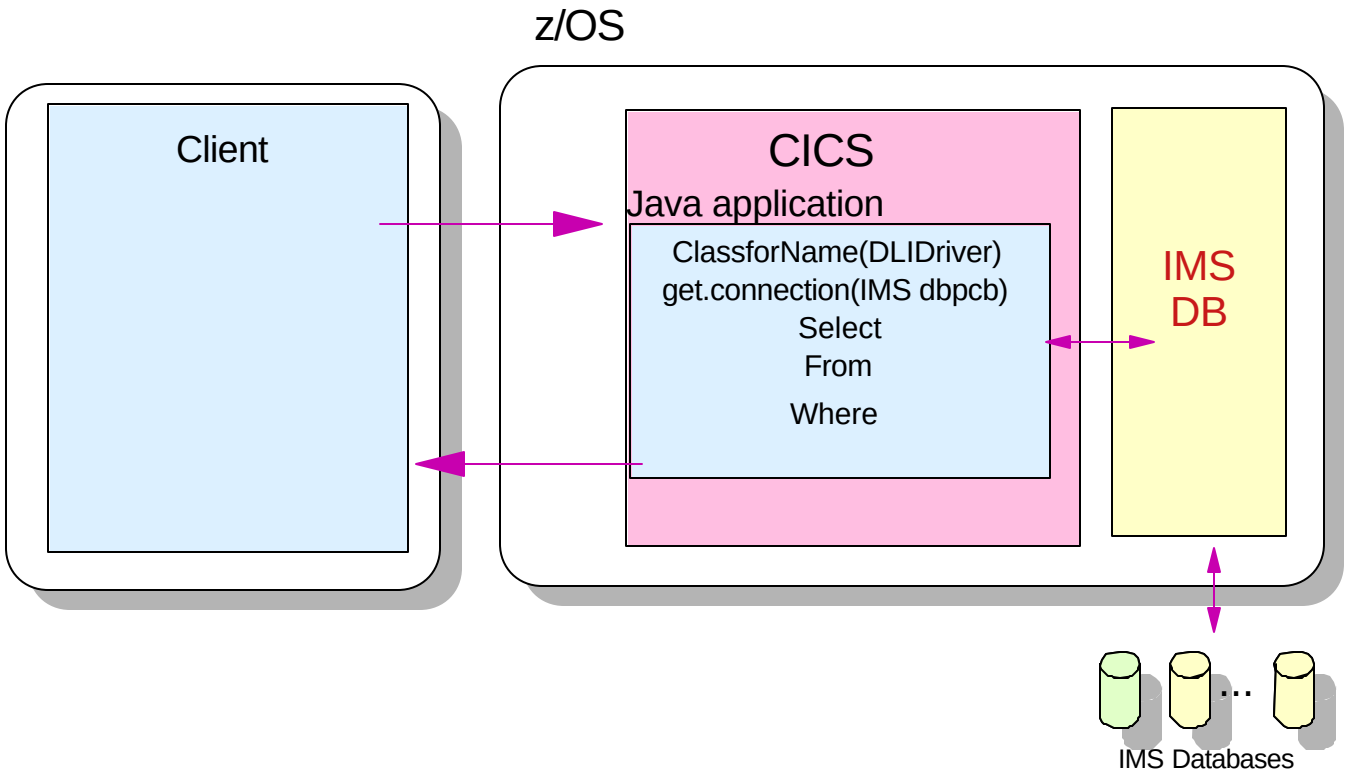
(Using IMS V7 Java JDBC interface)



- **DB2 Java stored procedure example**
  - IMS Java Classes can be used to access IMS DB

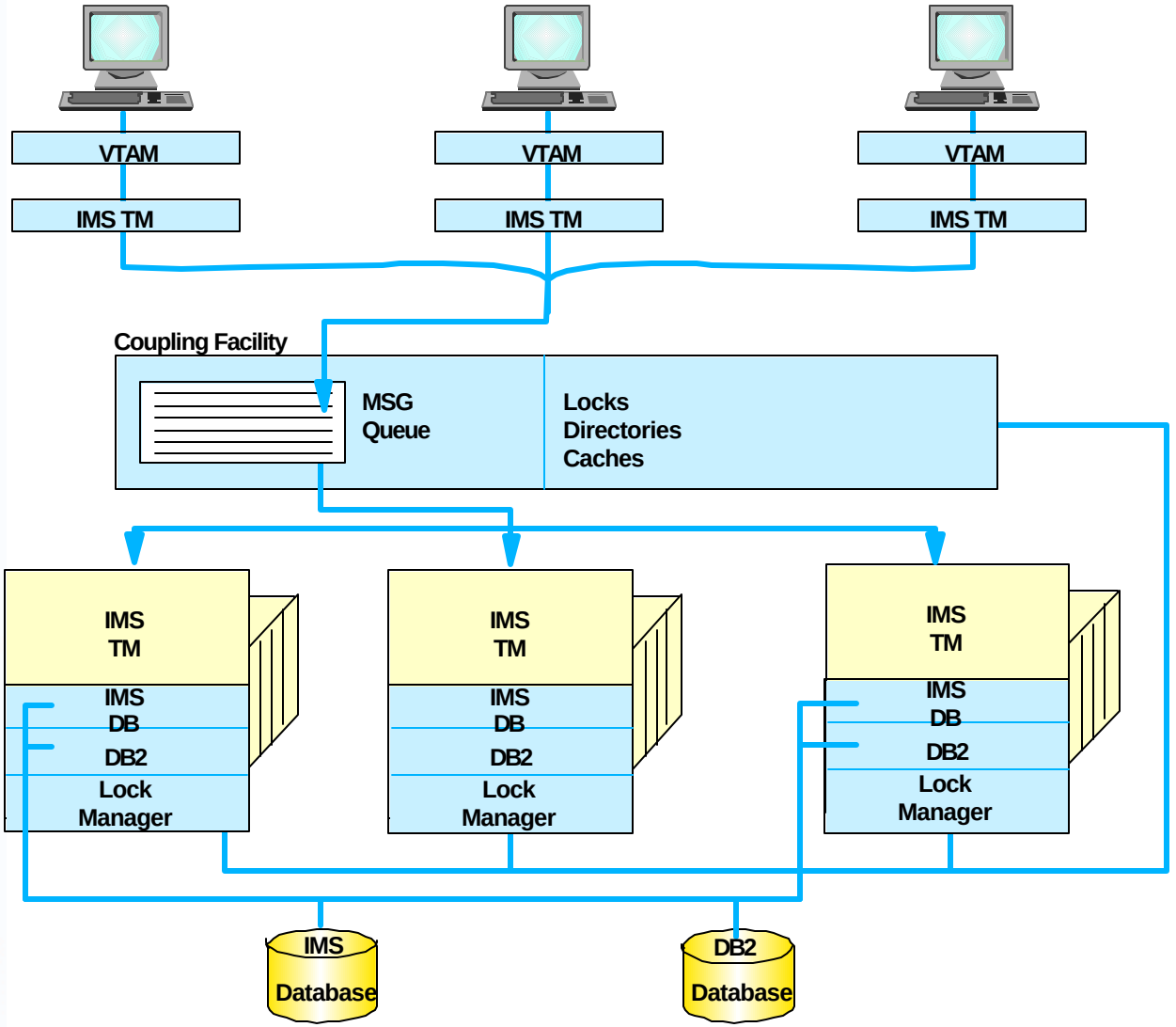
CICS Example

(Using IMS V7 Java JDBC interface)



- **CICS Java Application example**
  - IMS Java Classes can be used to access IMS DB

IMS in a Parallel Sysplex



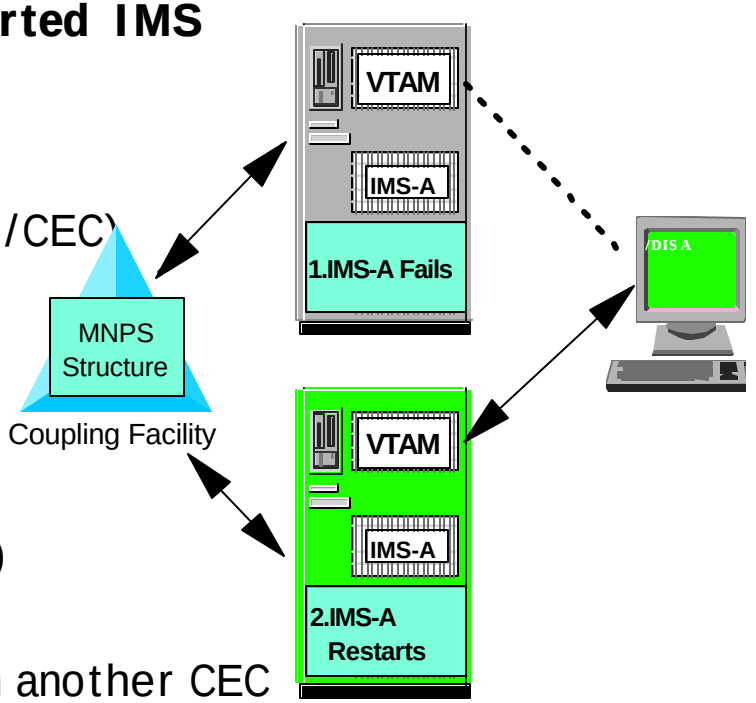
- **Allocation of workstations**
- **Dynamic Workload Balancing**
- **Data Sharing**
  - IMS DB
  - DB2

Easier access and management of enterprise applications and data

Rapid Network Reconnect Highlights and Benefits

Highlights

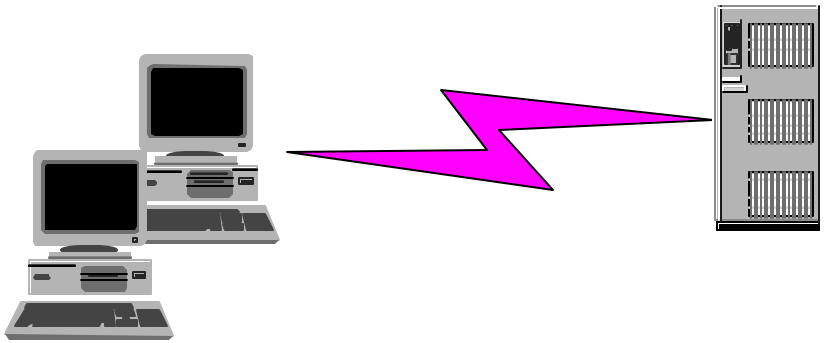
- **Terminals automatically reconnect to restarted IMS**
  - end user signs on again after IMS restart
- **VTAM maintains persistent session**
  - Single node persistent session (single IMS/CEC)
    - after IMS restart of failed IMS
    - network reconnects to restarted IMS in same CEC
    - Coupling Facility not required
  - Multinode-persistent session (>1 CEC/IMS)
    - After IMS restart of failed IMS
    - Network reconnects to restarted IMS in another CEC
    - IMS application must register in Coupling Facility MNPS structure
- **If MNPS, all VTAMs with MNPS must be connected to Coupling Facility structure**



Benefits

- **Faster reconnect of terminal network after IMS restart**

IMS V7 Rapid Network Reconnect for IMPROVED AVAILABILITY



- ✓ Provides reduced network reconnect time after IMS, MVS, or VTAM failure in a sysplex environment
- ✓ Permits IMS TM to automatically reconnect terminal sessions following any kind of IMS failure and subsequent IMS restart

Common Queue Server Enhancements

Highlights

- Support for multiple clients
  - Achieves better utilization of the CQS address space
    - Storage
    - Problem determination
    - Operations
- Security checking during CQS registration
- Interface enhancements
  - Diagnostics
  - CQS requests

Security Enhancements

Highlights

- **Enhanced PassTicket Support (uses RACF or equivalent)**
  - New keyword parameter on the /SIGN ON command

    /SIGN ON userid PassTicket APPL applname
  - Provides greater flexibility for the end-user/program
    - PassTicket creation can use IMSID (same as before)
    - PassTicket creation can use the IMS application name
  - Allows the creator of PassTickets to specify the value by which it knows IMS
- **New system-wide default SAPPLID=applid in DFSDCxxx**
  - Enables the use of PassTickets for VGR connections to IMS
- **USERID Clarification**
  - An indicator associated with the ***userid*** field that defines its content
  - Provides a method that allows IMS application programs and exits to determine whether a user was signed on at the time a transaction was entered

IMS V7 Enhancements through YE2001 via the Service Process

- Enhanced HALDB and DBRC Performance/Management
- 64-bit real support
- 255 OSAM Database Buffer Subpools
- Additional Sense Codes/Message Information for use with the z/OS Communications Manager
- External Subsystem Support enhanced for DB2 MVS group support

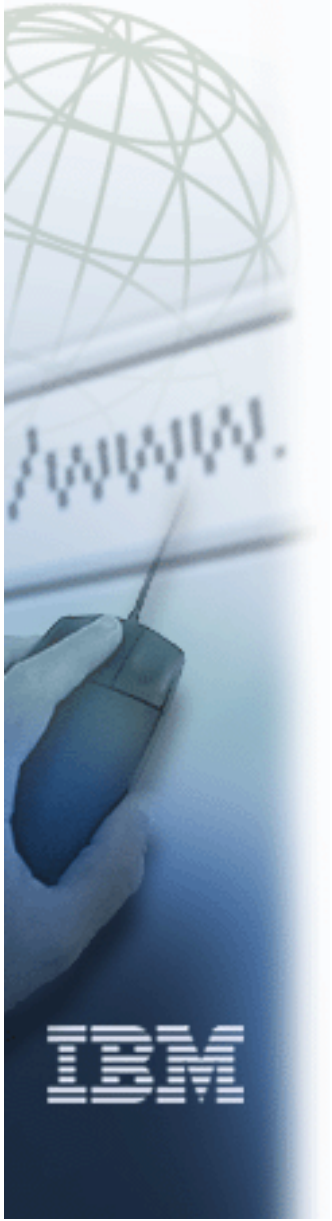
IMS 64-bit Real Support

- OS/390 V2R10 or zOS support 64-bit real addresses on z900
  - Addresses above the 31-bit address limit of 2 gigabytes are "above the bar"
  - IMS V7, V6, and V5 are enabled for 64-bit
- OSAM supports real addresses above the 2GB bar
  - I/Os may be done with buffers above the bar
  - Database buffers may reside in real storage above the bar
  - Log buffers may reside in real storage above the bar
    - In previous releases of IMS, data in buffers which are above the bar must be moved below the bar before I/O is done
- Fast Path storage moved above the 2GB bar

250 OSAM Database Buffer Subpools

- **Up to 250 OSAM database buffer subpools may be defined**
  - Previous limit was 100
  - Provides additional buffer pool tuning possibilities
  - Also available in IMS V6

IMS Sense Code/Messages Enhancements



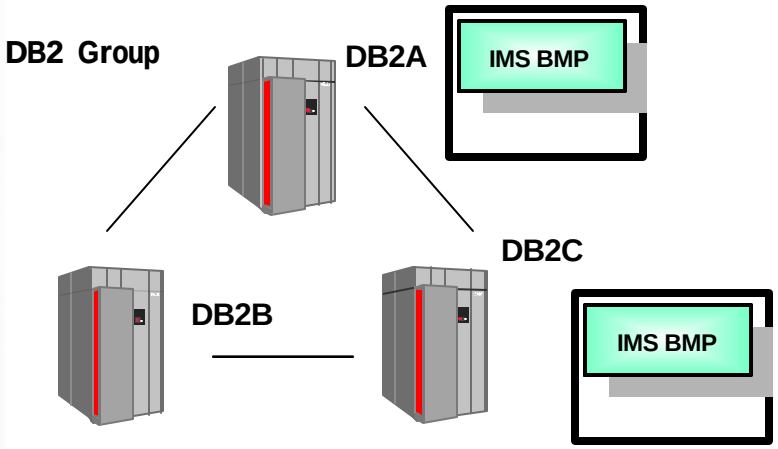
Additional Information for use with z/OS Communications Manager

- Providing Signon screen after LUSTAT x"082b'
- Including the TCP/IP address in IMS messages

IMS External Subsystem Attach for DB2 Groups

Allows easy movement of BMPs between data sharing systems

- For all IMS online region types
  - SSM members do not have to be changed
- IMS dependent region may attach to any DB2 using the DB2 group attach name
  - DB2 group attach name is specified as the subsystem name in the dependent region IMS SSM member (instead of DB2 subsystem name)
- Restart 'resolve in-doubt' processing automatically uses the specific name
  - Emergency restart must have 'original' DB2 available



IMS V7 Enhancements in 2002 via Service process

- Enhanced HALDB and DBRC Performance/Management
- New Java Region Types, JDBC access, and Tooling
- Fiber Channel support
  - Channel-To-Channel support by IMS Multiple Systems Coupling (MSC)
  - WADS support
- Batch RRS support
- System Log Data Set (SLDS) Read Support
- OTMA Security and Management Enhancements
- Sysplex support
  - CF Duplexing for IMS Shared Queues and Fast Path (FP) Expedited Message Handler (EMH)
  - CF Duplexing for IMS Data Sharing through IMS Resource Lock Manager (IRLM)
  - IMS Fast Path Virtual Storage Option (VSO) CF Support
- JDBC access to IMS DB from WebSphere/z/OS V4

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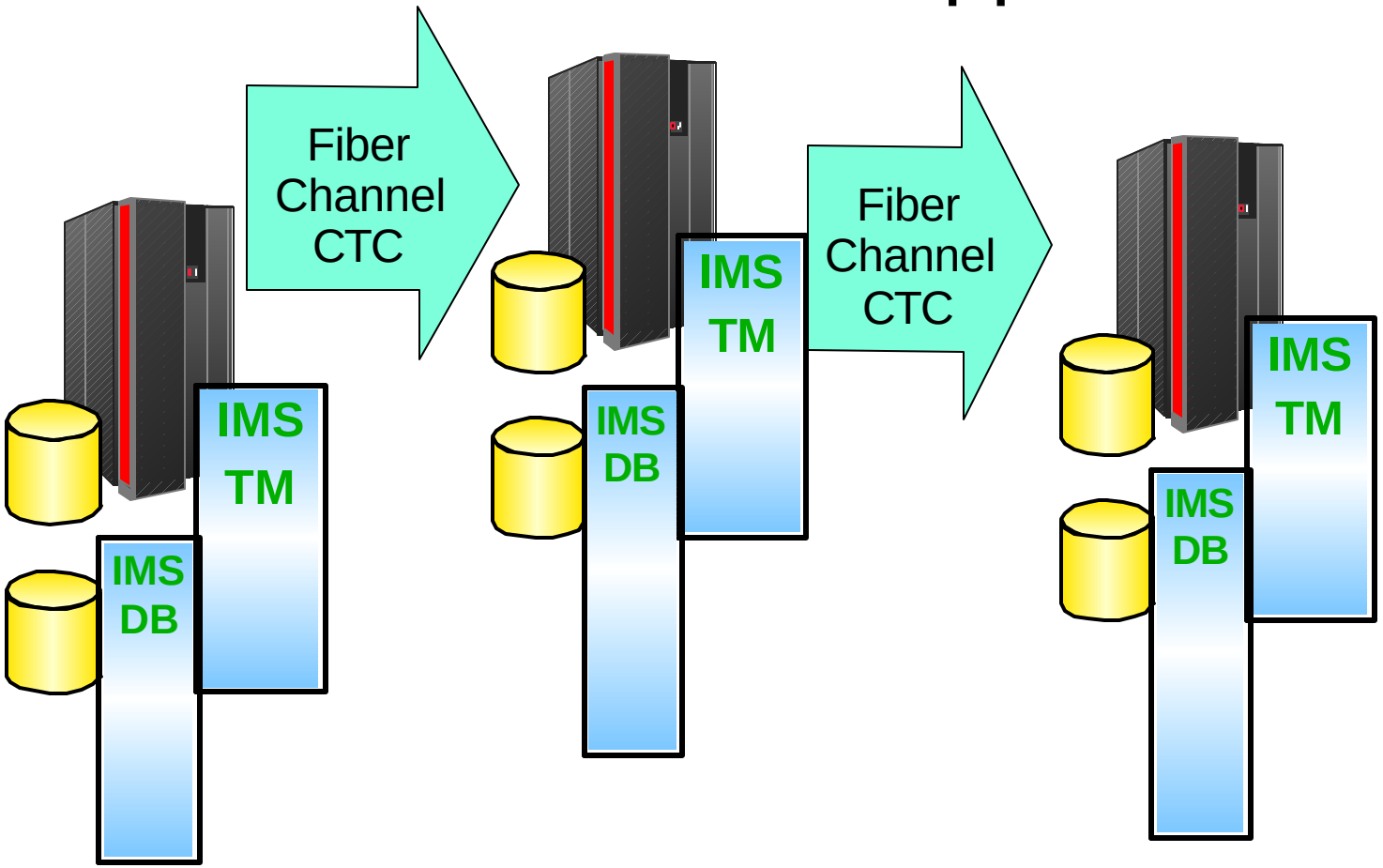
IMS Multiple Systems Coupling Fiber Channel CTC Support



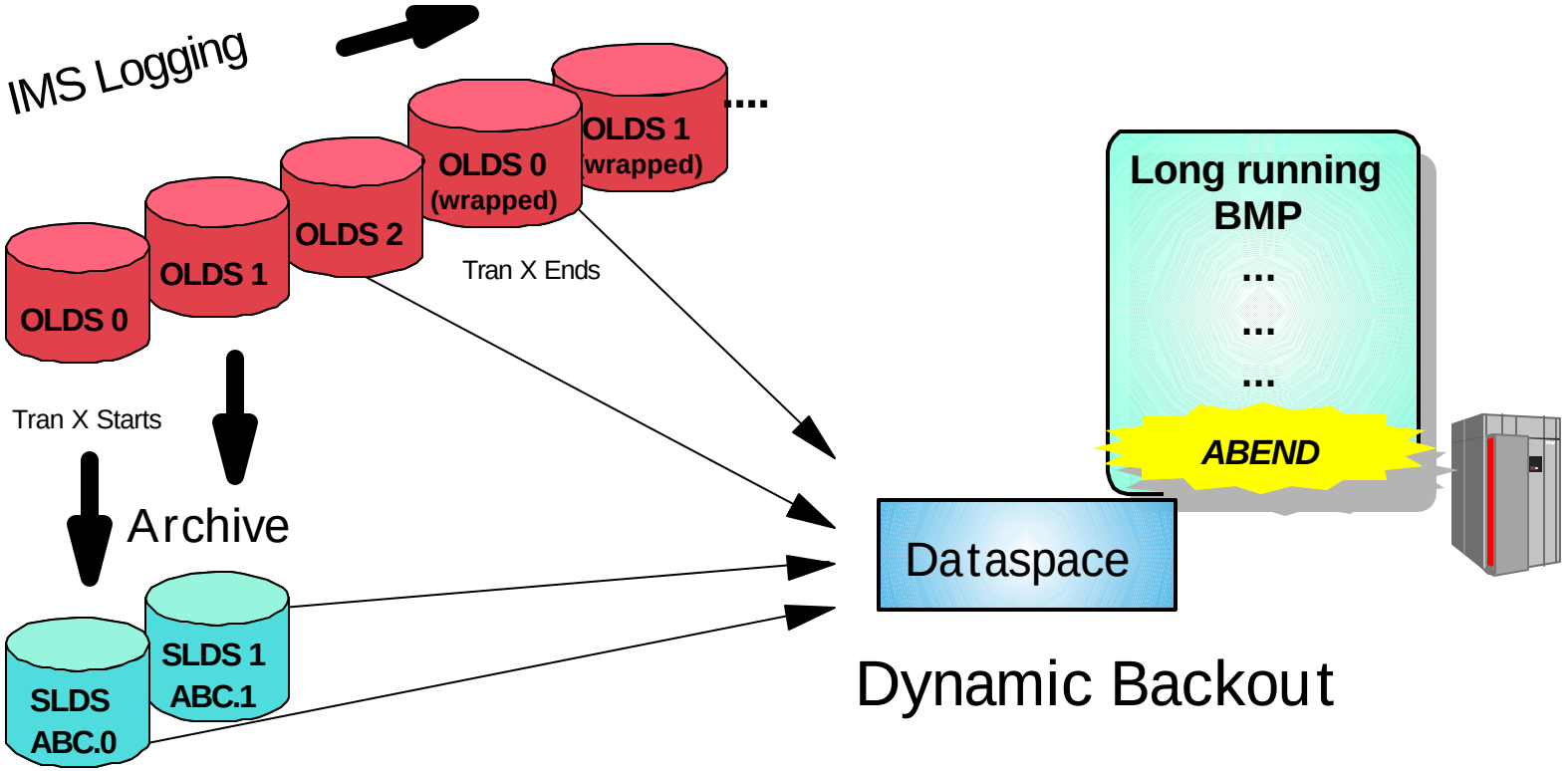
Providing Reliable, High Bandwidth Host-to-Host Communications Support between IMS systems.

Batch RRS Support

- Allows batch programs to use MQ with coordinated commit
- Provides for a full two phase commit for batch programs accessing DB2 and IMS DB
  - Today's Batch Attach from DB2 does not support coordinated commit
- Allows for work which captures data and propagates it to another system (ex. DPROP for IMS -> DB2) to participate in the 2-phase syncpoint process

System Log Data Set (SLDS) Read Support

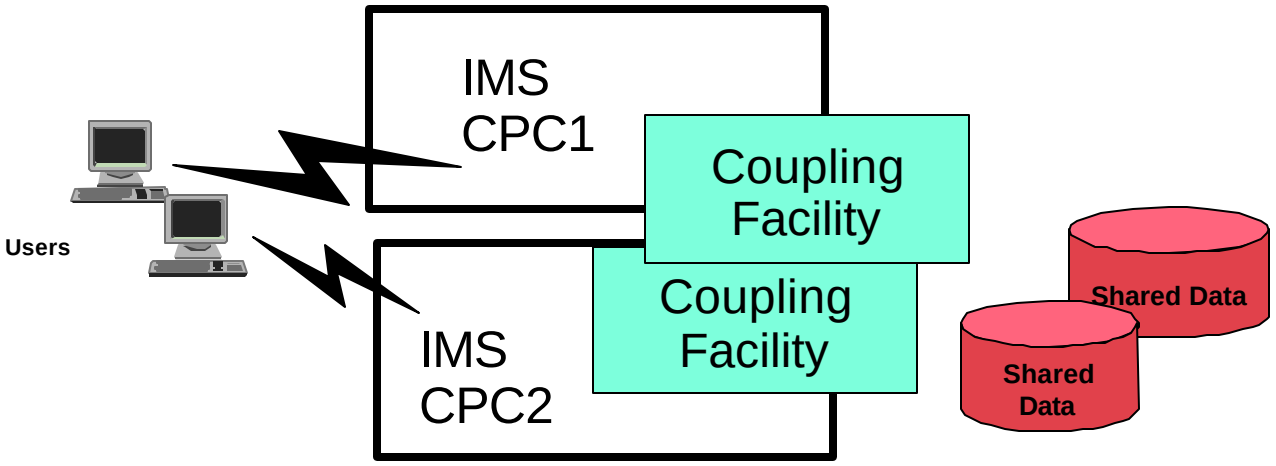
- The IMS Logger is now able to read SLDSs for Dynamic Backout, avoiding the need for batch backout in some cases
  - Example -- A long running application requires uncommitted updates on the SLDS after the OLDS have wrapped
- In a Shared Message Queue environment SLDS will now be dynamically mounted when /CHE is issued and the messages are only available on SLDS



Open Transaction Manager Access Security/Management Enhancements

- Enhanced Message Control
- Use the OTMA ACEE hash table for the CHNG or AUTH call
- Additional Requirements
  - OTMA member-specific security level support
  - Expand the OTMA ACEE hash table size
  - Dynamically refresh the aging value for OTMA ACEEs hash table
  - Support the OTMA timeout

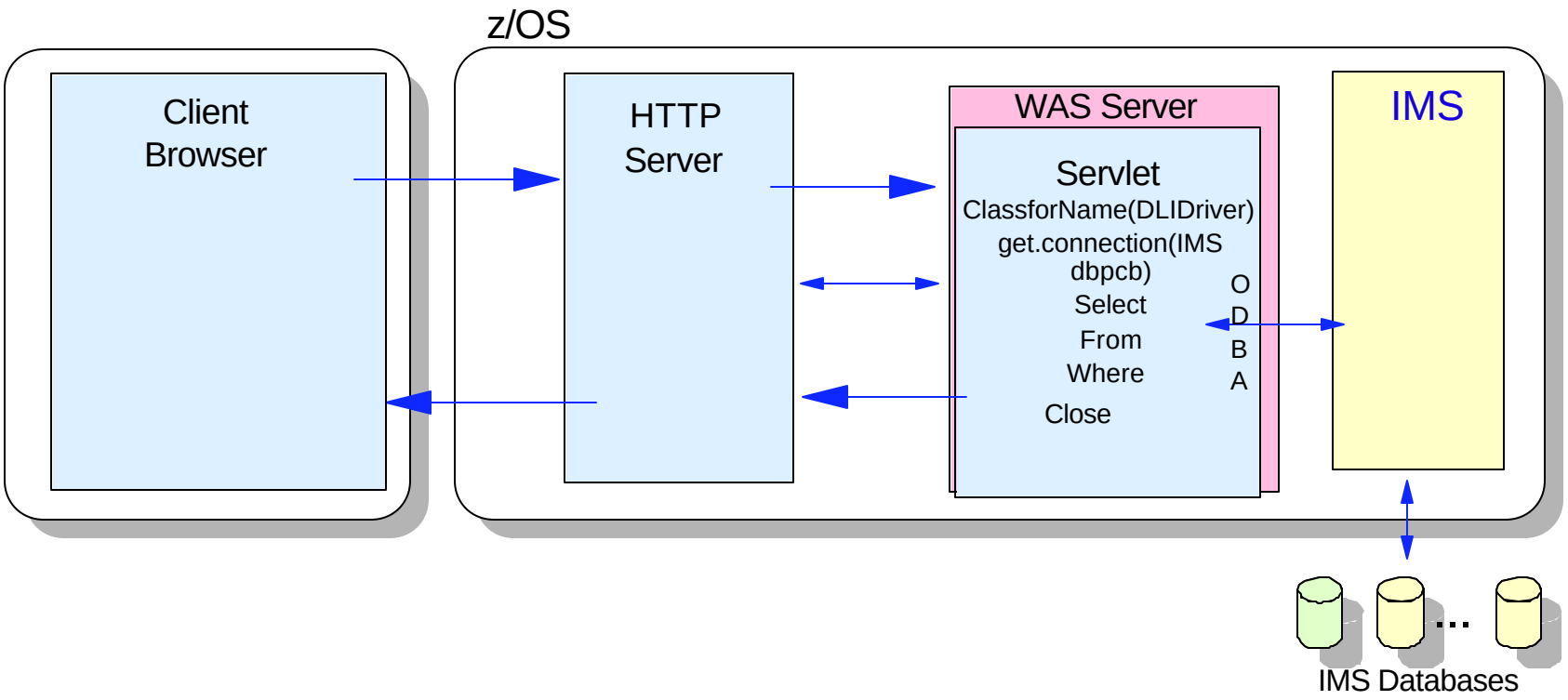
IMS Sysplex Management Coupling Facility Enhancements



- CF Duplexing for IMS Shared Queues and Fast Path (FP) Expedited Message Handler (EMH)
- CF Duplexing for IMS Data Sharing through IMS Resource Lock Manager (IRLM)
- IMS Fast Path Virtual Storage Option (VSO) CF support
  - System Managed Duplexing
  - Automatic Altering
  - System Managed Rebuild

OS/390 (z/OS) WebSphere Application Server

(Using IMS V7 Java JDBC Interface)



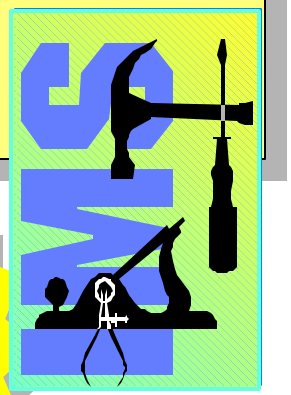
Providing OS/390 WebSphere Application Server JDBC access to IMS DB resources

IMS Tools Portfolio

Database Administration

- *IMS High Performance Unload 5655-E06*
- *IMS High Performance Load 5655-E07*
- *IMS High Performance Prefix Resolution V2 5655-E08*
- *IMS Index Builder V2.2 5655-E24*
- *IMS Parallel Reorganization V2 5655-F74*
- *IMS High Performance Pointer Checker 5655-E09*
- *IMS Data Base Repair Facility 5655-E03*
- *IMS High Performance Sysgen Tool 5655-F43*
- *IMS Command Control Facility 5655-F40*
- *IMS ETO Support 5655-E12*
- *IMS Library Management Utilities 5655-E04*
- *IMS Advanced ACBGEN 5655-E05*
- *IMS Sequential Randomizer Generator 5655-E11*
- *IMS Compression - Extended 5655-E02*
- *IMS Data Base Control Suite 5655-F76*
- *IMS Fast Path Basic Tools 5655-E30*
  - DEDB Unload/Reload
  - DEDB Pointer Checker
  - DEDB Tuning Aid
- *IMS Fast Path Online Tools V2 5655-F78*
  - Online Pointer Checker
  - Online Data Extract
  - Online Area Extend
- *IMS HALDB Conversion Aid 5655-I01*

Manage
Automate
Monitor
Tune...



Performance Management

- *IMS Performance Analyzer 5655-E15*
- *IMS Network Compression Facility 5655-E41*
- *IMS Queue Control Facility V1.2 5697-E99*
- *IMS Dynamic Resource Control Facility 5697-D14*
- *IMS Workload Router 5697-B87*

Recovery / Replication

- *IMS Image Copy Extensions 5655-E10*
- *IMS DEDB Fast Recovery 5655-E32*
- *IMS Recovery Saver 5655-E16*
- *DB2 Recovery Manager 5697-F56*
- *Online Recovery Service 5655-E50*
- *IMS Data Propagation 5655-E52*
- *IMS High Performance Change Accumulation 5655-F59*

Application Management

- *IMS Connect 5655-E51*
- *IMS Message Format Services Reversal Utilities 5655-F45*
- *IMS Program Restart Facility 5655-E14*
- *Batch Terminal Simulator 5655-A14*

New/Enhanced IMS Tools

Announced first half of 2001:

January 2001

- IMS Command Control Facility
- IMS High Performance Sysgen Tools
- IMS MFS Reversal Utilities

March 2001

- IMS Dynamic Resource Control Facility V1 R2
- IMS WorkLoad Router V2 R2

April 2001

- IMS Online Recovery Service

May 2001

- IMS HP Pointer Checker Enhancements
- IMS Image Copy Extensions Enhancements
- IMS Connect Enhancements

June 2001

- IMS Database Control Suite V2

July 2001

- IMS Fast Path Online Tools V2
- IMS Database Repair Facility Enhancements

In Addition To Tools Available in 2000

Administration, Performance, Recovery, and Application Management...

NEW and enhanced Tools

IMS Database Control Suite

- Supports IMS Base Utilities and Data Management IMS Utilities
- Intuitive, easy to manage, task-oriented design saves time and increases DBA productivity

IMS Command Control Facility

- Processes IMS commands across all regions in a sysplex using the batch command processor
- Executes IMS Commands from a batch utility or from a TSO session via an ISPF interface
- Synchronizes Online Change and database commands across all regions in a Sysplex

IMS High Performance Pointer Checker

- Performance and report improvements delivered via PTF UQ52963
  - Space Monitor Feature new Threshold values
  - HD Pointer Checker

IMS Fast Path Online Tools Ver 2

- Online Pointer Checker support
- Online Data Extract
- Pointer Checker output can be used by IMS Fast Path Online Reorg Utility

IMS High Performance System Generation Tools

- Perform IMS sysgens for application resource changes (transactions, programs, databases and route codes) in a single job step -or online
- Create and maintain IMS Sysplex sysgen configurations

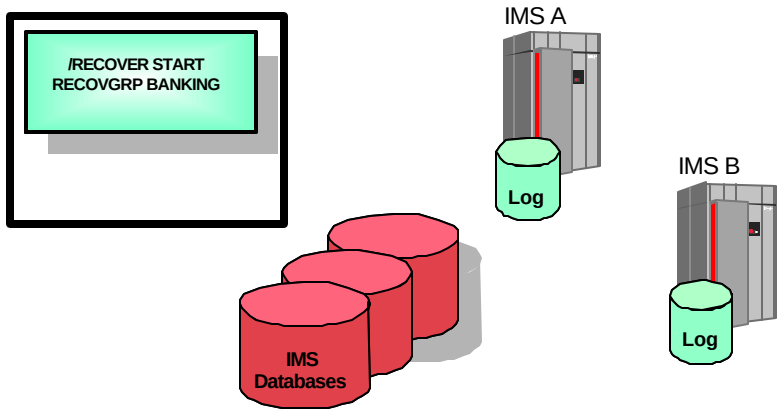
IMS Message Format Services Reversal Utilities

- Convert Message Format Services MID/MOD/DIF/DOF control blocks back into Message Format Services utility control statements
- Compare Message Format Services source libraries

Recovery and Replication Management...

IMS Online Recovery Service

for IMPROVED AVAILABILITY



NEW and enhanced Tool

Separately priced Tool for IMS V7

✓ **Increased performance in recovery situations**
- Reduce the time that critical databases are unavailable

✓ **Increased flexibility in recovery options**
- Perform 'logical recoveries' - true Point-In-Time recovery

✓ **Increased simplicity of the recovery process**
- IMS manages the recovery

✓ **Additional enhancements to ORS V1R1 since GA**
- **Stacked image copy support**
- **Compressed Image copy support**
- **Stacked log data set support**

New/Enhanced IMS Tools

Announced September 2001:

September 2001

- IMS Network Compression Facility for zOS

October 2001

- IMS DataPropagator for zOS V3.1

November 2001

- IMS Connect for zOS V1.2
  - VAJava's IMS Connector for Java J2EE Runtime Support
- IMS Fast Path Basic Tools for zOS V1.2
- IMS Parallel Reorganization for z/OS V2R1

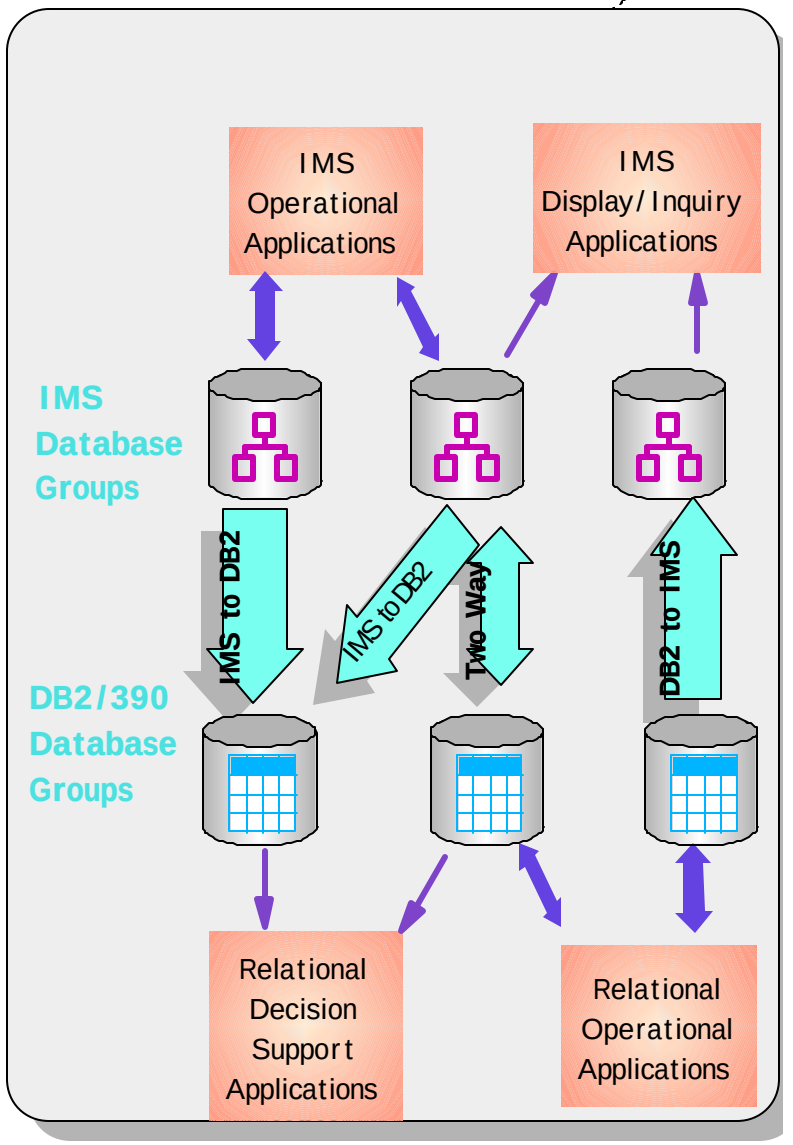
December 2001

- IMS High Performance Change Accumulation Utility for zOS
- IMS Extended Terminal Support for zOS V2.2

Recovery and Replication Management.

IMS DataPropagator for Broader Application Integration

- **Decision Support** - Data Warehouse
  - User access to stable data
  - Propagate only data of interest
  - Exploit relational query tools
- **Application coexistence**
  - Two masters with applications in both systems accessing data
  - Data in both systems synchronized
- **IMS DPROP V3** enhancements offer:
  - Asynchronous near real-time propagation improves performance
  - Operations/administration simplified/less error prone use
  - A new capture component captures the IMS DB changes performed by IMS Batch, BMP, and TM application programs



No Change to Existing Applications

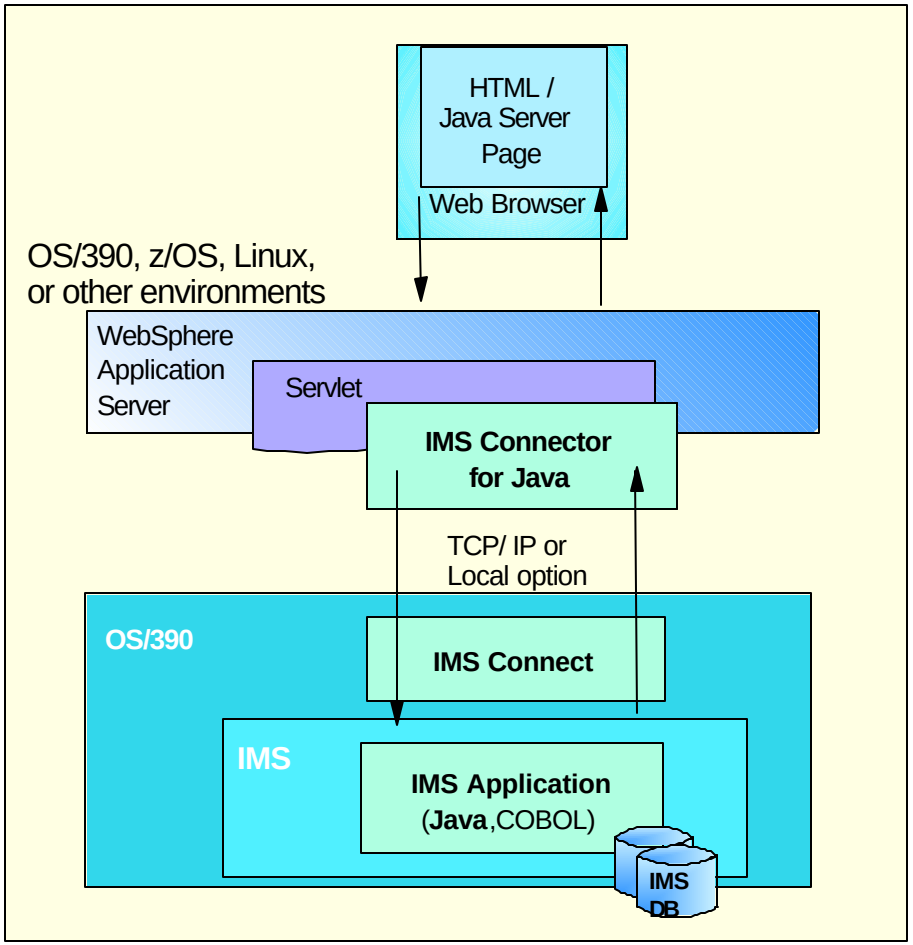
New/Enhanced IMS Tools

Announced March 2002:

- IMS Index Builder V2 R2 - includes SCAN performance fix
- IMS Queue Control Facility V1 R2 - Queue space user exit - freed up, Dynamic QCF table manipulation, Heavy user identification and action (threshold) support
- IMS HP Prefix Resolution V2 - Eliminates Batch Pipes prerequisite
- IMS HALDB Conversion Aid - Utilities to assist in FF to HALDB conversion:
  - An easy to use ISPF Front-end
  - Automatic Data Base Definition (DBD) conversion
  - Test database conversion
  - Index pointer healing
  - Partition modeling tool
- Service Stream enhancements delivering 1H2002
  - HP Pointer Checker - Dynamic Allocation Support
  - Parallel Reorg
    - HALDB Support
    - DBD Reversal Support
    - HISAM/SHISAM Support
  - DB Repair - FP support
  - Control Suite - Monitor and HALDB support
  - Checkpoint Wrapper (prpq) IMS V8 support/repackage
  - Connect - 2 phase commit support

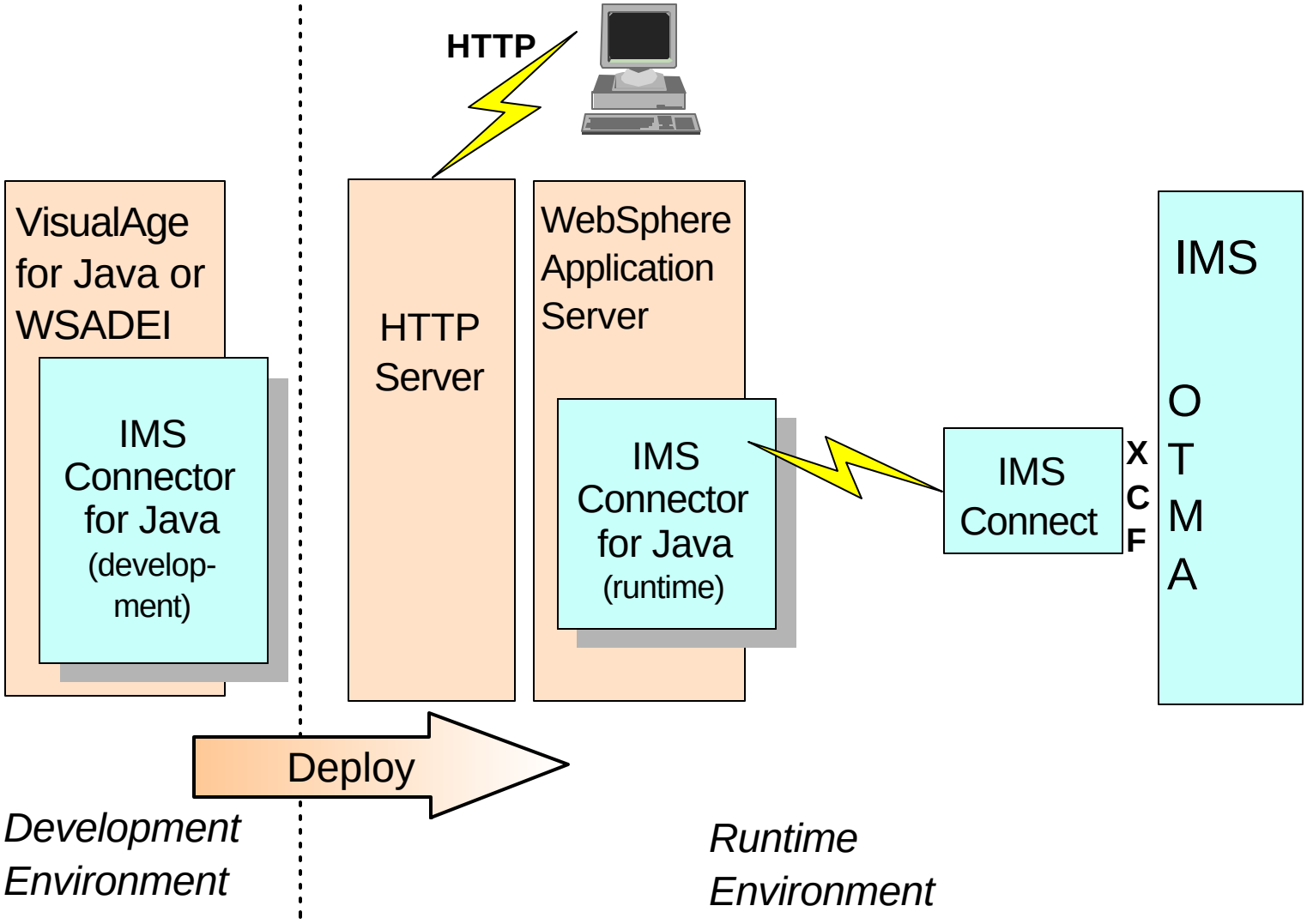
Application Management...

IMS e-business Application Development/Enablement



Application Management...

IMS e-business Connectivity Environment



Application Management...

IMS Connect for Broader e-business Connectivity

IMS Connect V1R1

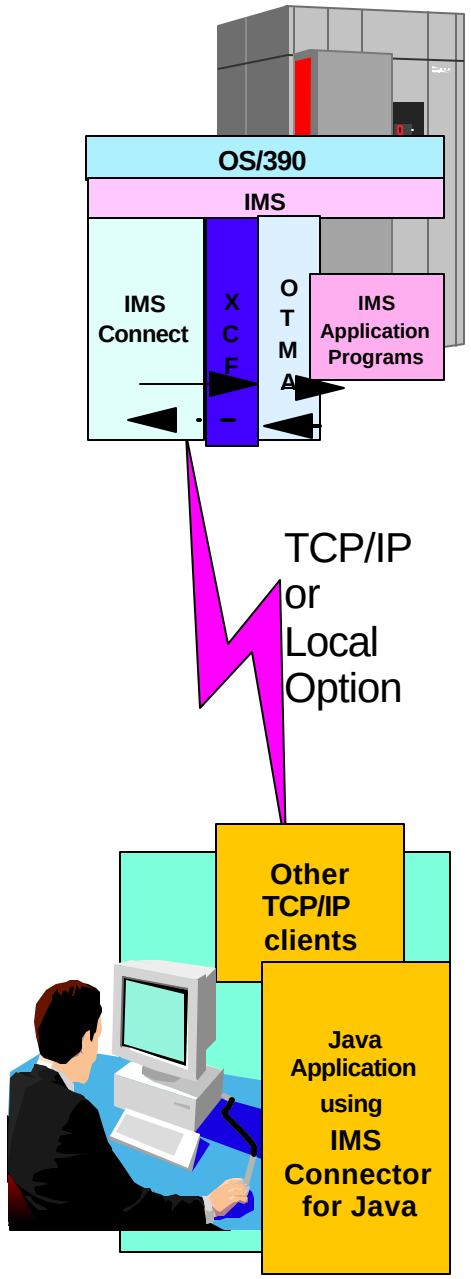
- **Provides enhanced TCP/IP access to IMS**
- Improved Performance with Persistent Sockets
- Enhanced Usability with user exit, command improvement, and asynchronous output support
- Ease Serviceability with Dump formatting enhancements
- Enhance Manageability with SMP/E Install/Maintenance
- **Base function runs with IMS V6 TM**
- **Asynch output and future enhancements require IMS V7**

IMS Connect V1R1 Enhancements

- Local/390 support
- Unicode
- ACK/NAK required notification support
- Output message structure change

IMS Connect V1R2

- IMS Connector for Java J2EE Runtime support for WebSphere access
- Used with VAJava/WASADIE's IMS Connector for Java J2EE Development support



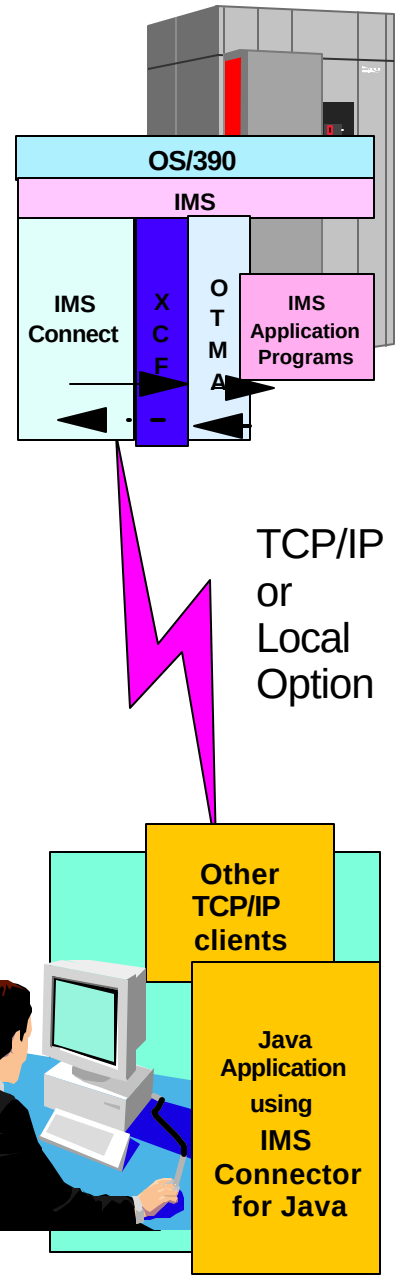
Application Management...
IMS Connect for Broader e-business Connectivity

IMS Connect 2002 Enhancements

- Two-phase Commit Support in Local 390 environments
- Security enhancements
  - Passticket support
  - IMS Connector for Java Container-managed Sign-on support for local option

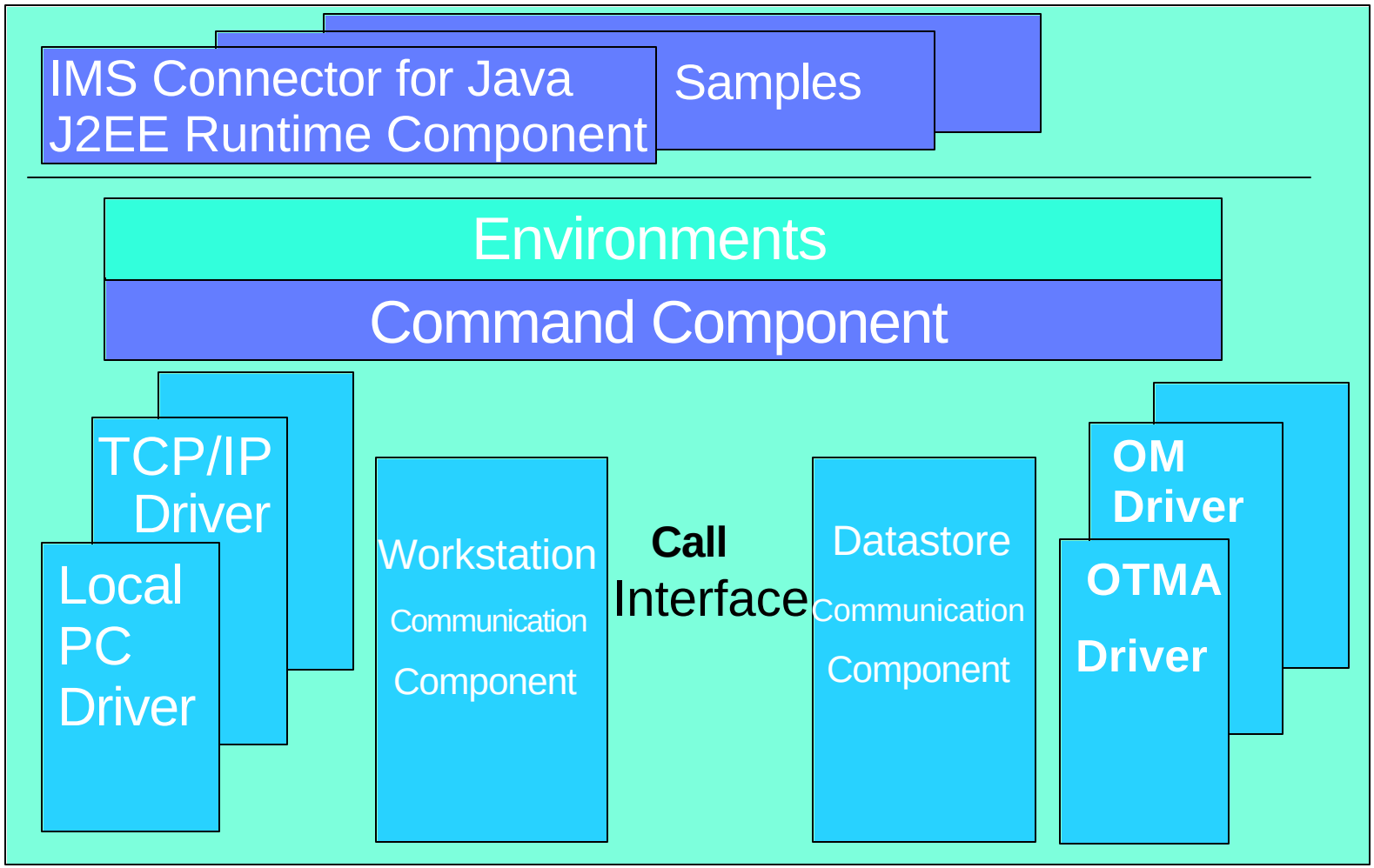
IMS Connect Requirements

- Two-phase Commit Support in Distributed environments
- ipv6 support
- IMS V8 Operations Manager distributed interface
- More Granular timeout (eg. by transaction)
- Security items
  - IMS Connector for Java Container-managed Sign-on support for distributed environments
  - User Message Exits
  - Security environment controls
  - Trusted user support
  - SSL support



Application Management...

IMS Connect Internal Structure Provides Connectivity Base for Future



Merita Bank in Finland replaces SNA gateways by IMS Connect

Challenge:

- To eliminate complex and error prone protocol conversion between TCP/IP based branch office network and SNA based host connection to IMS.

Solution:

- IMS Connect

Benefits:

- Simplified network connections to IMS
- SNA Servers can be given up
- Increased availability and efficiency
- No changes needed in IMS applications

The Bekins Company

Challenge:

- Quickly develop new ways to provide services to customers and authorized agents

Solution:

- Publish parts of Web-based shipping and tracking system as web services and integrate the services with existing workflow
- Create private e-marketplace to broker shipping orders to authorized agents
- Offer customers automated access to available capacity

Benefit:

- "The potential benefits from extending our business capabilities through Web services will make the $10.3 million payback we attributed to our first B2B e-business application seem like a drop in the bucket."

  -- Randall Mowen, Director of Data Management & e-business Architecture

XML and IMS for Transparent Application Integration

Processing XML Documents in New IMS Applications Today

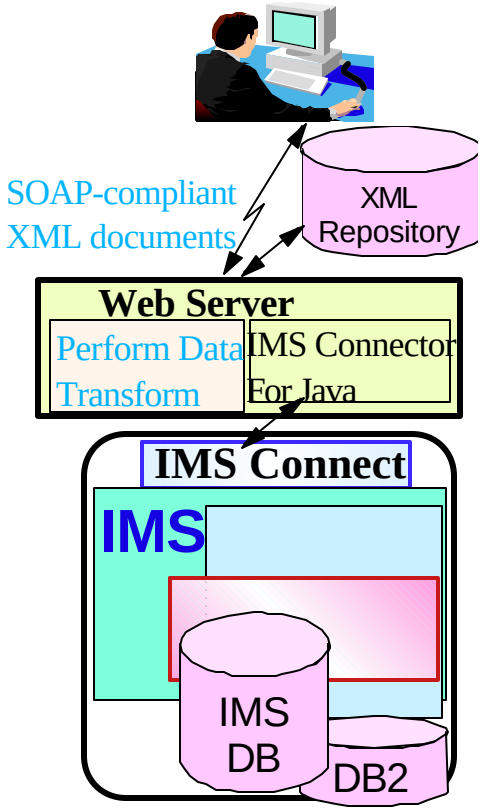
- **Customers can write IMS C++ or IMS Java applications using the XML Toolkit for OS/390**
- **Customers can write IMS Cobol or PL/I application using XML support for COBOL and PL/I**
  - Tran code still must be EBCDIC, rest of data can be XML
  - The IMS program can invoke XML parser to convert to non-tagged data

Bridging XML and Existing IMS Applications Today

- **Using MQSeries Integrator**
  - Dictionary support for messages
  - Routing and processing based on message content
  - US Utility built cost-effective e-business infrastructure to IMS
- **Customers can enable existing IMS applications as Web Services via WAS**

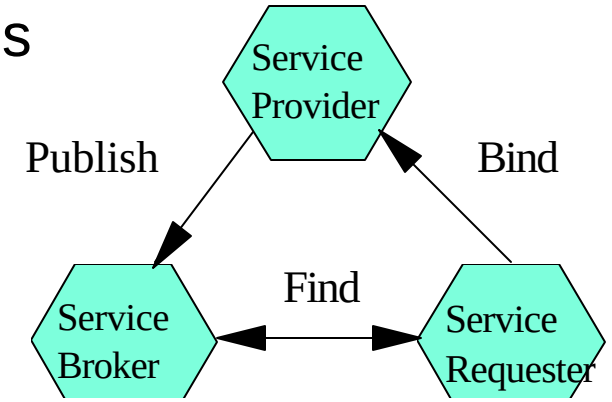
XML and IMS Requirements

- **Generate XML doc for outputs from new COBOL and PL/I applications**
- **Enable MFS-based IMS application programs as web services**
- **Transform XML for existing IMS applications using IMS Connect**
- **Using XML as an IMS Data Definition language**

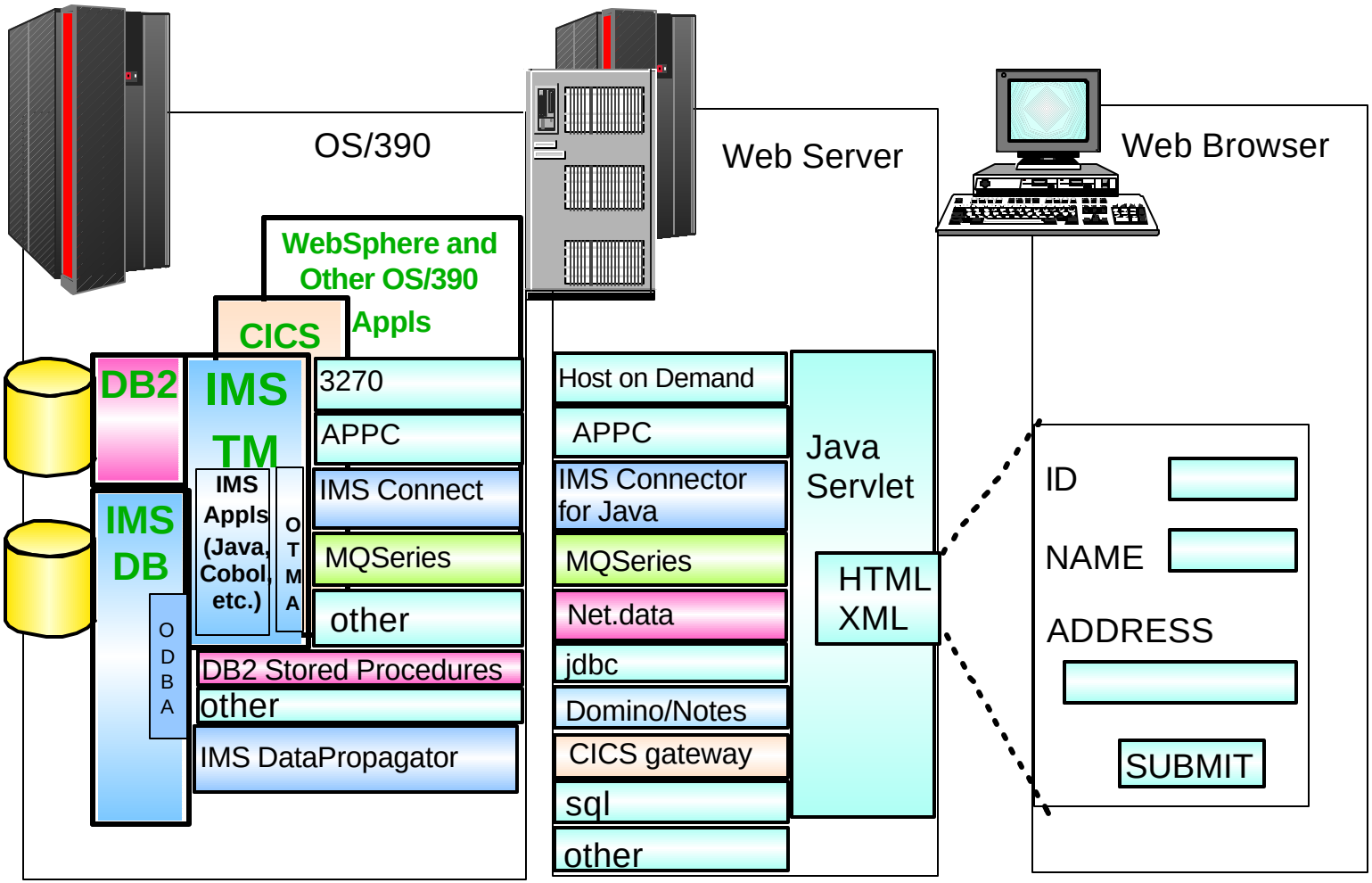


Web Services - The Next Step In The Evolution of the Web

- Allow programmable elements to be placed on web sites where others can access distributed behaviors
  - Web Services are emerging as building blocks for constructing B2B applications that integrate business processes over the Internet
- Applications can use XML to expose their features while remaining neutral with respect to any operating system, programming language or backend server
- Typically transactional, requiring integration with existing systems



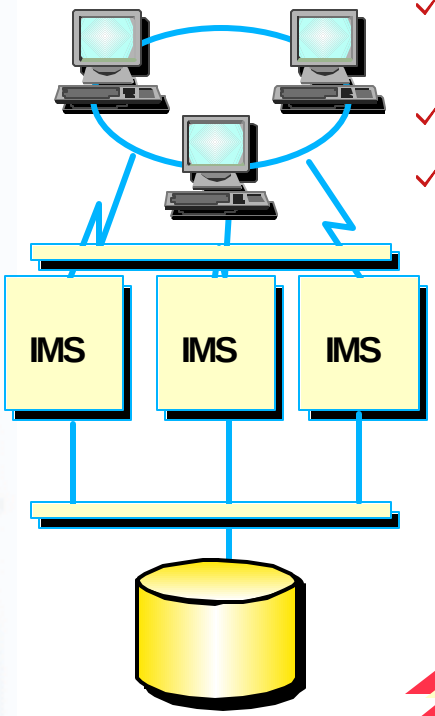
Leveraging IMS Applications and Data



What's Next in IMS Providing Integrated e-business Solutions: IMS Version 8

e-business

Ideal for e-business



- ✓ Integration with Application Development/Connectivity
- ✓ Manageability
- ✓ Scalability in Performance, Capacity, and Availability

Enhancements

- Sysplex Terminal Management
- Sysplex-wide Resource Mgmt
- Sysplex-wide Operations with Single Point of Control
- Enhanced DB Recovery Ctrl
- Simplified Installation Process
- Enhanced Systems/Data Mgmt Tools
- Enhanced XML

Strategic Open Access S/390 Enterprise Servers

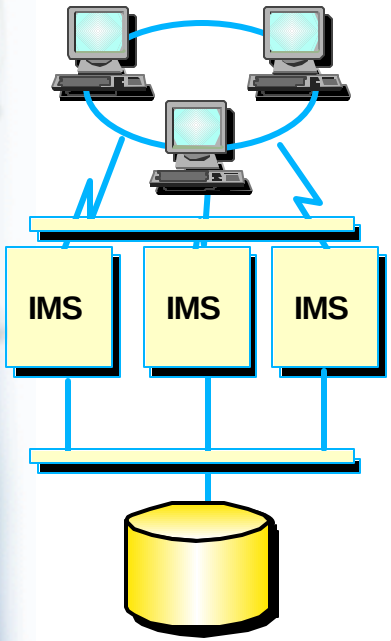
Benefits

- ✓ Enable Customer Growth
- ✓ Enhance Workload Balancing
- ✓ Increase Availability; Ease of Use
- ✓ Preserve Current Application Investment
- ✓ Enable New Applications

IMS Follow-on

Ideal for e-business

- ✓ Integration with Application Development and Connectivity
- ✓ Manageability
- ✓ Scalability in Performance, Capacity, and Availability



Strategic Open Access
S/390 and z/OS
Enterprise Servers

Enhancements

- HALDB Online Reorganization
- Eased Sysplex Manageability
- Enhanced Recovery/Control
- System and Connectivity Growth
- Simplified Installation Process
- Enh Systems/Data Mgmt Tools
- Broadened Java/XML Tooling

Benefits

- ✓ Enable Customer Growth
- ✓ Enhance Workload Balancing
- ✓ Increase Availability; Ease of Use
- ✓ Preserve Current Application Investment
- ✓ Enable New Applications

IMS Information

- **IMS Information is available at http://www.ibm.com/ims**
  - Presentations/Papers, Newsletters, Redbooks, Fact Sheets, Announce Letters, Technical Support Info (search on IMS), documentation, etc.
- **IMS Redbooks/Redpieces**
  - SG24-5753 IMS V7 Release Guide
  - SG24-5751 IMS V7 HALDB Guide
  - SG24-6123 IMS Version 7 and Java Application Programming
  - SG24-6536 IMS Version 7 Java Update
  - SG24-6404 IMS Performance and Tuning Update
  - SG24-6514 IMS e-business Connectors Update
  - SG24-6533 Ensuring Data Integrity Using IMS Tools
  - SG24-6574 IMS Installation and Maintenance Processes
- **IMS Education available at http://ww.ibm.com/services/learning/us**
  - IMS Technical Conference, Sept 30, St. Louis, Missouri, USA
  - IMS Technical Conference, Oct 14, Cologne, Germany
- **IMS Consulting Services**
  - Migration and skills transfer and customized offerings