e-business powered by IMS

IMS

the world depends on it

IMS e-business enablement Solutions

Barbara Klein

bk@us.ibm.com

Application Integration

Native API's

Distributed Objects

Simplifying Access

Gateways / Connectors

(Simple, easy, not robust, minimal skills)

Messaging / Replication

(More function, higher value,

application to application, skills required)

Business Process Integration / Workflow

(More secure, robust, high performance, imbedded business logic, higher level skills)

Complex Transactions / Distributed Object Sharing

(Comprehensive, leverage existing investments, transaction integrity, highly secure, advanced skills)

Connection

Integration

Java

Enterprise JavaBeans

Connection Components

- IMS Connectors
    - eNetwork Host On-Demand
        - CICS Internet Gateway
            - CICS Gateway for Java
                - DCE Encina Lightweight Client
                - MQSeries Internet Gateway
            - MQSeries Client for Java
        - Net.Data
    - NotesPump
- JDBC

- Universal Web access to all IT assets
- Increased productivity

Integration of e-business with IMS

- **Application Integration**
  - ODBA
  - EJB
  - JDBC
  - Unicode
  - J2EE/JTA

- **Product Integration**
  - OTMA
  - MQSeries
  - IMS Connect
  - IMS Java
  - WebSphere
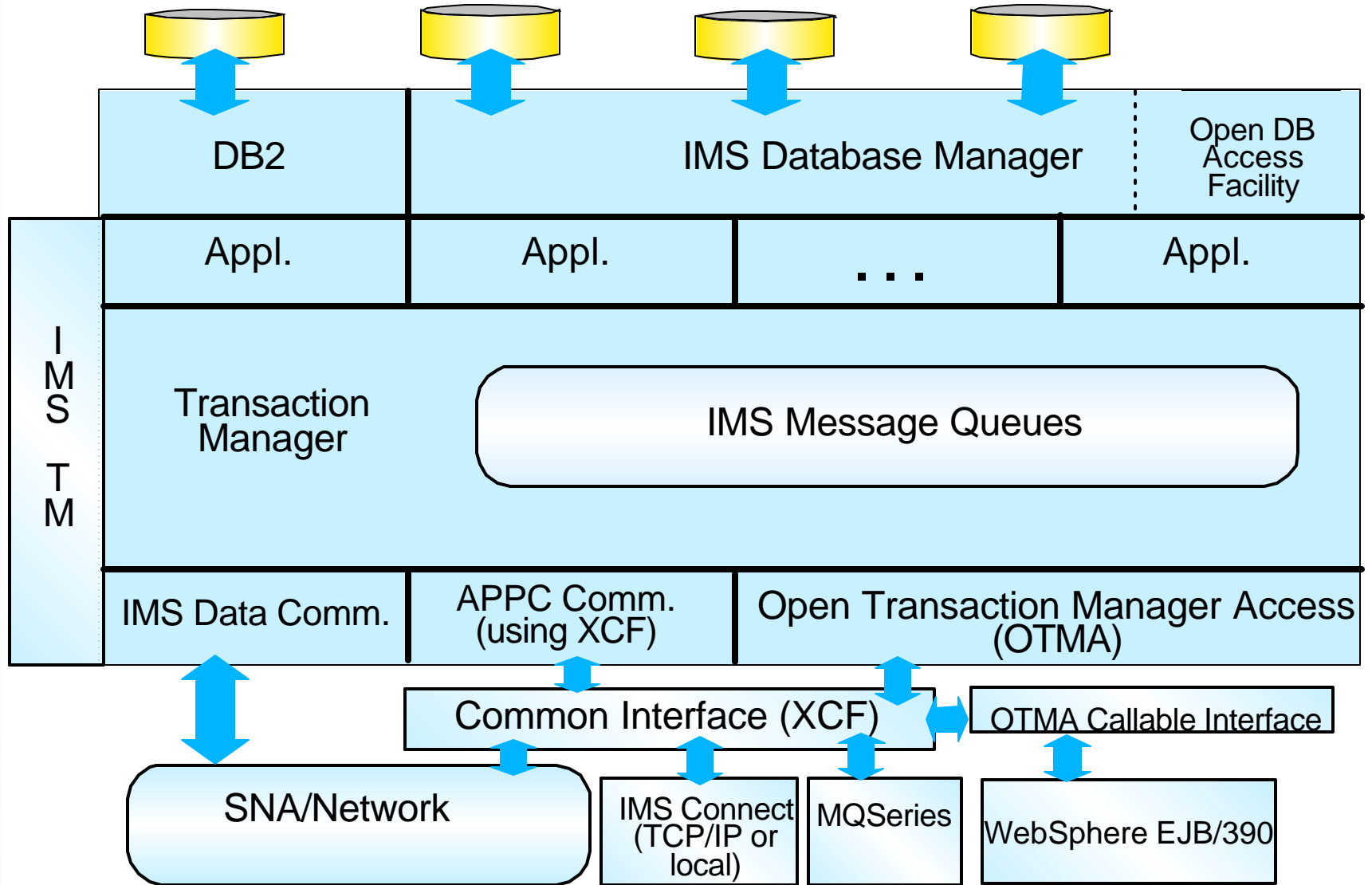 - Linux

- **Operational integration**
  - Tivoli
  - XML

Middleware Subsystem Access

Provides enhanced access to IMS

Accessing IMS from Java Applications or Servlets

HTML / Java Server Page

Web Browser

OS/390, z/OS, Linux/390 or other WebSphere platform

WebSphere Application Server

Servlet

IMS Connector for Java

TCP/IP or Local/390

OS/390 or zOS

IMS Connect

IMS

IMS Application (Java, COBOL, PL/I, etc)

IMS DB

DB2
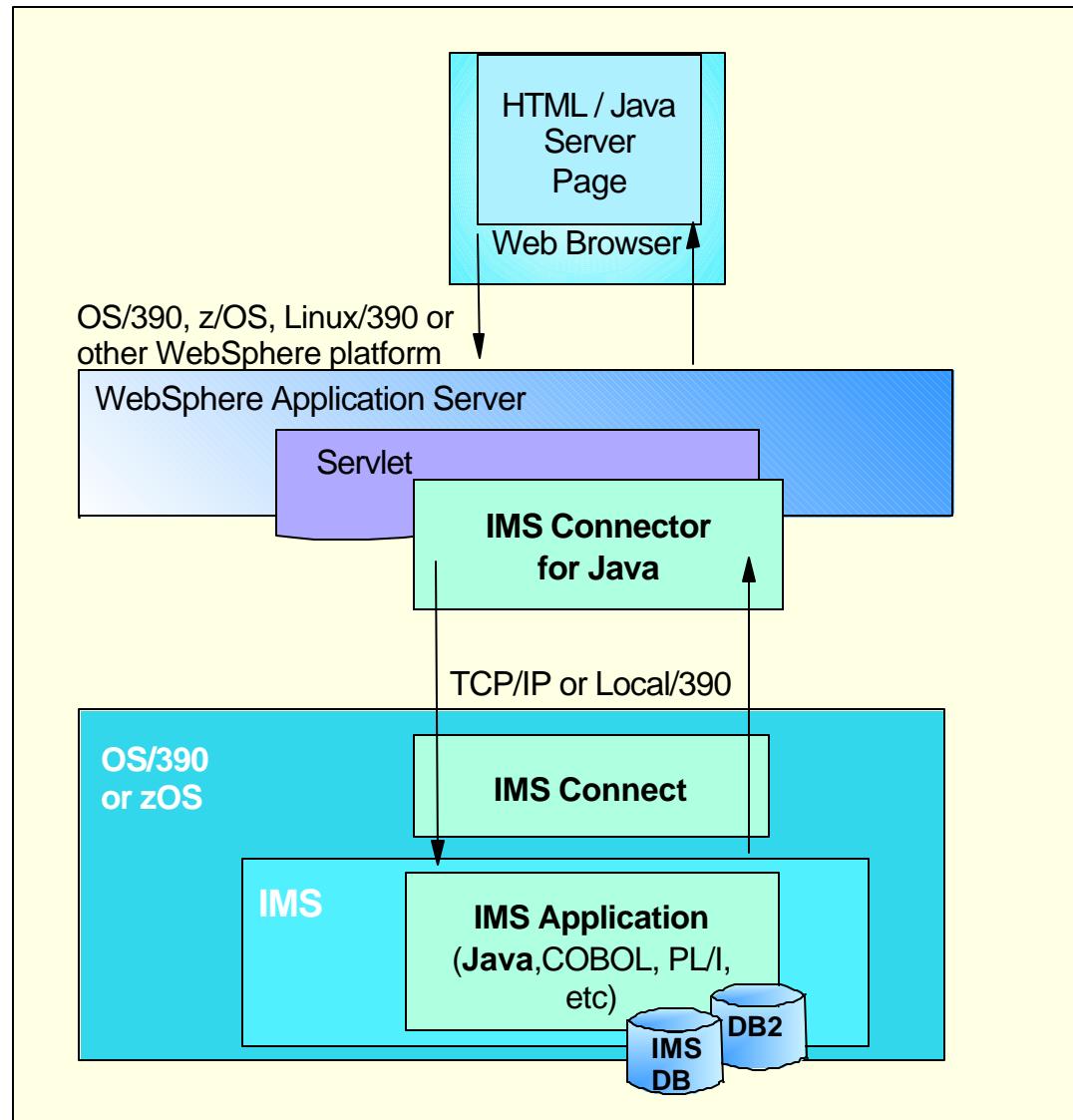
Merita Bank in Finland replaces SNA gateways by IMS Connect

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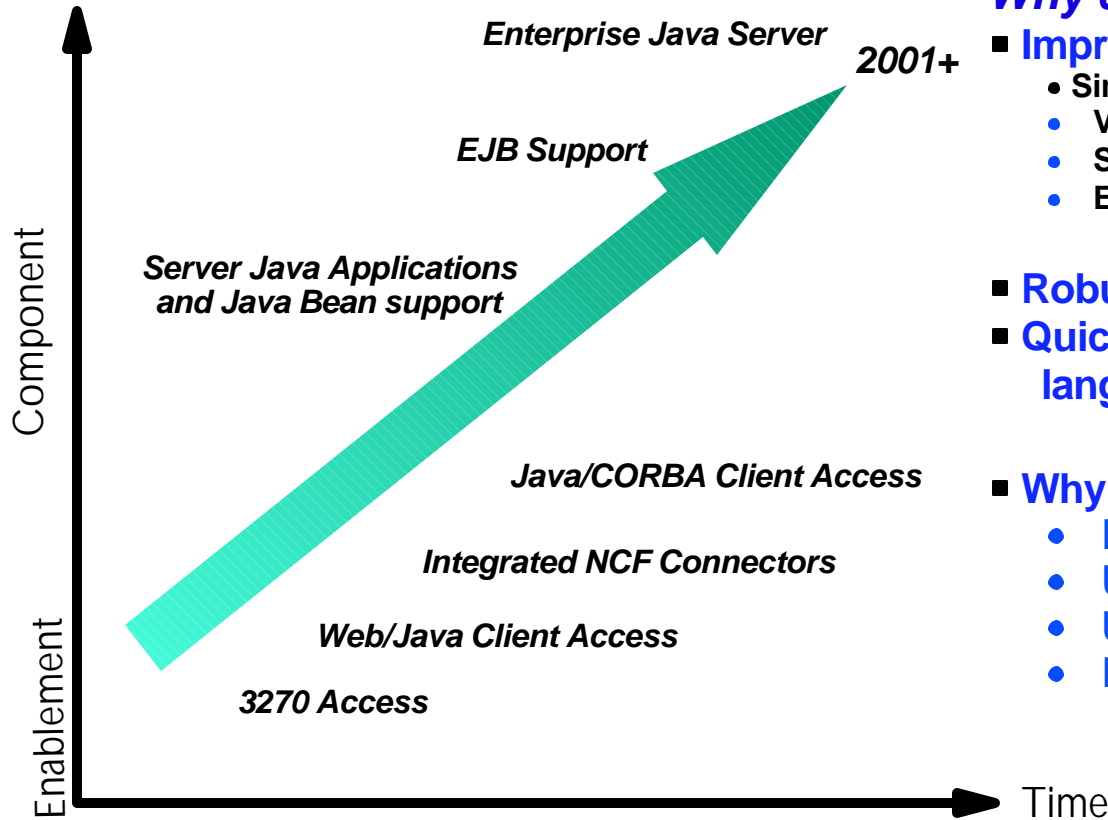
    -- Randall Mowen, Director of Data Management & e-business Architecture

IMS Java Roadmap

Enterprise Java Server

2001+

EJB Support

Component

Server Java Applications
and Java Bean support

Java/CORBA Client Access

Integrated NCF Connectors

Web/Java Client Access

Enablement

3270 Access

Time

Why Java?

- **Improves AD Productivity**
  - Simpler and faster to program
  - Visual AD tools
  - Strong component model (OO)
  - Easier application deployment   and manageability
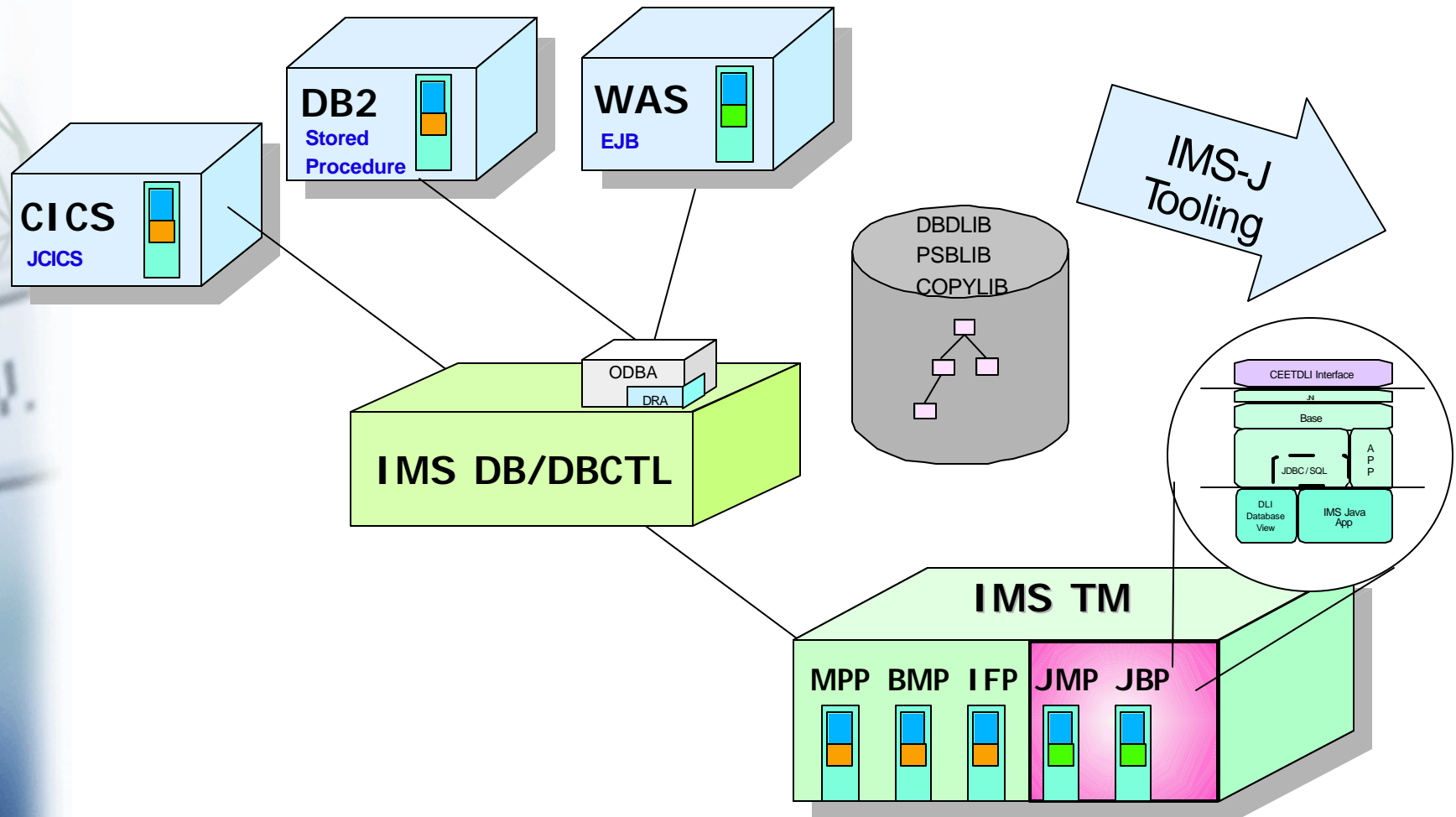- **Robust, Portable, Ubiquitous**
- **Quickly becoming the preferred language**

- **Why in IMS?**
  - Exploit existing infrastructure
  - Use new available skills
  - Use newer AD Tools
  - Improve application programmer productivity

The Big Picture:
JDBC Access to IMS Data

DB2
Stored
Procedure

WAS
EJB

CICS
JCICS

IMS-J Tooling

DBDLIB
PSBLIB
COPYLIB

ODBA
DRA

IMS DB/DBCTL

CEETDLI Interface

JNI

Base

JDBC / SQL

A P P

DLI Database View

IMS Java App

IMS TM

MPP BMP IFP JMP JBP

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

e-business

IBM

IBM's XML Focus and Strategy

IBM Focus is on Business Integration

- ► Applications
    - ▪ Transactional and Collaborative
- ► Business processes (intra-, inter-enterprise)
- ► People — universal access anywhere, anytime
- ► Data — personalized information
- ► Heterogeneous environments/platforms

IMS Strategy is

- ► To deliver XML-based solutions that will help our customers and business partners build, deploy, and manage e-business applications.

IBM is

- ► Ensuring strong, open standards
- ► Enabling our entire product line for XML
- ► Building e-business solutions

XML and IMS for Transparent Application Integration

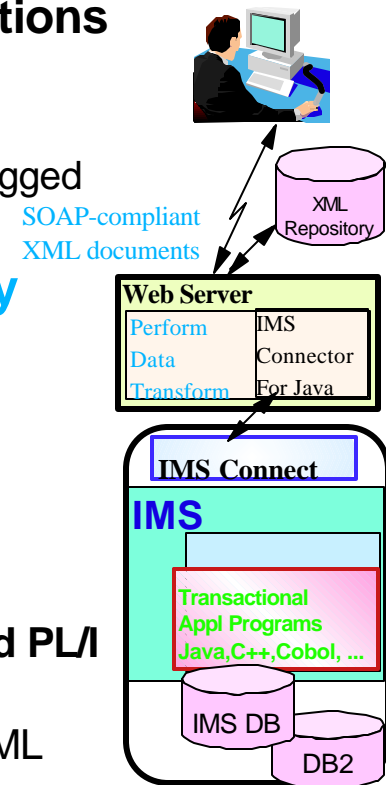■ **Processing XML Documents in New IMS Applications Today**

- **Customers can write IMS C++ or IMS Java applications using the XML Toolkit for OS/390**
  - Tran code still must be EBCDIC, rest of data can be XML
  - Java/C++ 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

■ **XML and IMS Requirements**

- **Processing XML Documents in new/changed IMS Cobol and PL/I applications using the XML Toolkit for OS/390**
- Supporting SOAP(Simple Object Access Protocol)-compliant XML documents for Industry tooling and evolution to Web Services
- Transforming XML for existing IMS applications using Web Server and/or IMS Connect
- Using XML as an IMS Data Definition language

SOAP-compliant
XML documents

XML Repository

Web Server
Perform Data Transform | IMS Connector For Java

IMS Connect

IMS

Transactional Appl Programs Java,C++,Cobol, ...

IMS DB

DB2

US Utility company

Building a cost-effective e-business Infrastructure with Java and XML

Challenge: Utility industry deregulation required differentiation by providing proliferating information to energy traders, providers, producers, consumers (e.g.. viewing account history online for reconciliation)

Solution: Establish generic e-business infrastructure based on thin-client architecture using XML and transaction processing between Internet client and existing IMS system through EJB, a Web Application Server Java Servlet, and MQSeries

Benefits: Enable device independence with respect to the client and to leverage its existing investment in legacy IMS transaction systems

e-business

IBM

IMS Initiatives for e-business

- Complete industry-strength access to IMS via standards-based connectors
- Support Java applications on OS/390 and z/OS
  - Java transaction programs in IMS regions
  - Other OS/390, z/OS and non-390 Java applications accessing IMS DB data more directly
- Leverage OS/390 and z/OS ORB/EJB server to provide distributed object capability
- Exploit XML as a means of data/metadata interchange

Complete Industry Strength Access/Usage of IMS Transactions/Data

- Provide a common client programming model to access IMS transactions and data via many server environments: WebSphere, DB2 Stored Procedures, CICS, MQSeries

  ▶ Connector Architecture (CCF and J2EE)

- Support different protocols or transports for standards-based connectors with proper security, authority, and integrity

- Expand XML exploitation for existing and new IMS applications and data with additional parsing/transformation

- Support non-Java environments

- Continually improving performance/functionality

End-to-End Performance

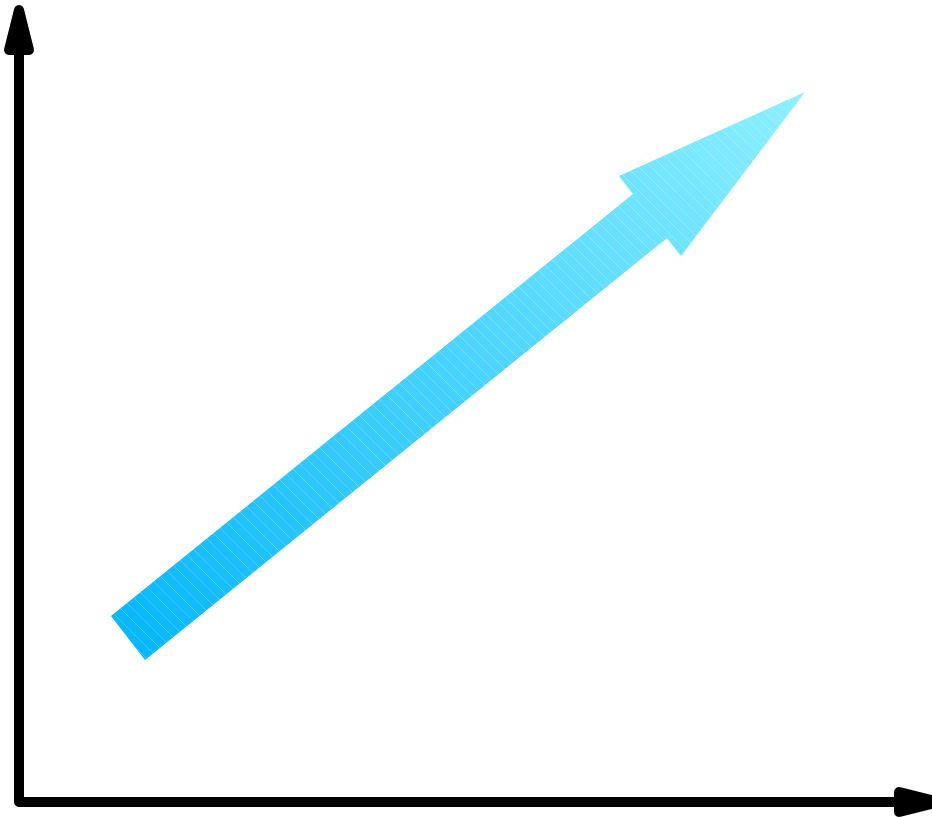**e-business**

Transactions access per second

IMS Serving mission-critical applications and data access across the enterprise and over the internet

Achieved thru enhancements across the IBM product line

IBM

IMS Connector Information

- **IMS Information available at http://www.ibm.com/ims**

- **IMS Redbooks available at http://www.redbook.ibm.com**
  - SG24-6123 IMS Version 7 and Java Application Programming
  - SG24-6514 IMS e-business Connectors
  - SG24-6285 Application Integration using XML on z/OS and OS/390

- **IMS Education available at http://ww.ibm.com/services/learning/us**

- **IMS Consulting Services for migration and skills transfer, and Customized Offerings available at dmservices@us.ibm.com**

Summary

IMS provides the tools for integrated e-business solutions for the Internet and Java with

- Consistency
- Flexibility
- High performance

What IBM is trying to do is

- Deliver the capability that our customers *want and need*
- Make it *simpler and more integrated*
- Continue the focus on software that *lasts forever*
- **Help our cust**omers *put it all together*

IMS Serving the World Wide Web