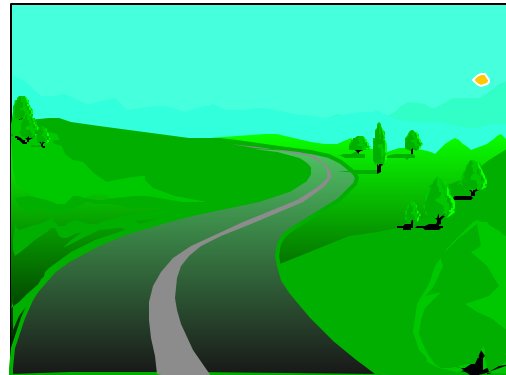




e-business

WebSphere & CICS/TS 2.2 Integration

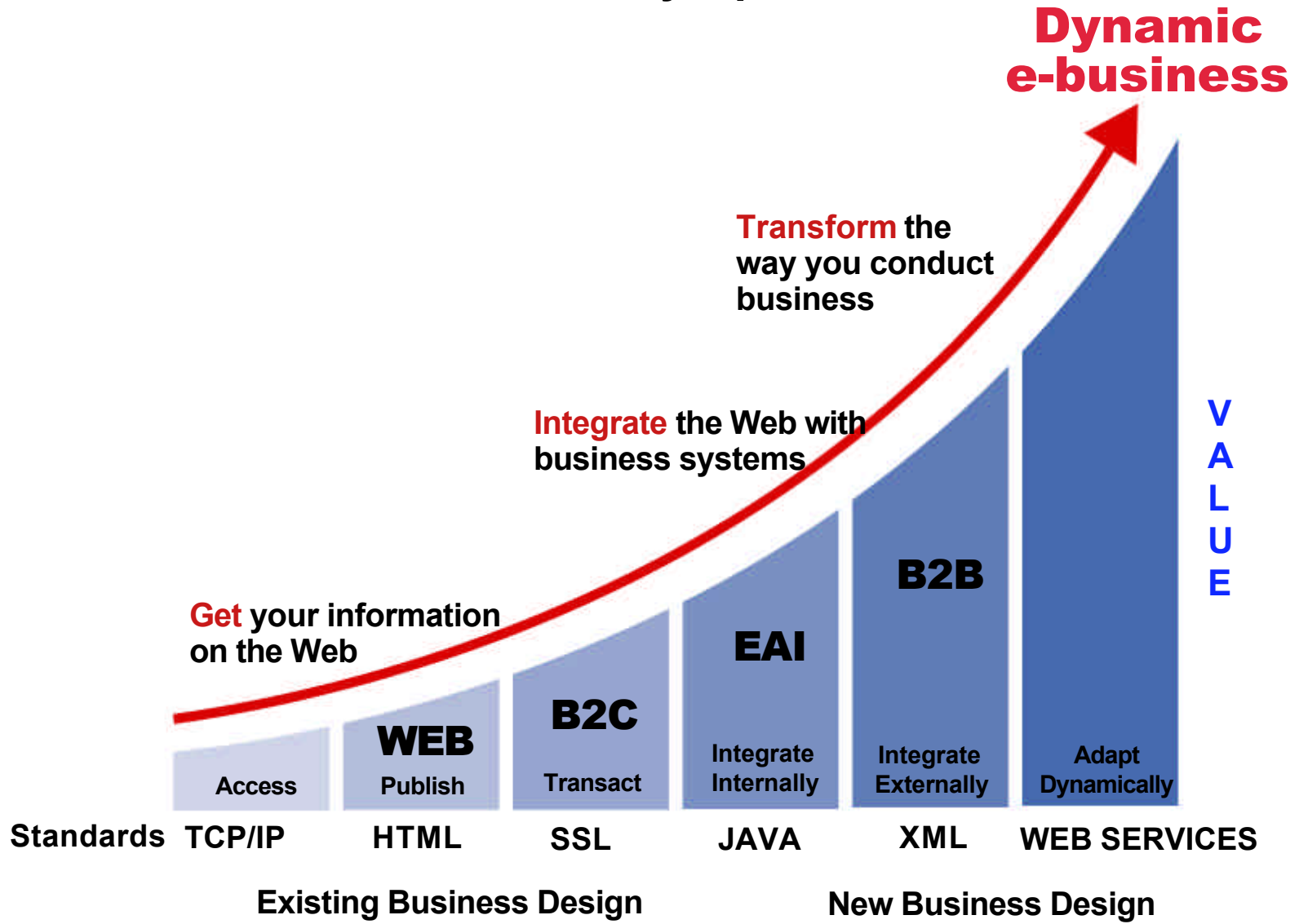


The IBM logo, consisting of the letters 'IBM' in a bold, white, sans-serif font, positioned at the bottom of a vertical blue gradient bar on the left side of the slide.

Daniel Raisch
raisch@br.ibm.com

Evolution of e-business:

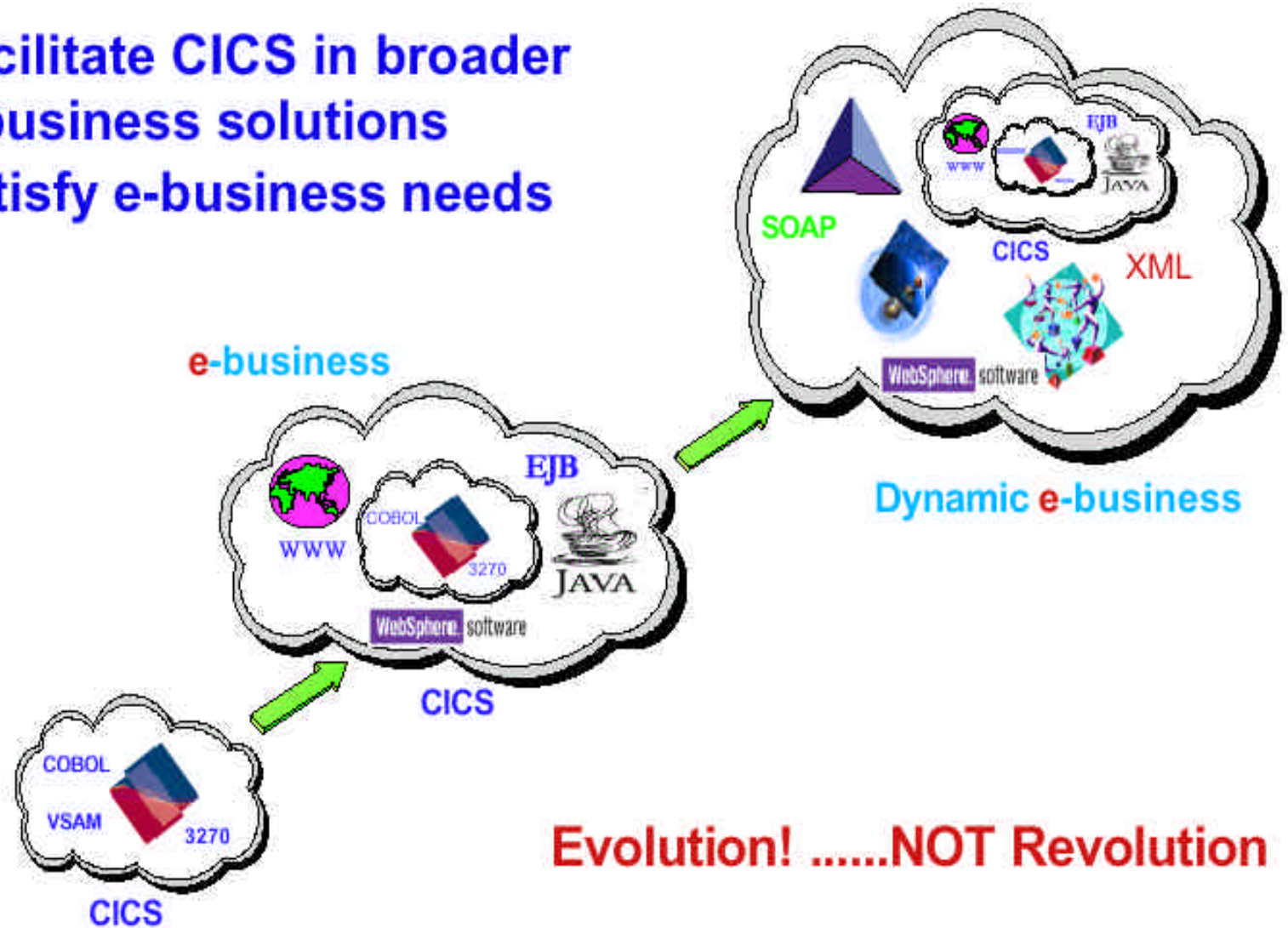
Business Value Driven by Open Standards



CICS

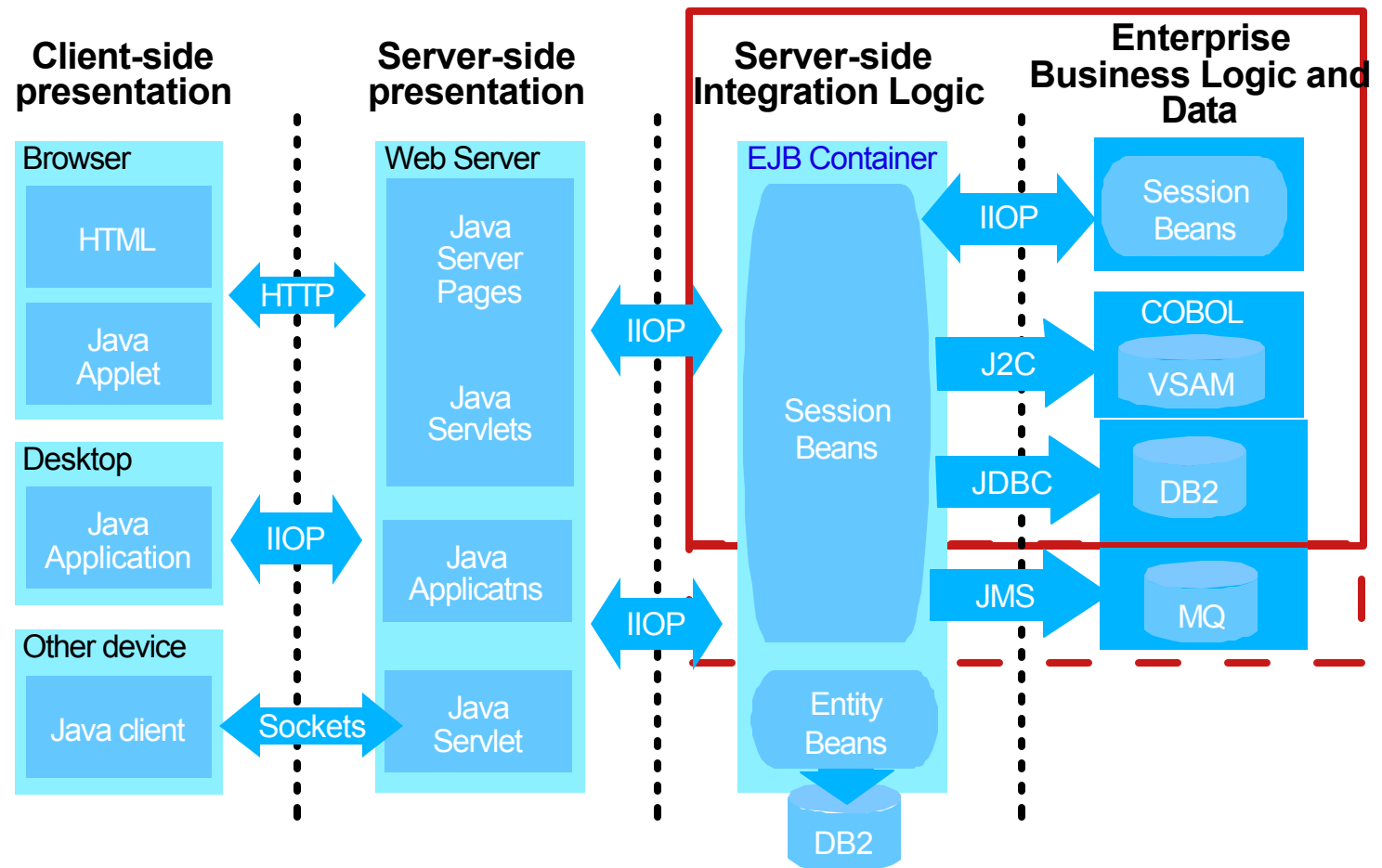
Directions

- Facilitate CICS in broader e-business solutions
- Satisfy e-business needs

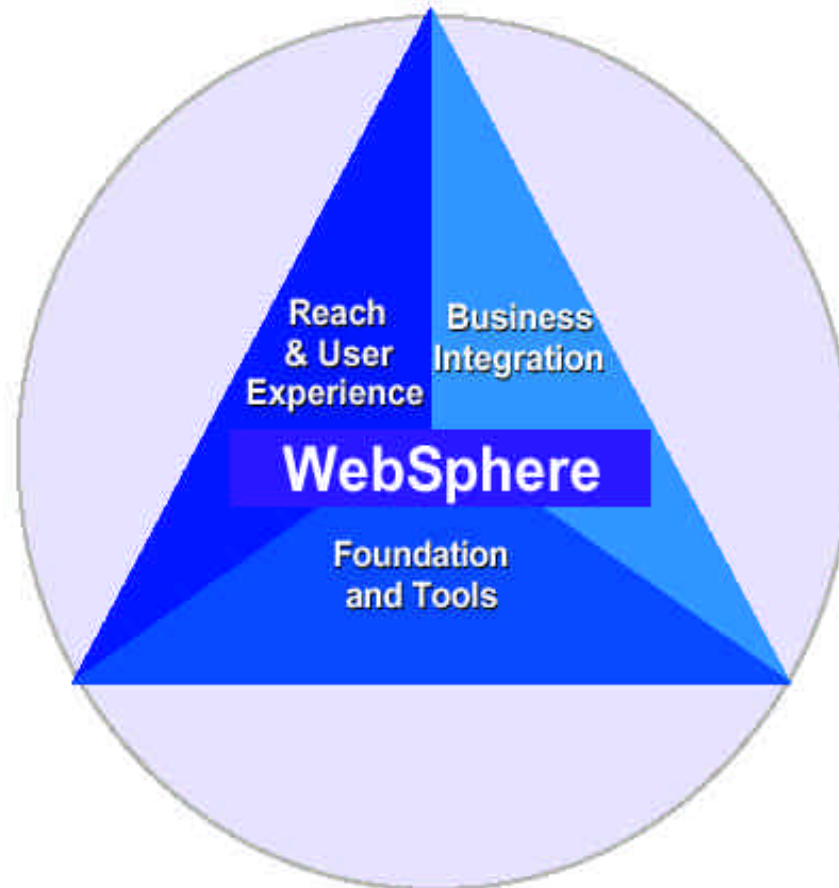


IBM's Framework for e-business

... CICS provides appropriate elements of J2EE



Where e-business meets big business



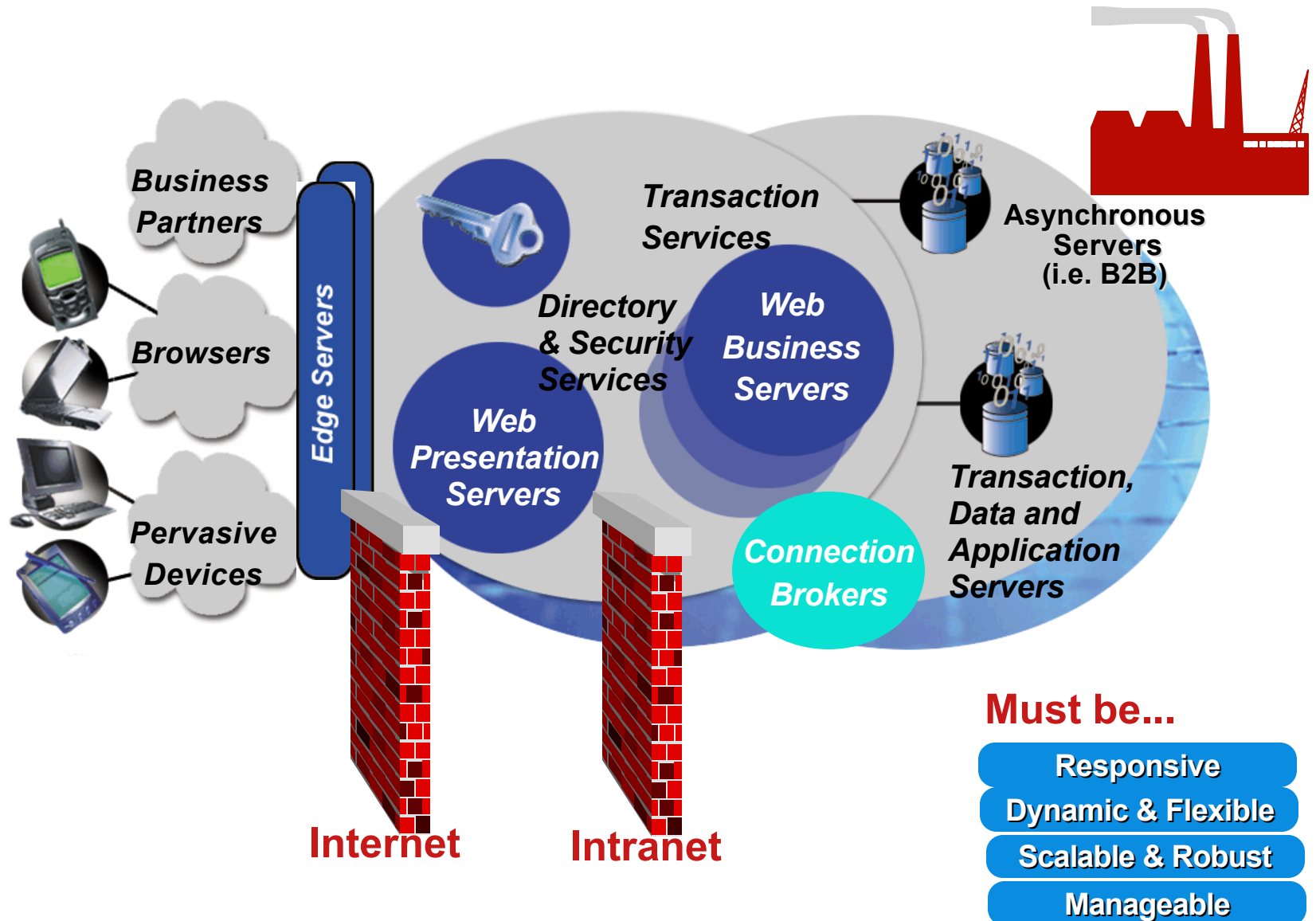
Enterprise JavaBeans

Transaction Servers and Tools

CICS

e-business Infrastructure

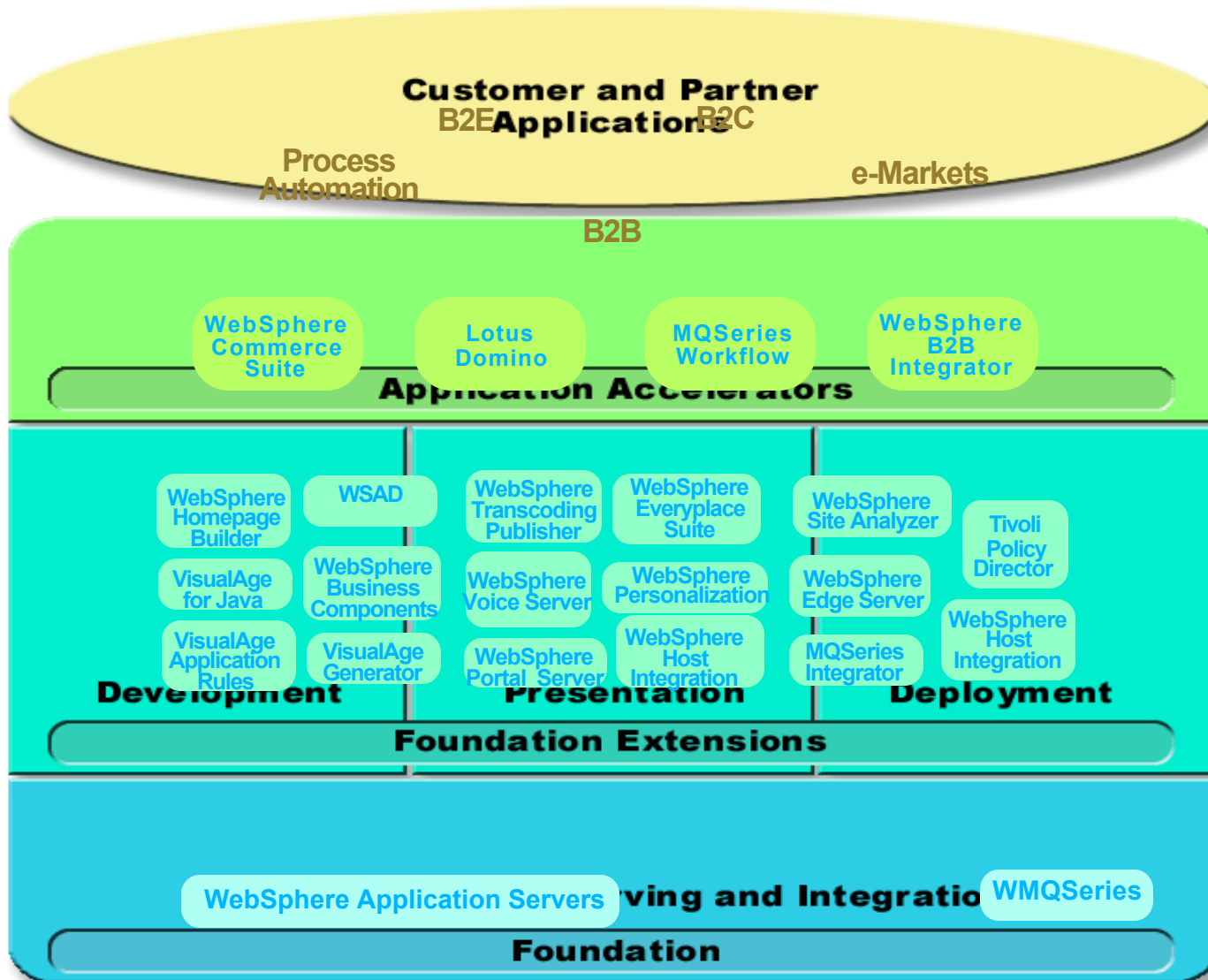
b



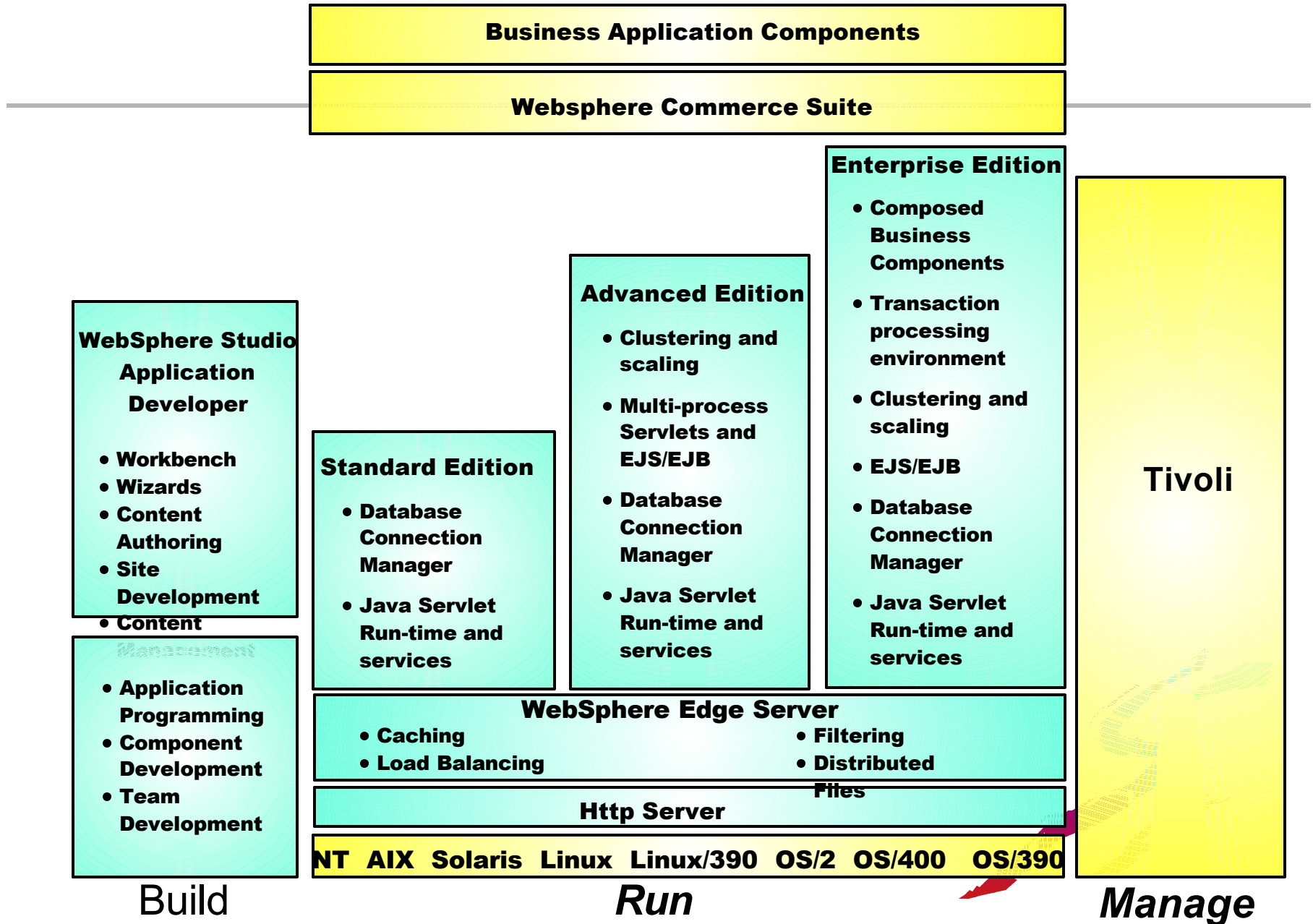


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WebSphere software platform



WebSphere Product Family





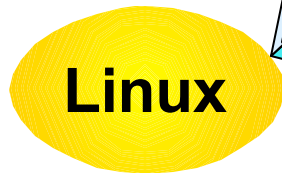
e-business

zSeries Options for WebSphere



WAS Advanced Edition V4.0

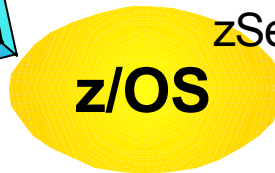
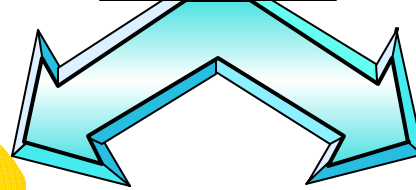
Common code base
Passive benefits from zSeries
QOS



*Portability of applications
and skills
"Commonality"*



IBM @server zSeries



WAS for z/OS and OS/390 V4.0.1

Unique code base
Active exploitation of
zSeries-z/OS QOS

*Highest qualities of service for
mission-critical applications
"Heavy Lifting"*



*Linux and z/OS can work together on a zSeries
server, providing opportunities for end-to-end
WebSphere infrastructure consolidation*





e-business

zOS series WebSphere differentiation



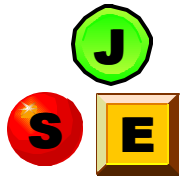
Software
(z/OS only)



Deep system integration
for J2EE workloads



Service Level Agreement
Management: Guaranteed,
consistent results

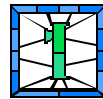


**J2EE
Middleware**

Unix
Linux
Windows
etc.

RISC/Intel

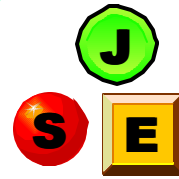
Hardware
(Linux and z/OS)



Self-healing attributes:
Helping maintain continuous
service

Workload consolidation:
Managing cost of servers

Self-configuring attributes:
Responding to changing
business conditions



**WebSphere
AE**

Linux



@serverZ

@serverZ



ZOS/ES UNIX/ETERNALITY. virtual servers

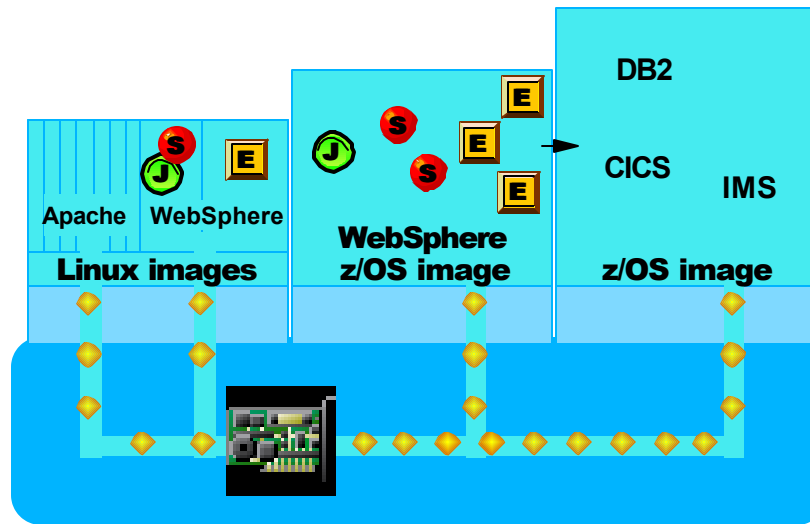


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A multitude of real servers averaging one application per OS image, or ...

... a multitude of virtual servers on a few real systems where each virtual server can run multiple applications in a single OS image



WebSphere applications can be consolidated on a smaller number of physical systems, reducing the costs associated with managing and maintaining huge server farms

Self-configuring attributes reduce the complexity involved in balancing resources and reacting to unknown and uneven e-business patterns

Self-healing attributes virtually eliminate application downtime due to hardware failure

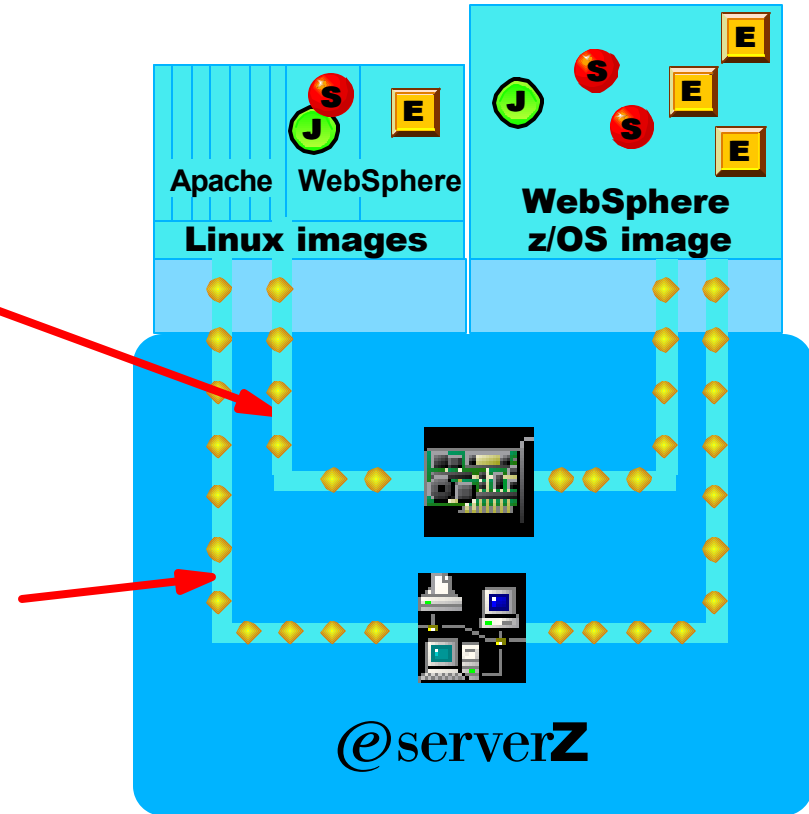




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zSeries networking across LPARs

- "Internal" TCP/IP networking
 - HiperSockets provides in-memory LPAR-to-LPAR communication
 - Appears as ordinary network interface
 - Does not use CPU cache - no effect on other activity
- "External" TCP/IP networking
 - OSA-Express provides direct network attachment
 - Supports Gigabit Ethernet, Fast Ethernet or 155 ATM
 - Can be shared across LPARs
 - No need for routers



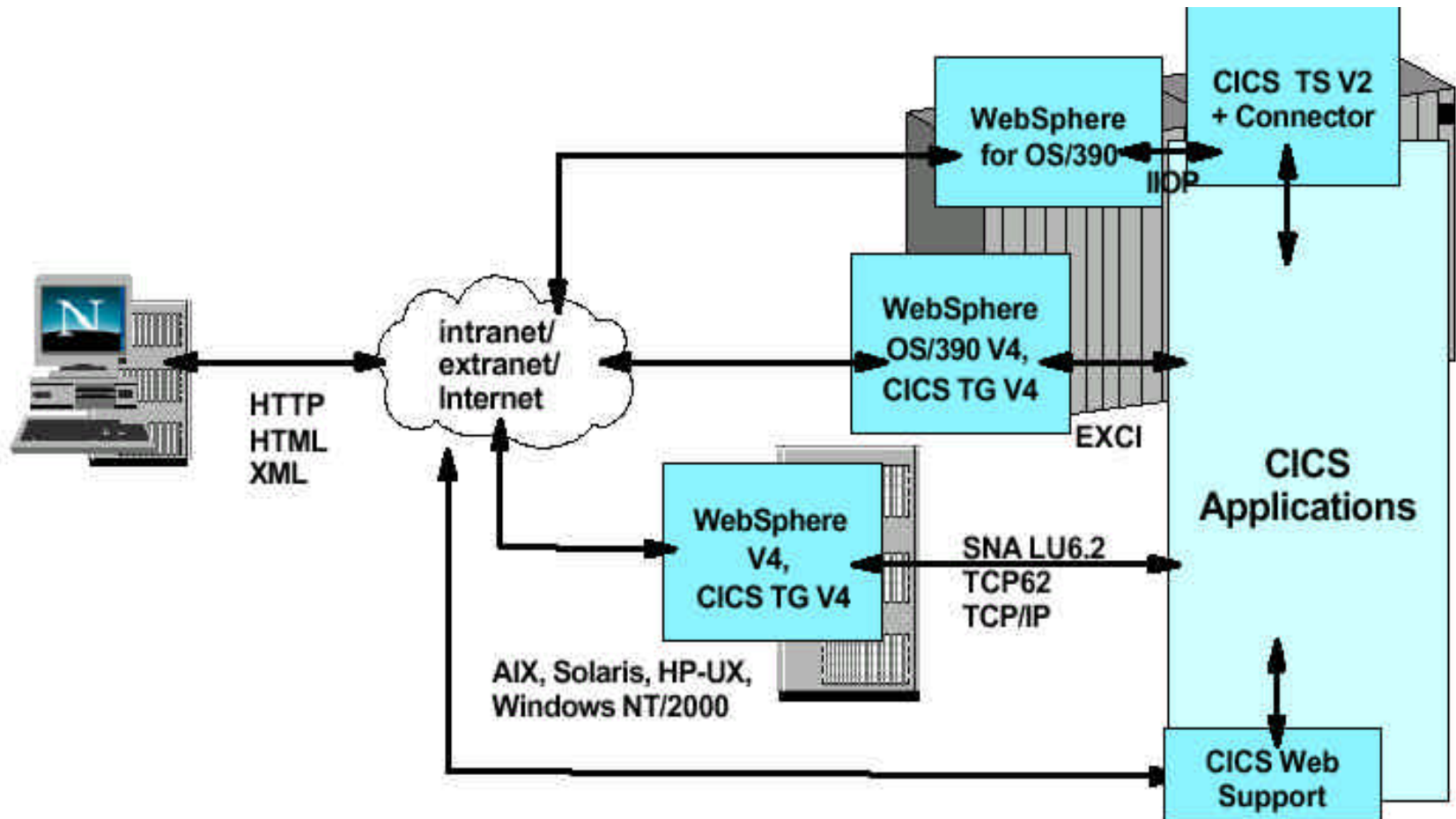
HiperSockets virtually eliminates network latency, allowing multi-tier logical WebSphere solutions to be deployed in a single physical server

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Web to CICS Connections





e-business

WAS z/OS V4.0.1



Java Compatible™
Enterprise Edition

Technology	Description	z/OS Delivery
Software Developer's Kit (SDK)	Java Virtual Machine base, with Java classes and basic routines required to execute Java applications. Java 2 Platform, Standard Edition (J2SE).	J2SE 1.3 V4
Servlets and Java Server Pages	Server applications that execute within a web application server that supports dynamic HTML generation.	Servlet 2.2, JSP 1.1 V4
Enterprise JavaBean™	Server transactional components that are reusable and provide portability across applications servers while implementing transaction services.	EJB 1.1 V4
Java Transaction Service / JTA	A distributed transaction management service and associated API based on CORBA's Object Transaction Service.	JTS/JTA 1.0 V4
Java Database Connectivity	JDBC™ database access API provides uniform access to relational databases such as DB2®, Oracle, Sybase, and SQL Server.	JDBC 2.1 Core, 2.0 Ext DB2/390 V7
Java Messaging Service	JMS supports asynchronous communications using either a reliable queuing or publish/subscribe programming model.	JMS 1.0 V4.0.1, MQ, MQSI
Java Naming & Directory Interface	JNDI provides access to naming and directory services such as LDAP, Novell Directory Services, and CosNaming.	JNDI 1.2 V4
Remote Method Invocation / Internet Inter-ORB Protocol	RMI creates remote interfaces for Java to Java application communications. CORBA IIOP used for ORB (Object Request Broker) communications.	RMI-IIOP 1.0 V4
Java Interface Definition Language	Creates remote interfaces to support Java-to-CORBA application communications. Includes an IDL-to-Java compiler and an ORB.	JIDL V4
JavaMail	Provides a protocol-independent framework to build mail applications. Requires the JavaBeans Application Framework API.	JavaMail 1.1 V4.0.1
JavaBeans Application Framework	JAF provides standard services to determine the type of an arbitrary piece of data and activate an appropriate bean component to manipulate the data.	JAF 1.0 V4.0.1
Java Connectors	Provides schema mapping and persistence management to underlying procedural data systems -- including IMS™, CICS®, etc.	Beta for CICS & IMS Internet delivery



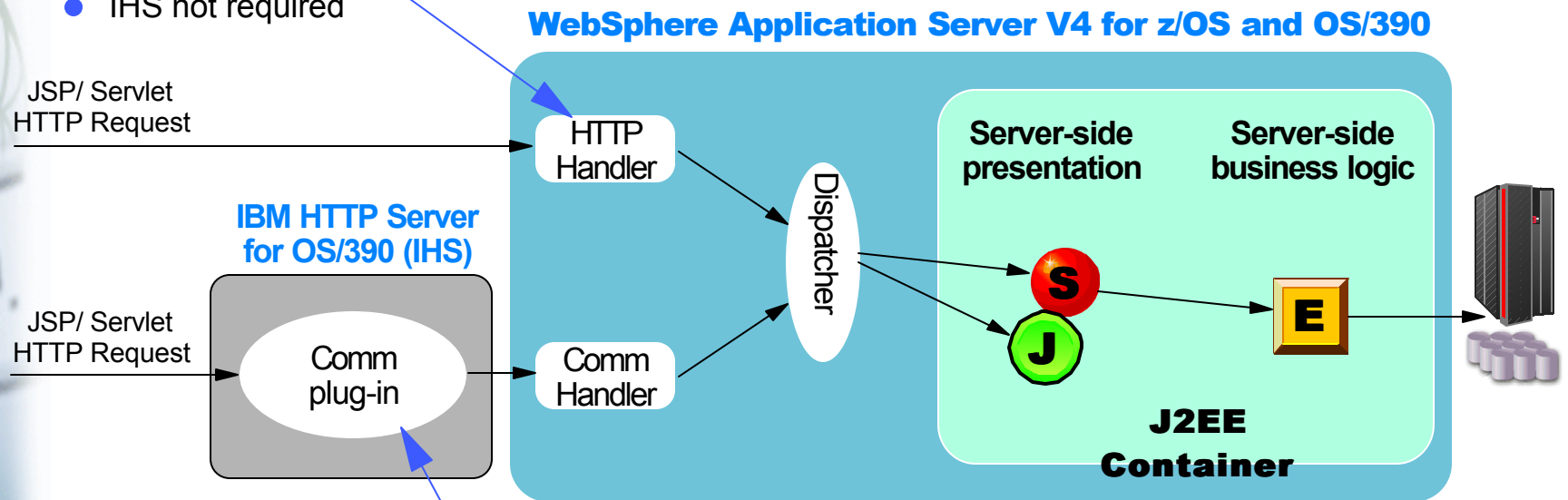
WAS V4.01 for z/OS J2EE "scorecard"

J2EE	WAS V4.0 for z/OS
JDK (J2SE)	1.3
EJB	1.1
Servlet	2.2
JSP	1.1
JTS/JTA	1.0 (supports distributed xactions)
JMS	1.0
JDBC	2.0
JNDI	1.2
RMI/IIOP	1.0
JavaMail	To be ported from reference
J-IDL	yes
JAF	To be ported from reference
J2C	Subset; CCF support consistent with family

WAS z/OS V4.0.1 standard configuration

■ "Fast path"

- Protocol handler included within WAS
- IHS not required



■ Full Web serving capability

- IHS configured as protocol handler

Installation requires full adherence to V4.0.1 software pre-requisites

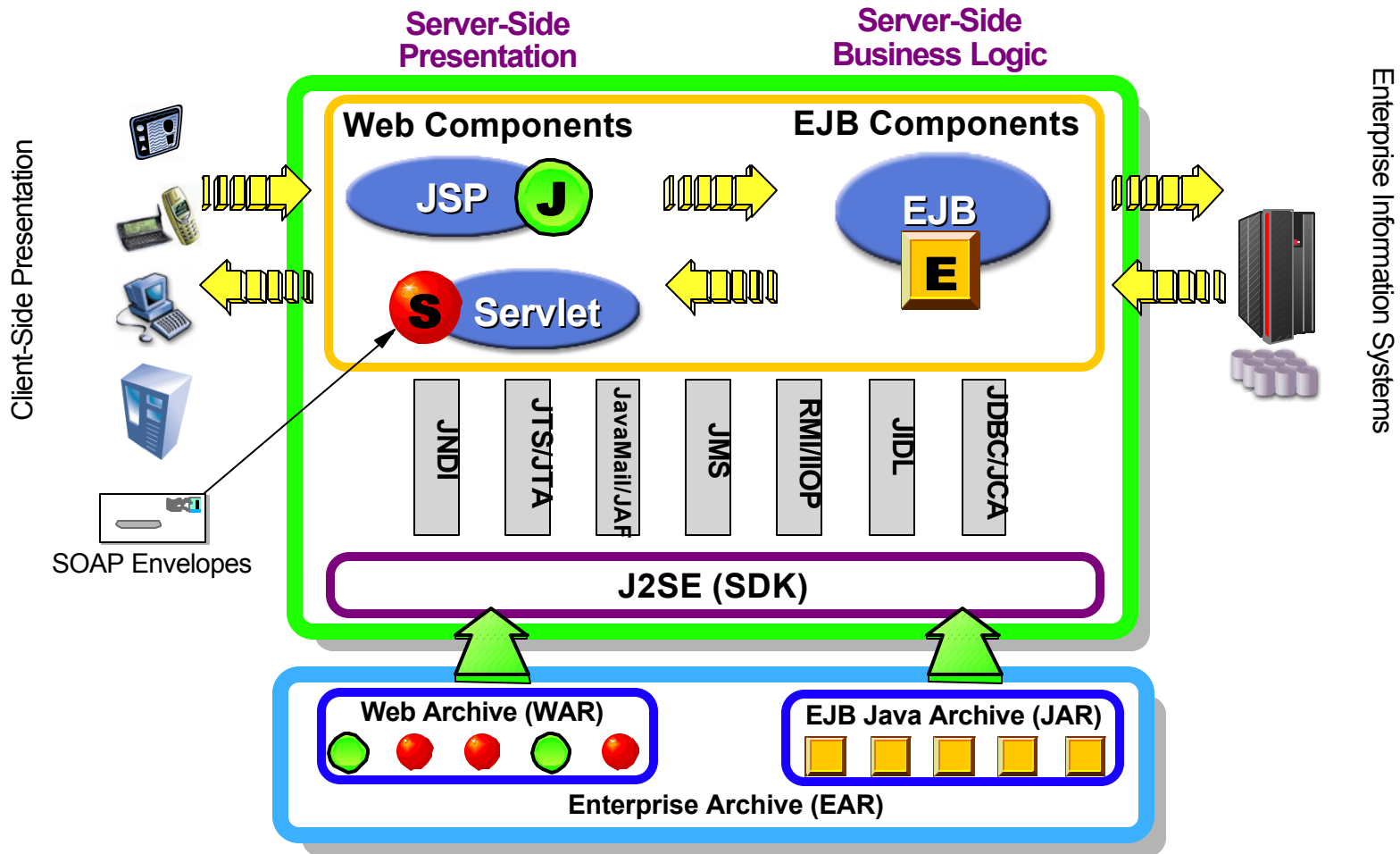
Performance of the HTTP handler will meet or exceed SE 3.5 ... for now, V4 applications requiring advanced HTTP capabilities (e.g. SSL, FRCA) must continue to use the IHS communications plug-in

Functionality of the HTTP handler will be increased over time



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WAS V4.0.1 FOR z/OS and OS/390



WAS V4.0.1 for z/OS and OS/390 delivers full support for the Java2 Enterprise Edition (J2EE) 1.2 specification as verified by the J2EE Compatibility Test Suite.

WAS V4.0.1 also delivers IBM's initial support for Web Services technologies.

Customers who are not ready at this point for the full functionality of the J2EE programming model can opt for a more basic configuration supporting only JSPs and servlets ...





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WAS 4.0.1 alternate configuration

WebSphere Application Server V4 for z/OS and OS/390

JSP/ Servlet
HTTP Request

IBM HTTP Server
for OS/390 (IHS)

JSP/ Servlet
HTTP Request

Comm
plug-in

Alt Config

HTTP Request

J S
JSP/Servlet
plug-in

HTTP
Handler

Dispatcher

Comm
Handler

Server-side
presentation

Server-side
business logic

S
J

E

J2EE
Container

■ Alternate Configuration Option

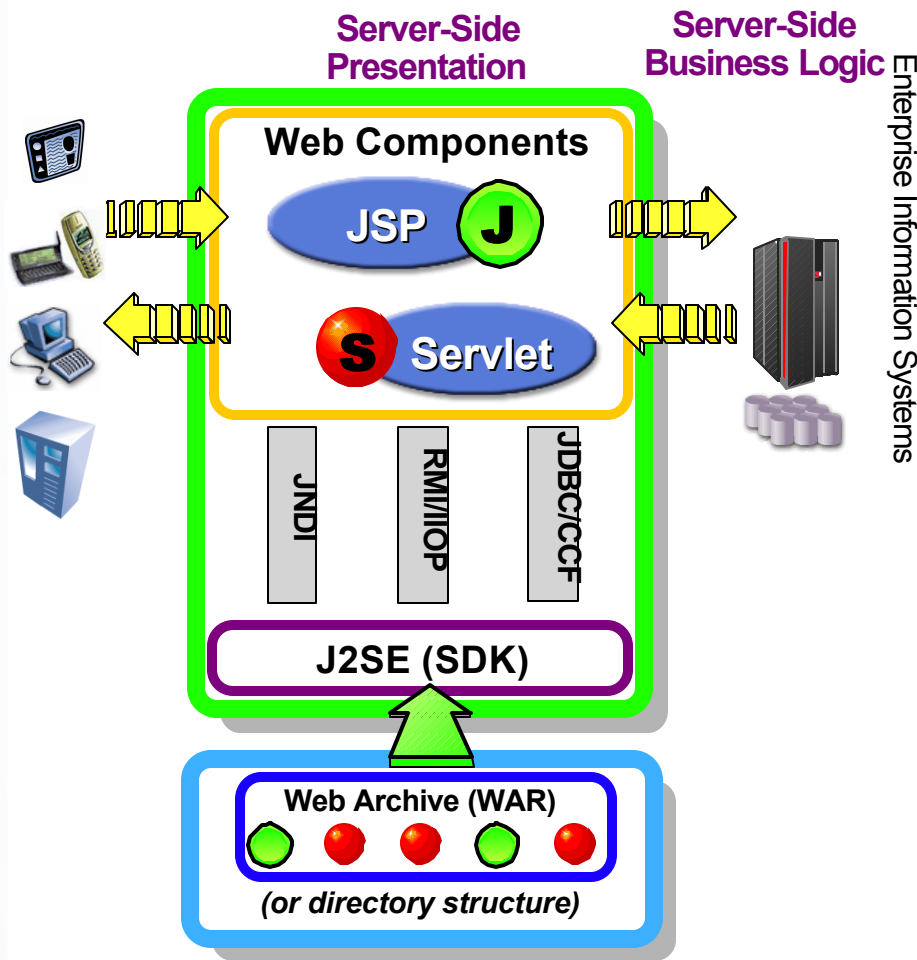
- Web components run in the IHS process
- No EJB support ... but servlets can access EJBs in the V4 container via IIOP

Installation requires small subset of V4.0.1 software pre-requisites

Alternate and Standard configurations can coexist, easing migration to a full J2EE application model



WAS V4.0.1 for z/OS and OS/390



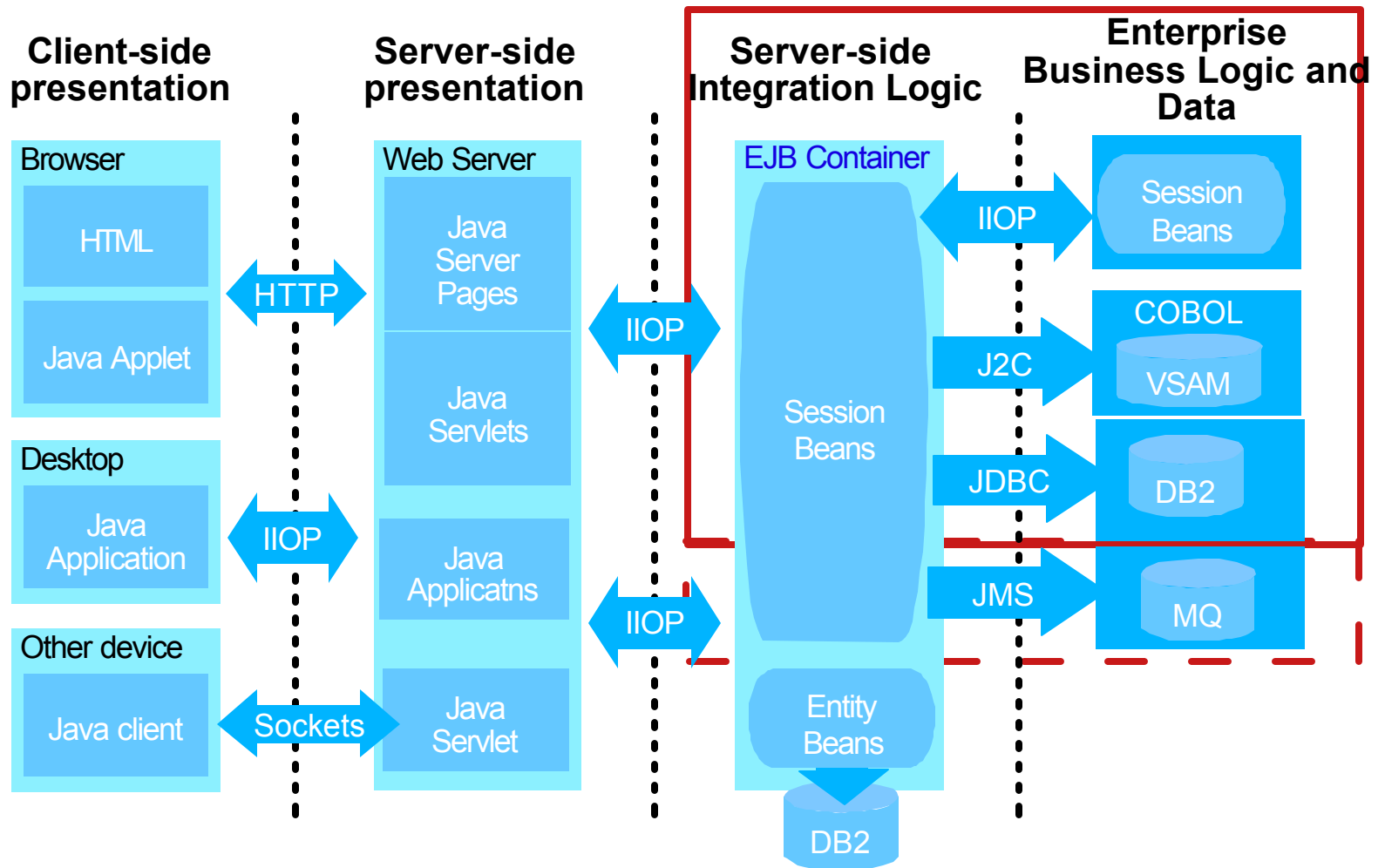
- V4.0.1 includes an alternate configuration option designed to provide even faster installation and time to market productivity for customers who are not yet planning to utilize capabilities of the full J2EE 1.2 programming model.
- This option offers a subset of J2EE function and features a minimal set of prerequisites to further ease initial deployment of Java applications, providing an excellent migration path to full J2EE exploitation.
- Customers can easily grow their applications to utilize the full transactional and administrative capabilities of V4.0.1 when their business demands it.



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IBM's Framework for e-business

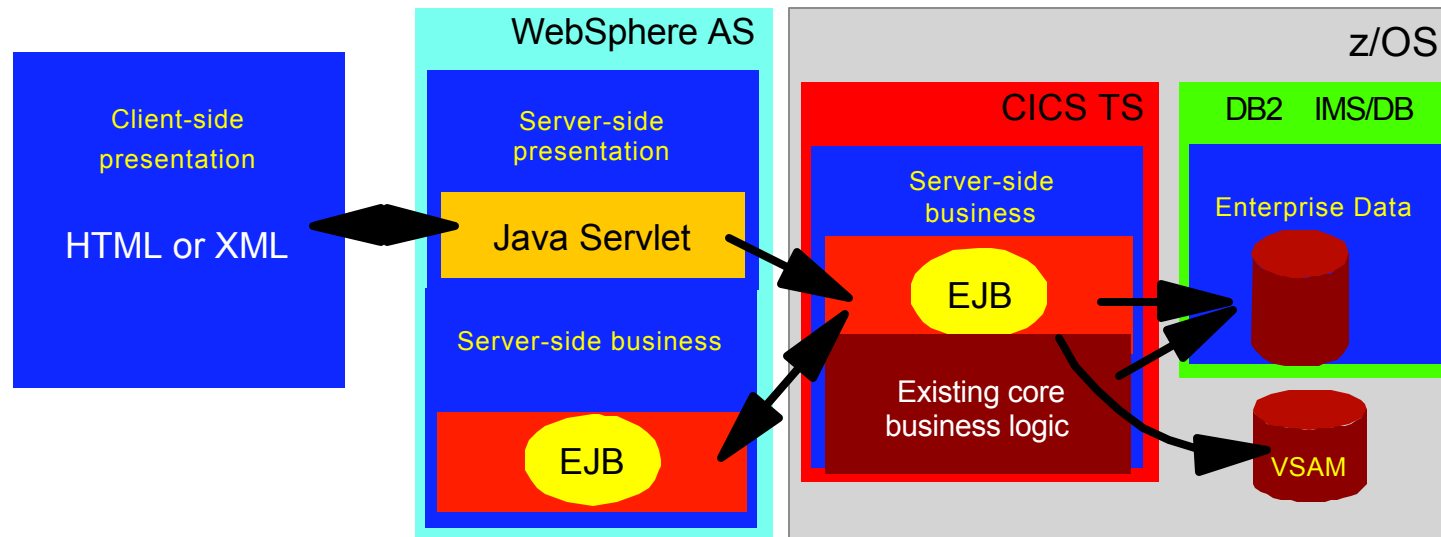
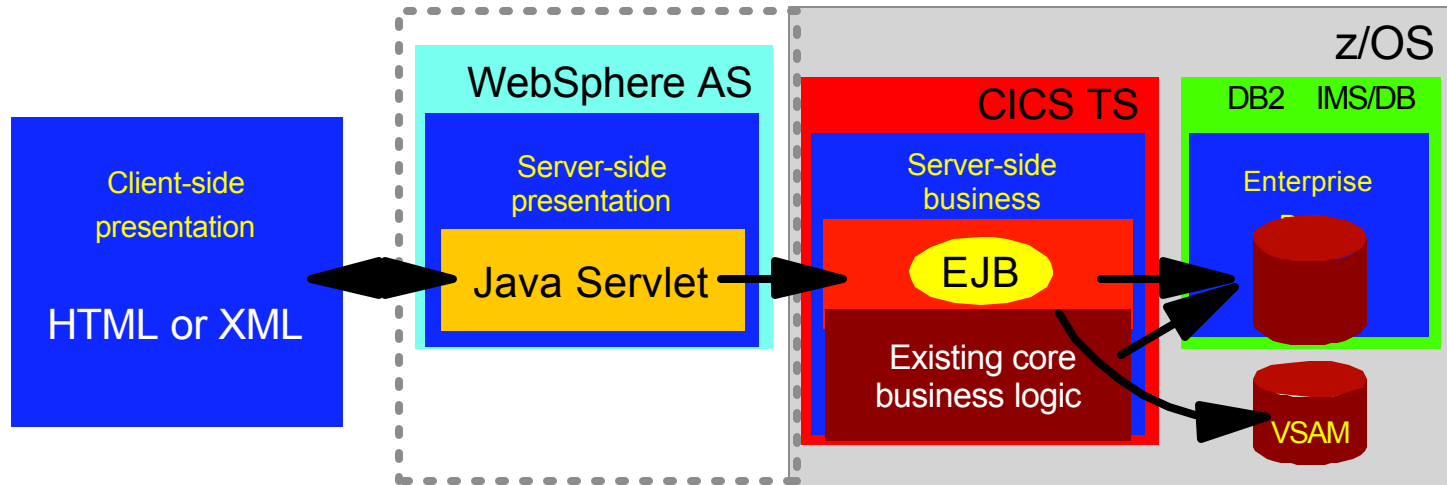
... CICS provides appropriate elements of J2EE





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Integration with WebSphere AS



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Why do EJBs in CICS make sense?

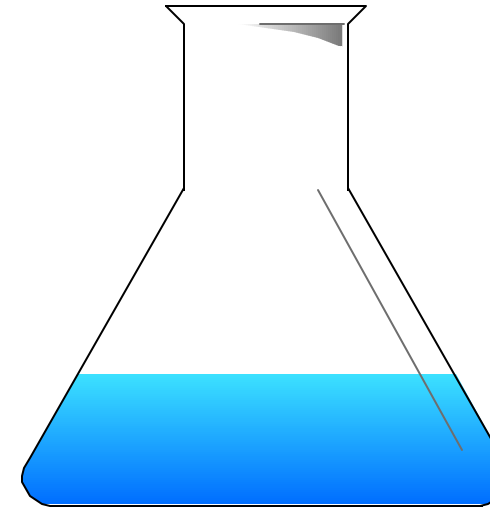
- **Why is Enterprise Java Bean model an obvious progression in the CICS programming model?**
 - Benefits of Enterprise Java Beans match benefits given by CICS environment
 - Hides the complexities of transactions, concurrency, security from the programmer
 - Allows deployment time configuration
 - Supports the scalability and robustness needs of real e-business
- **Enterprise Java Beans model exposes all of CICS existing strengths via open Java Enterprise APIs**
 - CICS takes its appropriate place in the Application Framework for e-business
 - Adds CICS to the value proposition of EJBs on z/OS



e-business

Container Concepts...

- Environment within which components operate, receive services
- Container provides: Quality of services
 - Persistence
 - Security
 - Concurrency
 - Transactions
 - Lifecycle
 - Exception Handling
- Containers provide J* interfaces (JNDI, JDBC, JTA, ...)
 - To underlying resource managers



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CICS Transaction Characteristics

A atomic

C consistency

I isolation

D durability

Persistence
Security
Concurrency
Transactions
Lifecycle
Exception Handling

CICS Transaction Server for z/OS V2.1 Enterprise Java Beans...

- **Enterprise Java Bean Types**
 - **Session**
 - Tied to the lifetime of a given client session
 - State is not recoverable, accessed resources are
 - Container or Bean managed Transactions
 - Stateless
 - Handle multiple requests from multiple clients
 - **Stateful**
 - Created for a specific client request
 - Communicates exclusively with a single client
 - Exists for the duration of a single client/server session
 - State information (data) can be kept between bean invocations

CICS Transaction Server for z/OS V2.1 Enterprise Java Beans...

- **Enterprise JavaBean Types...**
 - **Entity**
 - Encapsulates 'permanent' data. Usually represents a row in a database
 - Persistence
 - Container managed (CMP)
 - Bean managed (BMP)
 - Indexed by primary key
 - *Will not be hosted in CICS TS Version 2, but CICS session beans can invoke entity beans in other EJB Servers*

CICS Transaction Server for z/OS V2.1

Accessing Data from a CICS EJB

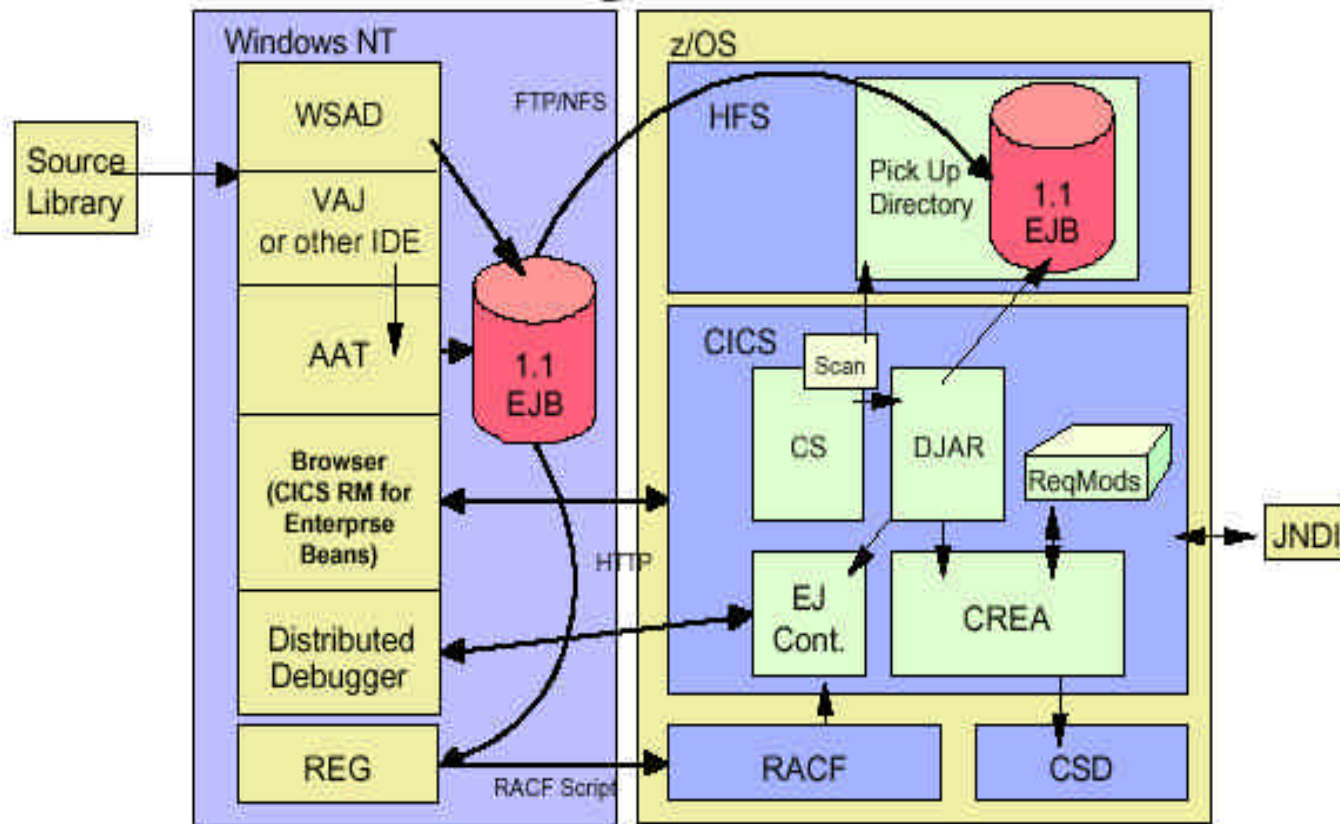
- **JDBC access to data**
 - DB2
 - Includes SQLJ
 - Uses CICS-DB2 adapter
 - IMS
 - Future enhancement to IMS V7
 - Uses CICS DBCTL adapter
- **Data Access Beans**
 - Encapsulate access to relational data
 - Simple local-only access
 - Supported by VisualAge for Java
- **JCICS API access to:**
 - VSAM files, Temporary Storage, Transient Data
- **Access to CICS programs via**
 - JCICS
 - CICS Connector

Java Naming and Directory Interface

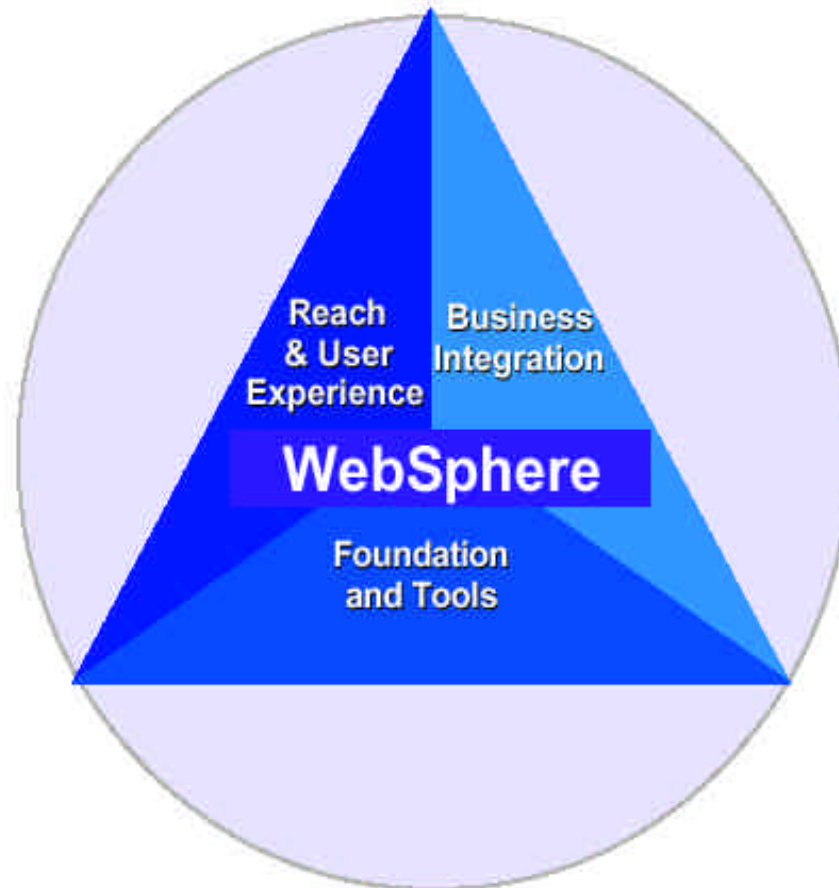
- **Enables client code to locate enterprise beans and stateless CORBA objects using a nameserver**
- **CICS supports the use of:**
 - **CORBA object services (COS) naming directory server**
 - WebSphere Application Server 4.0.1
 - *Advanced Single Server Edition*
 - *Advanced Edition*
 - **Lightweight Directory Access Protocol (LDAP) servers**
 - IBM SecureWay Security Server
 - *Provides an LDAP nameserver implementation*
 - OS/390 and z/OS
 - AIX, Windows, Sun, HP-UX 11

Deployment Tools

“The Big Picture”



Where e-business meets big business



Enterprise JavaBeans

Transaction Servers and Tools

CICS



e-business

Discussao !!!!

WebSphere + CICS em S/390

WebSphere nao/390 + CICS

DEMOS !!!!!!!

The IBM logo, consisting of the letters 'IBM' in a bold, sans-serif font, with horizontal lines through the letters. It is positioned at the bottom of a vertical sidebar on the left side of the slide.

IBM



e-business



Muito Obrigado !!!

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raisch@br.ibm.com