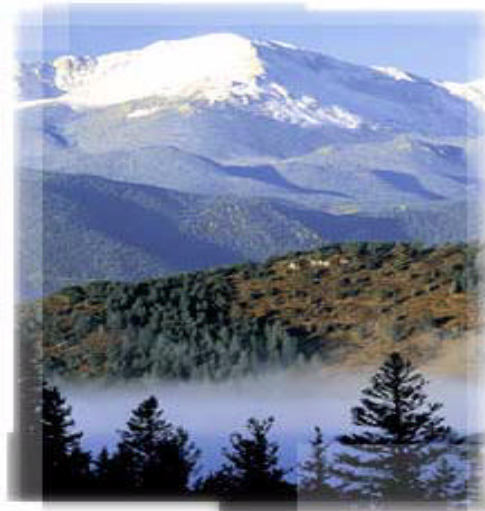# WAVV 2000

Colorado Springs, Co - October 6-10
VSE/ESA e-business Roadmap

G. M. (Jerry) Johnston
Senior Advisor
IBM Böblingen Laboratory
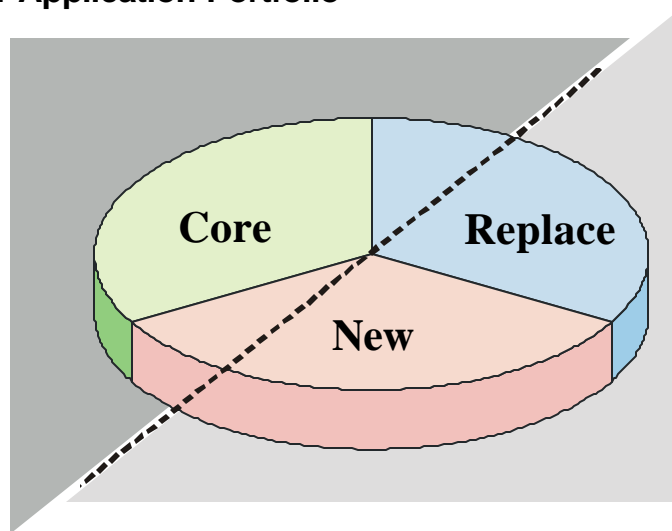**p798000@us.ibm.com**

Agenda

- **Background**
- e-business Roadmap
- Customer Options

S/390

Customer **Application Portfolio**

Core   **Replace**

New

Note: Pie arbitrarily divided into thirds. Percent of
applications in each category varies widely
among individual customers

S/390

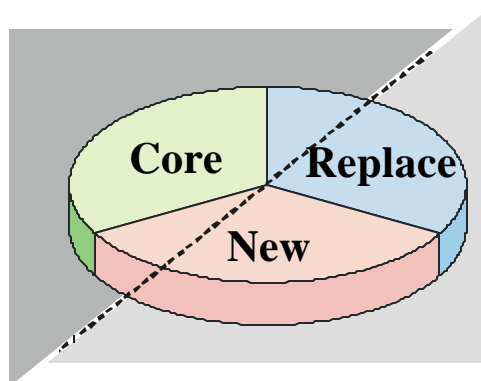## Underlying **Technology** (simplified)

-S/390
 CICS
 COBOL
 VSAM
 3270 interface

-Platform Specific
 'Client/Server'
 C or C++
 Relational
 'GUI' interface

Core   **Replace**

New

-Almost Any Platform
 WebSphere
 Java
 Relational
 Std Browser-based interface

S/390

1999 Survey **Results**

- What other Platforms are Currently Installed (not counting VM)?
  - ► 100%   Windows NT
  - ► 100%   AIX/Linux/Other Unix
  - ► further back in the pack
    - − 60%   Novell
    - − 25%   AS/400
    - − 70%   all other

> We found an average of 3.5 *types* of platforms per customer.
> There are no "VSE customers", only "customers with VSE"

S/390

1999 Survey **Results**

- Are You Growing Your VSE?
  - ► 70% + say 'Yes'
- How? Why?
  - ► 80% growth of existing applications
  - ► 60% new users/consolidation
  - ► 50% new applications

> Core applications are mostly alive, well, and growing on VSE

S/390

1999 Survey **Results**

- Will You Move *Some* VSE Work to Another Platform?
    - ► almost 50 % say 'Yes'
- *If* so, Where?
    - ► Windows NT
    - ► AIX/Linux/Other Unix (a very close second)
    - ► further back in the pack
        - ─ OS/390
        - ─ Novell
        - ─ AS/400
        - ─ all other

> Customers are both a) growing core VSE applications and b) implementing Replacement Apps on a variety of platforms

S/390

1999 Survey **Results**

- Why?
    - ► solutions available
    - ► tie - company policy
    - ► tie - performance/functionality
    - ► cost/price

> Customers select replacement platforms for a number of reasons, many of which are unpredictable

S/390

- What's Your Preferred Platform for e-business?
  - ▸ tie - VSE/ESA
  - ▸ tie - Windows NT
  - ▸ tie - AIX/Linux/Other Unix
  - ▸ further back in the pack
    - − VM/ESA,OS/390
  - ▸ even *further* back in the pack
    - − Novell, AS/400, OS/2, all other

> VSE must deal with an e-business platform of choice that's unpredictable

S/390

Key **Conclusions**

IBM

- It's a 'Mixed-Platform' World
  - ▸ no one system does everything well
  - ▸ IBM product diversity is a strength
- Core Applications
  - ▸ mostly alive, doing well, and growing
- Platform of choice for Replacement Apps is unpredictable
  - ▸ often there's **both** core growth *and* replacement
- Platform of choice for New Applications is unpredictable

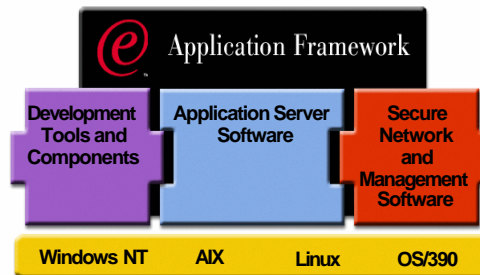> Customers need an e-business model that's flexible and extendable, while protecting existing investments

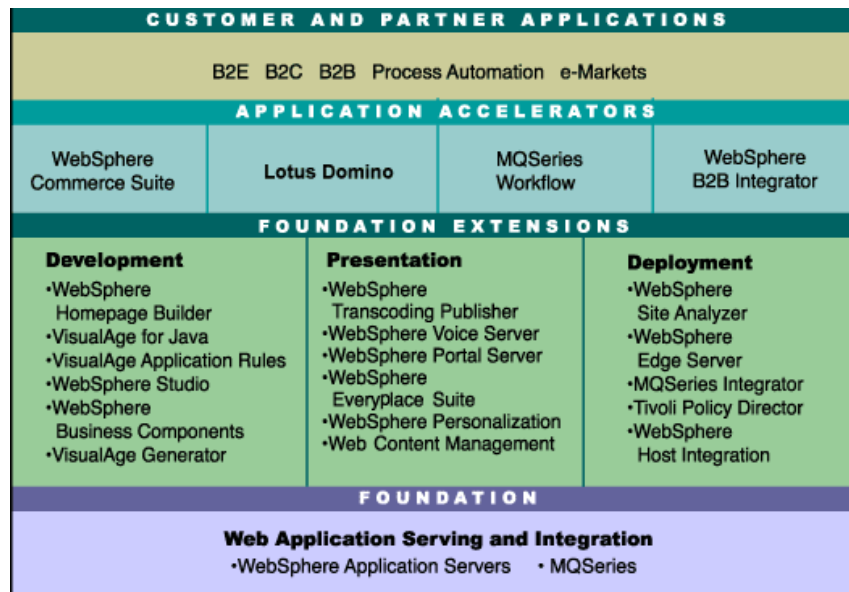**S/390**

Slide 1

What's the **Answer**?

- the IBM *Application Framework for e-business*
  - ‣ provides a **comprehensive**, robust e-business model
  - ‣ is based on a set of industry **standards** and technology
  - ‣ offers **leadership** products
  - ‣ supports **key platforms**
  - ‣ helps **protect** core investments

e Application Framework

Development Tools and Components	Application Server Software	Secure Network and Management Software

Windows NT	AIX	Linux	OS/390

S/390

Slide 2

What is the Application Framework for e-business?

CUSTOMER AND PARTNER APPLICATIONS

B2E   B2C   B2B   Process Automation   e-Markets

APPLICATION ACCELERATORS

WebSphere Commerce Suite	Lotus Domino	MQSeries Workflow	WebSphere B2B Integrator

FOUNDATION EXTENSIONS

Development	Presentation	Deployment
•WebSphere Homepage Builder •VisualAge for Java •VisualAge Application Rules •WebSphere Studio •WebSphere Business Components •VisualAge Generator	•WebSphere Transcoding Publisher •WebSphere Voice Server •WebSphere Portal Server •WebSphere Everyplace Suite •WebSphere Personalization •Web Content Management	•WebSphere Site Analyzer •WebSphere Edge Server •MQSeries Integrator •Tivoli Policy Director •WebSphere Host Integration

FOUNDATION

Web Application Serving and Integration
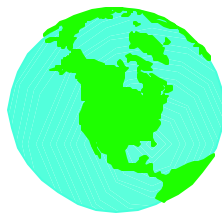•WebSphere Application Servers   • MQSeries

S/390

Agenda

- Background
- **e-business Roadmap**
- Customer Options

S/390

Alice - "Would you tell me, please, which way I ought to go from here?"
......Lewis Carroll 'Alice's Adventure in Wonderland'

S/390

Cheshire Cat - "If you don't know where you're going, you might wind up somewhere else..."
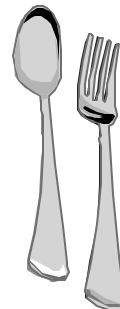*......Lewis Carroll 'Alice's Adventure in Wonderland'*

to reach your
e-business goals,
start here

S/390

"When you get to a fork in the road - take it!"
......Yogi Berra

S/390

Core Applications

CICS-Based

VSE/ESA (and VM/ESA)   S/390
OS/390   S/390
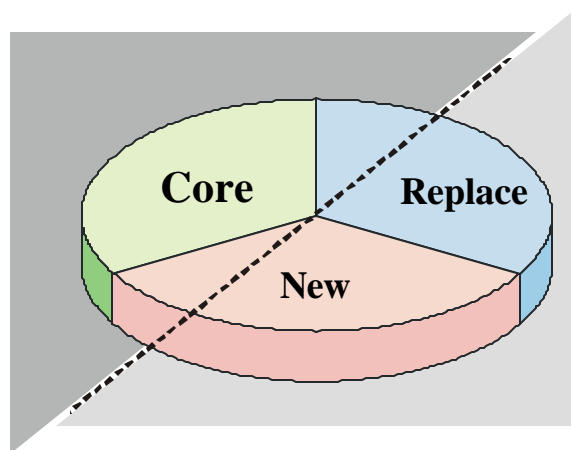
S/390

Why OS/390?

- **Corporate Decision**
  - ▸ IT Strategy, M&A, Consolidation
- Applications
- Extended Function
- Rate-of-change
- Systems Management
- Capacity
- Availability/Reliability

S/390

Slide 1

Scope of Affinity **IBM**

OS/390

| **Parallel Sysplex** |
| **Systems Mgmt, Capacity incl 64-bit, Availability** |

| IMS DC
TSO | **CICS TS OS/390**
ACF/VTAM, TCP/IP
LE COBOL, PL/1, C
DFSORT, MQSeries
DB2, IMS DB, VSAM | *Unix services*
heavy duty e-business
ie. WebSphere Appl Server
Enterprise JavaBeans
hardware encryption |

Unique to MVS   **YES**   **Evolving OS/390**

| **CICS**
ACF/VTAM, TCP/IP
LE COBOL, PL/1, C
DFSORT, MQSeries
DB2, DL/1, VSAM |

No ←   → **Limited,**
supplemented by
vendor solutions

VSE/ESA

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S/390

Slide 2

Replacement and New Applications **IBM**

IBM Product Diversity
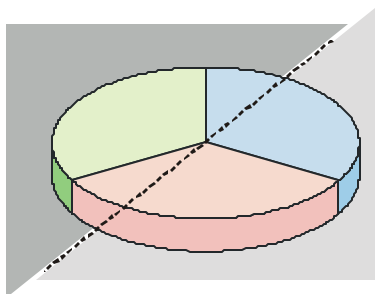
UNIX-based
OS/390 (UNIX branded)   S/390
AIX   RS/6000
SCO UnixWare   Netfinity
DYNIX/ptx   NUMA-Q
Linux   all IBM servers planned
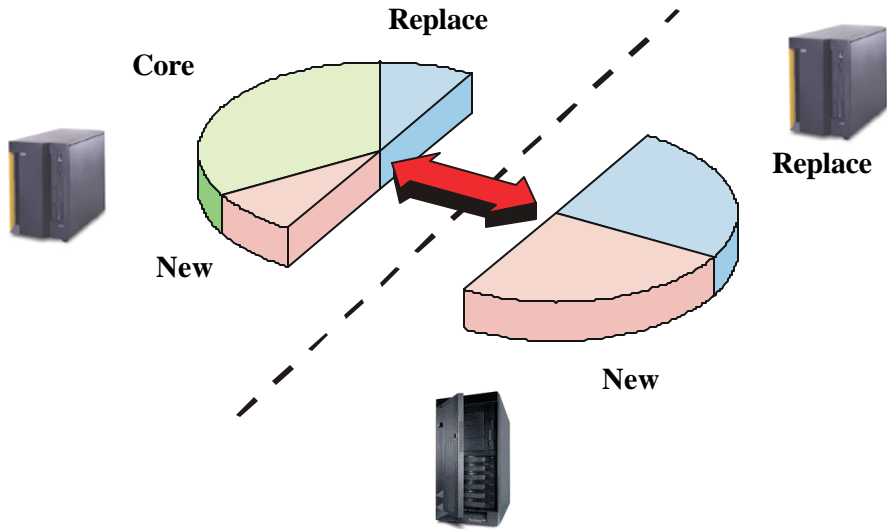
Windows NT-based   Netfinity, NUMA-Q
OS/400-based   AS/400
'Hosting'   IBM Global Services

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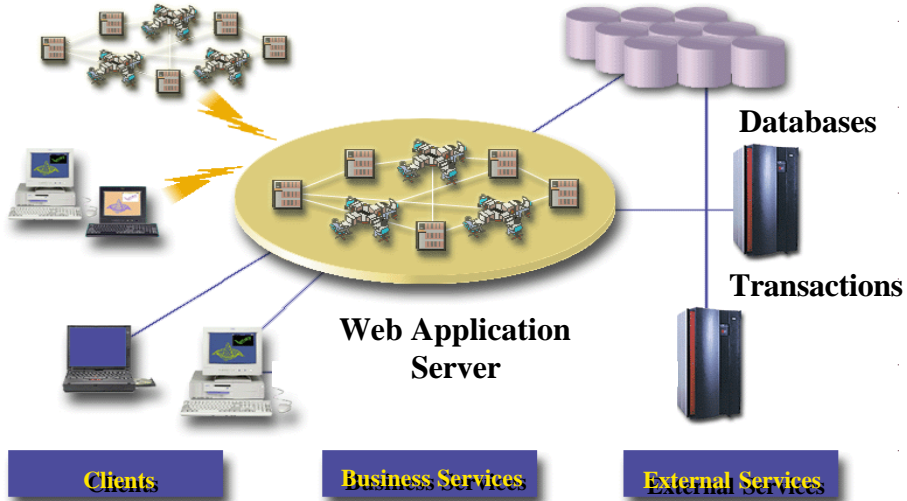**S/390**

Working Together in a Mixed Server Environment

IBM

Replace

Core

Replace

New

New

S/390

IBM Application Framework for e-business -
a **3-tier logical model**

IBM

World Wide Web

Databases

Transactions

**Web Application
Server**

Clients

Business Services

External Services

S/390

VSE and the Application Framework

IBM

Web

F
I
R
E
W
A
L
L

IBM
WebSphere
Software

JAVA

Connectors

**VSE/ESA Enterprise
Server**

Extranet

**Remote Locations
External Services
Business Partners**

Client	**Business Services**	**External Services**
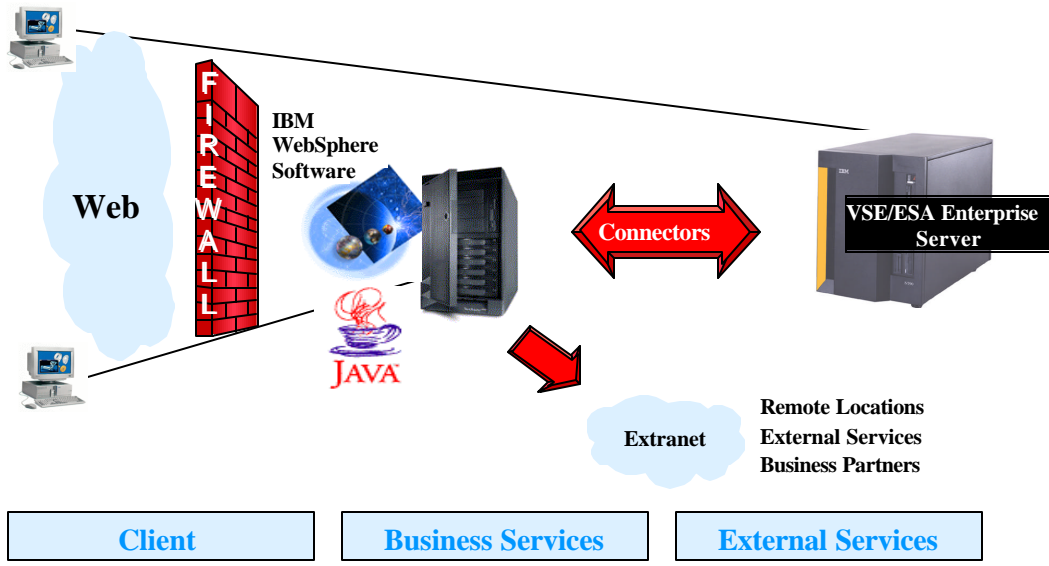
S/390

2-tier and 3-tier e-business Models

IBM

**the 2-tier Model:
Direct VSE Access**

Web

F
I
R
E
W
A
L
L

IBM
WebSphere
Software

JAVA

Connectors

**VSE/ESA Enterprise
Server**

**the 3-tier Model:
VSE Access via an
outboard Web server**

Extranet

**Remote Locations
External Services
Business Partners**

Client	**Business Services**	**External Services**
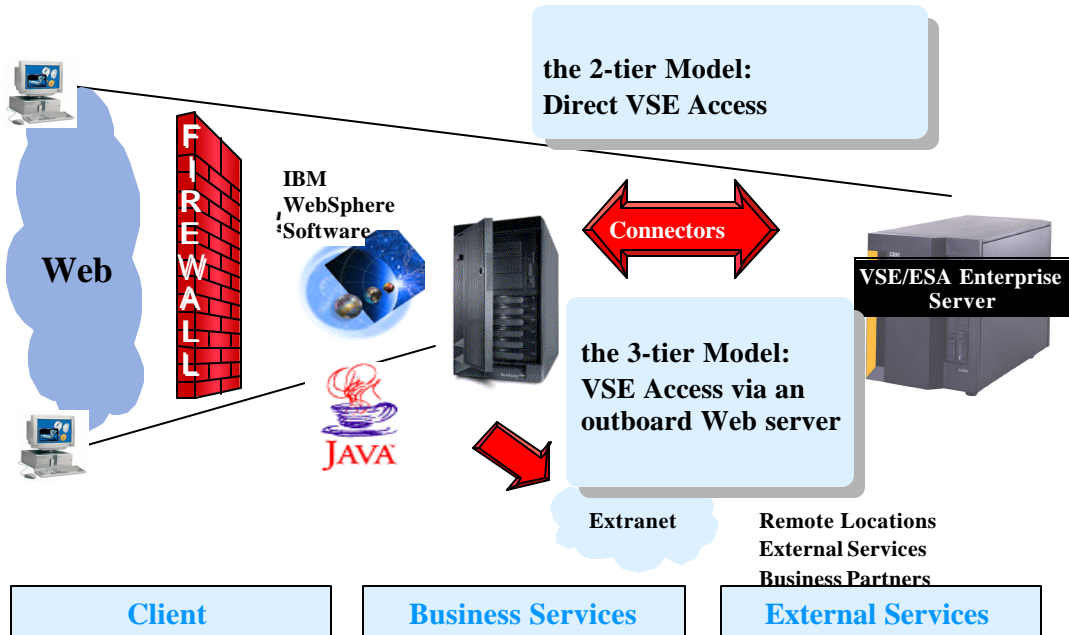
S/390

2-tier and 3-tier VSE Implementations **before V2.5**

IBM

Web

F
I
R
E
W
A
L
L

IBM
WebSphere
Software

JAVA

Connectors

IBM
IBM TCP/IP for VSE/ESA Application Pak
IBM CICS TS VSE/ESA CWS/3270 Bridge
Vendors
IpServer from Data21
Web/VSE Host from Intelliware´

VSE/ESA Enterprise Server

IBM
DB2 Connect
MQSeries
CICS Transaction Gateway
Vendors
ViaSQL from ViaServ
eXadas from CrossAccess

Extranet

Remote Locations
External Services
Business Partners

Client	**Business Services**	**External Services**

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S/390

VSE/ESA V2.5   3-tier e-business connectors

Intermediate Server

VSE/ESA Enterprise Server

HTTP
TCP/IP

WebSphere Appl Server

JDBC **Java Beans**

DB2 Connect

TCP/IP

TCP/IP
or SNA

TCP/IP

Connector server

VSAM
LIBR
POWER
ICCF
console

DB2/VSE

CICS Transaction server

Stored procedures

VSAM

DL/I
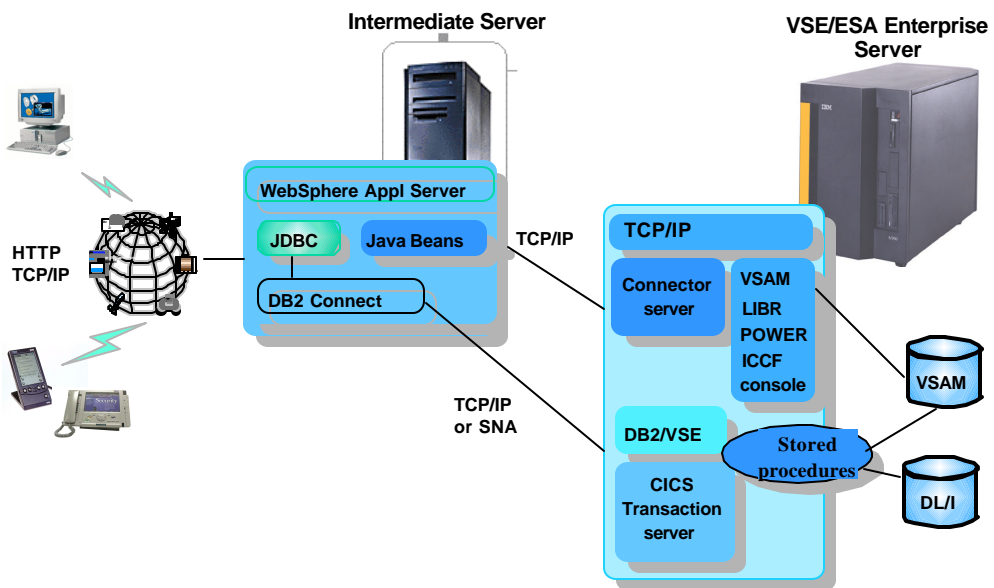
2-tier and 3-tier VSE Implementations **with V2.5**

IBM

IBM
- IBM TCP/IP for VSE/ESA Application Pak
- IBM CICS TS VSE/ESA CWS/3270 Bridge

Vendors
- *IpServer from Data21*
- *Web/VSE Host from Intelliware´*

Web

F I R E W A L L

IBM
WebSphere
Software

JAVA

Connectors

VSE/ESA Enterprise Server

IBM
- VSE/ESA V2.5 e-business connectors
- **DB2 Connect**
- **MQSeries**
- **CICS Transaction Gateway**

Vendors
- *ViaSQL from ViaServ*
- *eXadas from CrossAccess*

Extranet

**Remote Locations
External Services
Business Partners**

Client	**Business Services**	**External Services**

S/390

Primary 2-tier and 3-tier usage

IBM

**2-tier Model:
Mainly Access to
'Core' Applications**

Web

F I R E W A L L

IBM
WebSphere
Software

JAVA

Connectors

VSE/ESA Enterprise Server

**3-tier Model:
Mainly Access from
'Replacement' and 'New'
Applications**

Extranet

**Remote Locations
External Services
Business Partners**

Client	**Business Services**	**External Services**
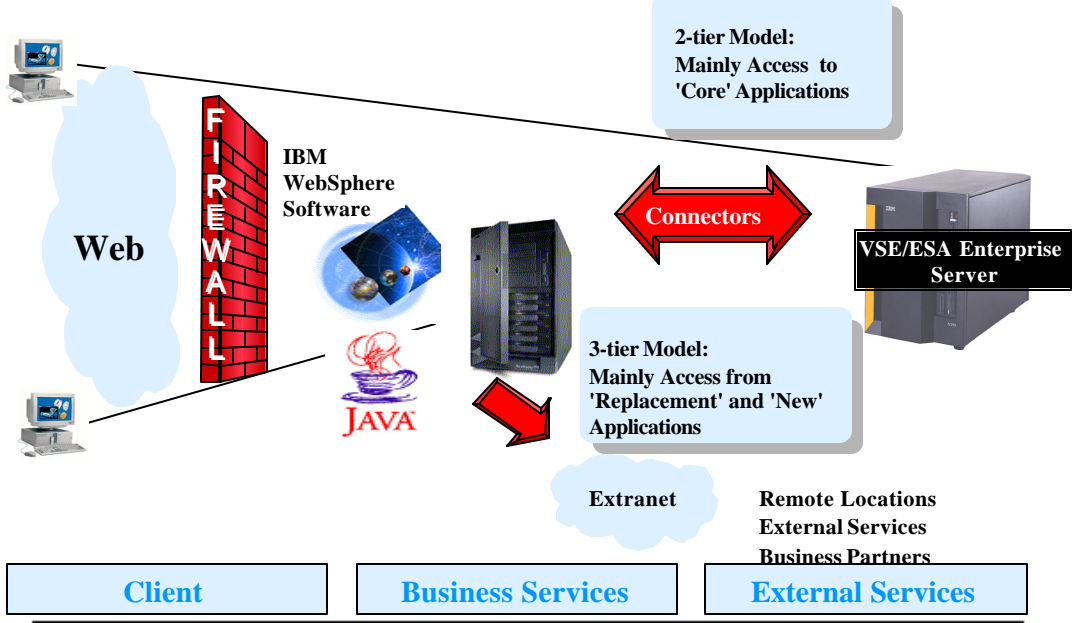
S/390

e-business Models: **Applications**
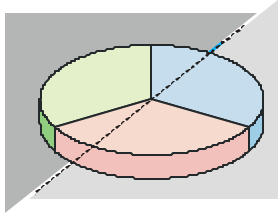
	2-tier	3-tier (logical)
Core	**Primary**	
Replacement	*Secondary*	**Primary**
New	*Secondary*	**Primary**

S/390

---

e-business Models: **Basic Enabling Technology**
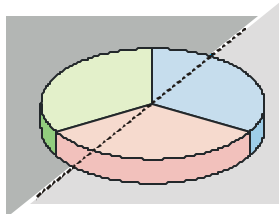
	2-tier	3-tier (logical)
Core	**CICS TS VSE/ESA**	
Replacement	*CICS TS VSE/ESA*	**WebSphere**
New	*CICS TS VSE/ESA*	**WebSphere**

S/390

VSE Directions

e-business Enablement
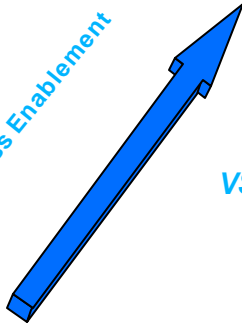
VSE/ESA V2.5   *Preview*
- **Enhanced Interoperability**

VSE/ESA V2.4   *June 1999*
- **CICS Transaction Server for VSE/ESA**
- **e-business**

Emphasis is on 3-tier e-business enablement, *somewhat* less on traditional VSE/ESA priorities such as more capacity, quality improvements, and expansion of OS/390 affinity

S/390

A Common 3-tier **logical** Model

IBM WebSphere
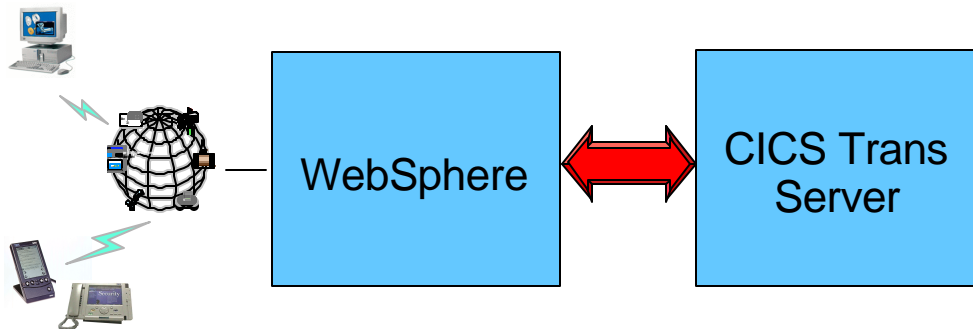
WebSphere

CICS Trans Server

S/390

Slide 1

Agenda

- Background
- e-business Roadmap
- **Customer Options**

```
             VSE/ESA?
all other?              Linux/390?

OS/400?    VSE/ESA    Windows?

OS/390?    Monterey?   Linux?
```

S/390

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Slide 2
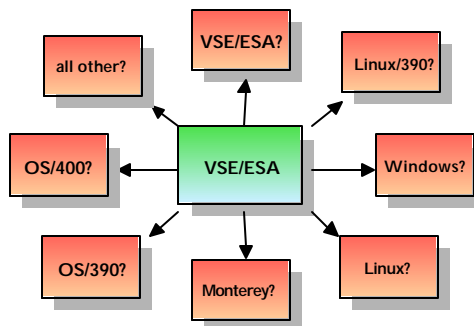
Agenda

- Background
- e-business Roadmap
- Customer Options

S/390

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Options

IBM

VSE+'other'

other   z/OS

some

most   VSE+'other'

some

z/OS

other
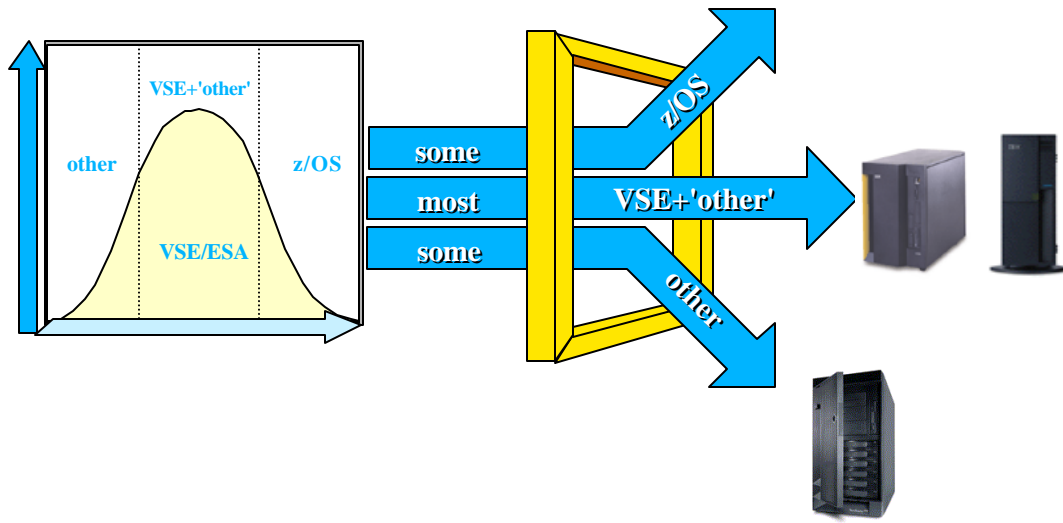
VSE/ESA

S/390

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A Common 3-tier **logical** Model

IBM

IBM WebSphere

WebSphere App Server
Apache or HTTP server
JDK 1.2.2
DB2 Connect
CICS Trans Gateway
MQSeries

CICS Trans Server
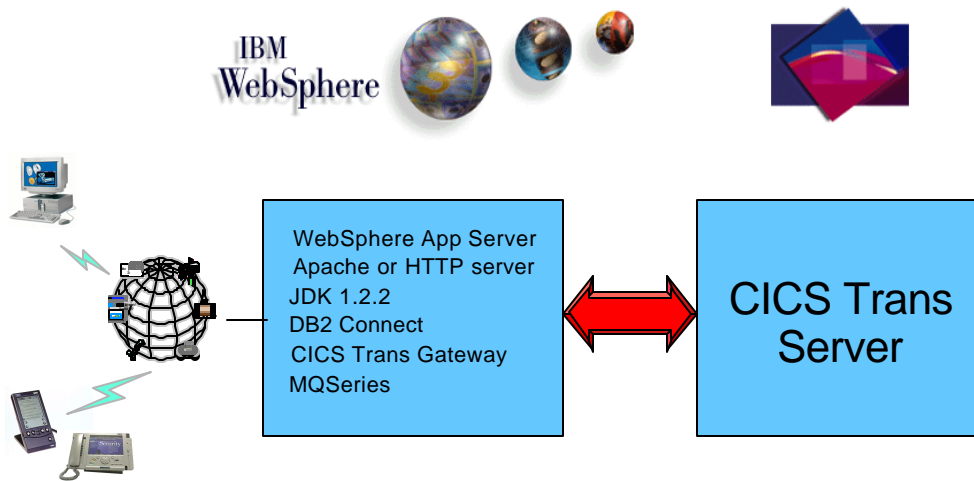
S/390

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Future IT **Infrastructure**
Note: Shows Direction - not everything is available now

IBM

CICS-Based

VSE/ESA (and VM/ESA) S/390
OS/390   S/390
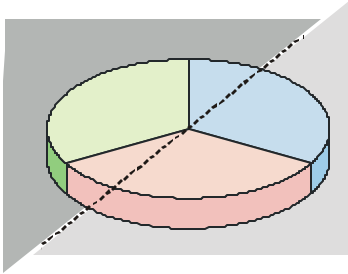
Application Framework/WebSphere-Based

OS/390 (UNIX services) S/390
AIX-5L (Proj Monterey) RS/6000, Netfinity, NUMA-Q
Linux   all IBM servers (incl S/390)
Windows 2000   Netfinity, NUMA-Q
OS/400   AS/400
'Hosting'   IBM Global Services

S/390

Linux for S/390 Option:
3-tier logical / 2-tier physical

IBM

WebSphere ⟷	CICS Trans Server
Linux for S/390	VSE/ESA
VM/ESA (or LPAR)	
S/390	
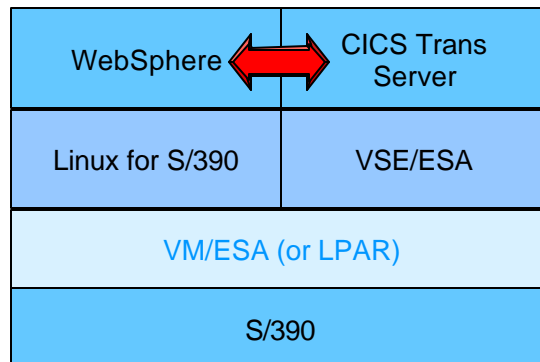
S/390

New: NUMA-Q Option:
3-tier logical / 2-tier physical
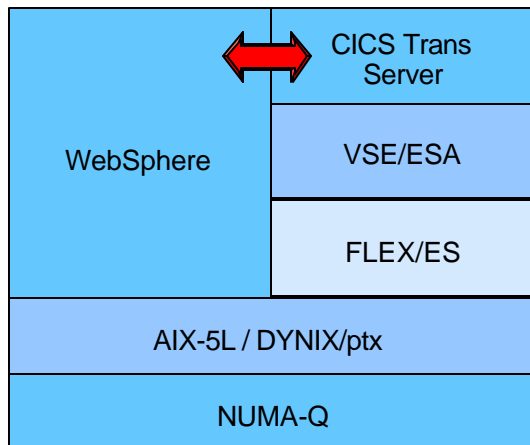
IBM

	CICS Trans Server
WebSphere	VSE/ESA
	FLEX/ES
AIX-5L / DYNIX/ptx	
NUMA-Q	

S/390

Linux Option:
3-tier logical / 3-tier physical

IBM

WebSphere	CICS Trans Server
Linux	VSE/ESA (+VM)
RS/6000 or Netfinity	S/390
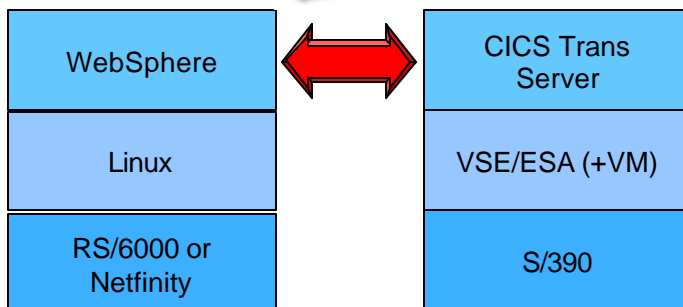
S/390

AIX-5L (Monterey) Option:
3-tier logical / 3-tier physical

IBM

WebSphere	↔	CICS Trans Server
AIX-5L(Monterey)		VSE/ESA (+VM)
RS/6000, Netfinity, or NUMA-Q		S/390
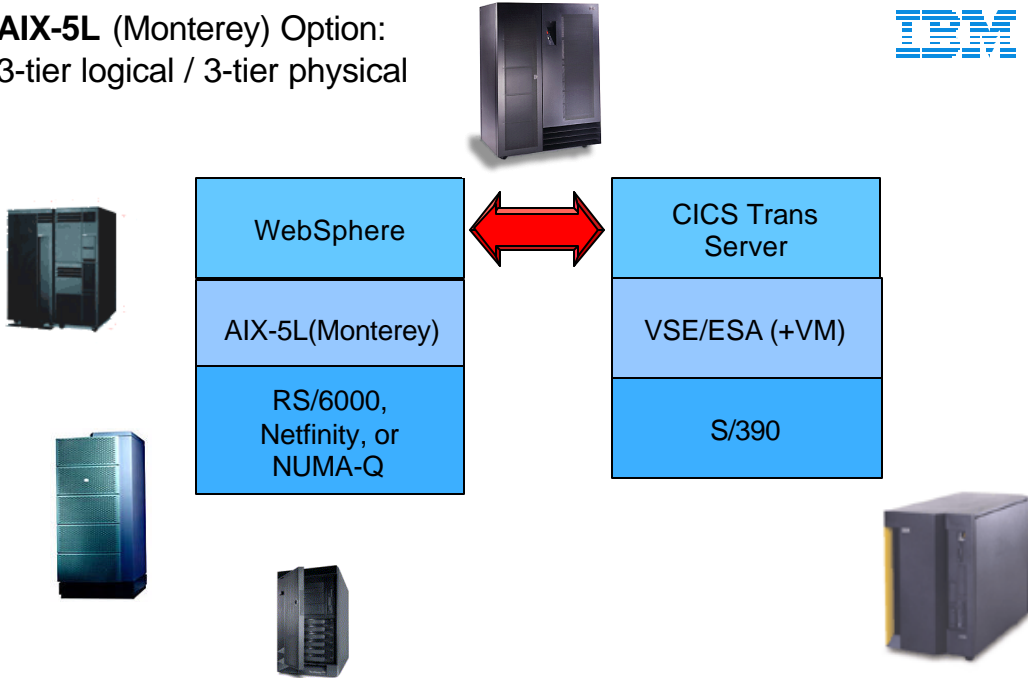
S/390

Windows 2000 (r) Option:
3-tier logical / 3-tier physical

IBM

WebSphere	↔	CICS Trans Server
Windows 2000/NT		VSE/ESA (+VM)
Netfinity		S/390
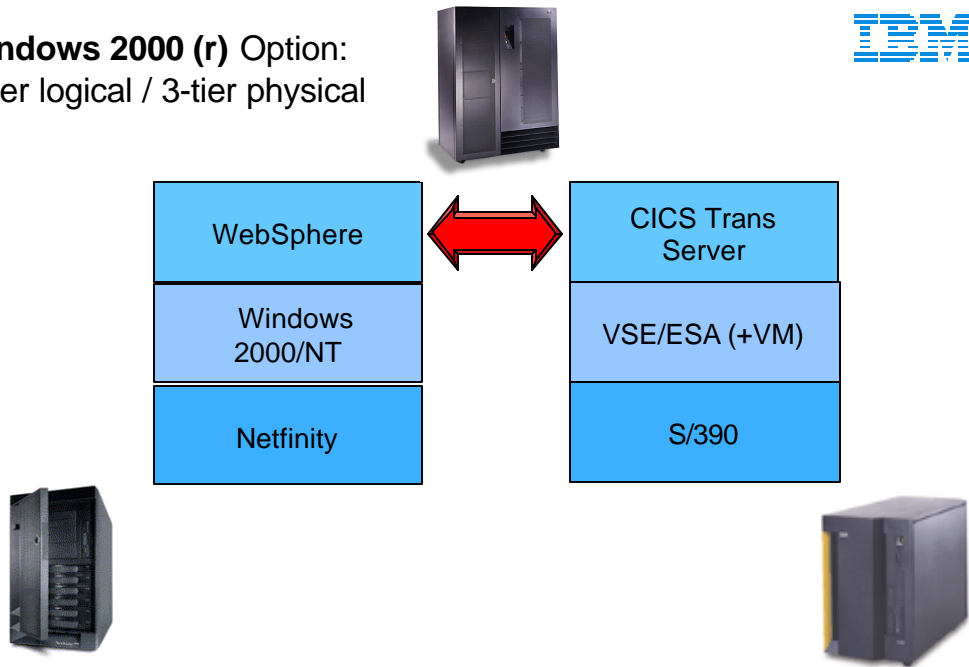
S/390

z/OS Option:
3-tier logical / 2-tier physical

IBM

WebSphere	CICS Trans Server
z/OS (+ z/VM)	
zSeries	
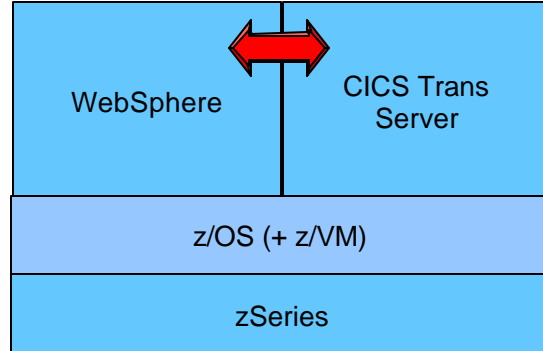
S/390

OS/400 Option:
3-tier logical / 3-tier physical

IBM

WebSphere	CICS Trans Server
OS/400	VSE/ESA (+VM)
AS/400	S/390
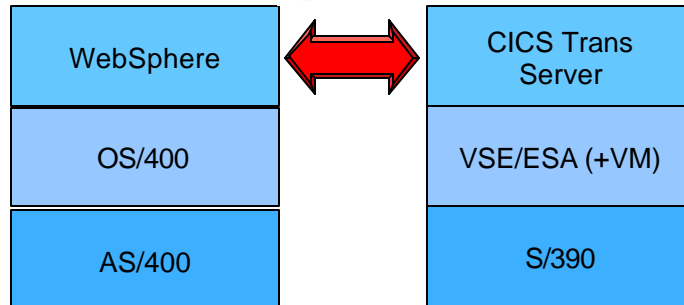
S/390

Basic Enabling Technology

IBM
WebSphere
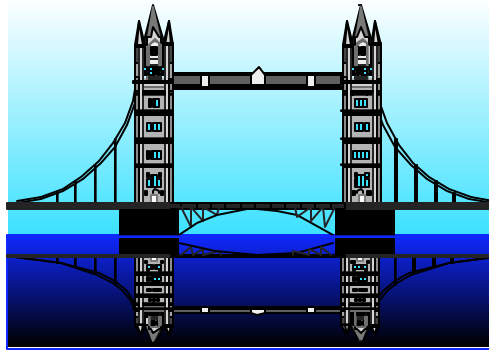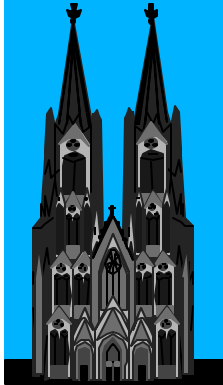
S/390

Summary

VSE/ESA

- Protect Core VSE Investments
  - ► modernize using
    - ▬ **CICS TS VSE/ESA**
    - ▬ DB2 Server, Visual Tools, etc.
  - ► extend core applications to the Web
- IBM *Application Framework for e-business* for significant Replacement and New Applications
  - ► **WebSphere Application Server**
  - ► IBM Servers including
    - ▬ S/390 (of course)
    - ▬ but also NUMA-Q, Netfinity, RS/6000, or AS/400

S/390

Important New Things For You to Consider

IBM

- IBM Application Framework for e-business

- WebSphere Application Server

- Linux for S/390

- IBM NUMA-Q (formerly Sequent)

- Modernized Core Applications
  - CICS TS VSE/ESA
  - DB2 Server
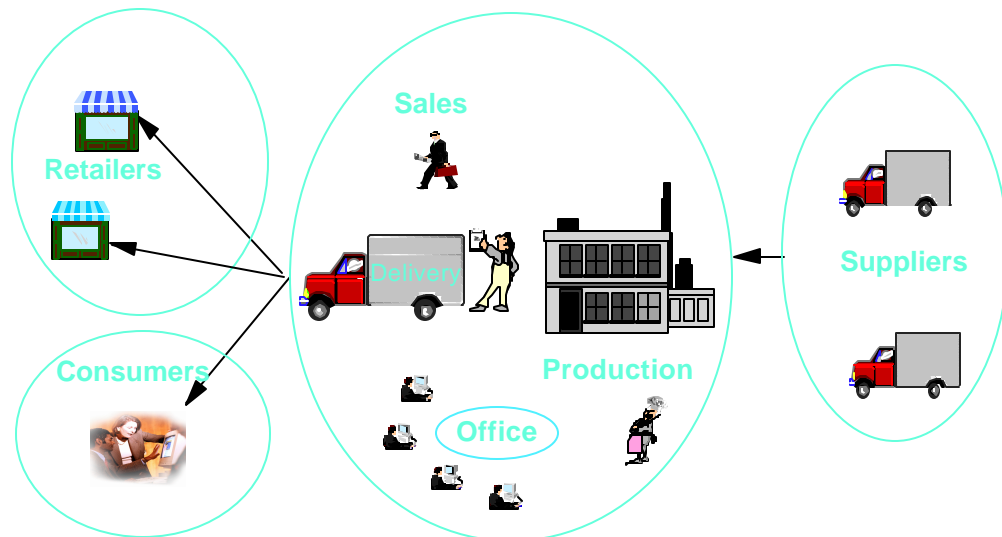 - 'Visual' tools (VisualAge Generator, Cobol, etc.)

S/390

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Fictitious Foods

an entirely imaginary company used to demonstrate

e-business solutions

IBM

Retailers

Consumers

Sales

Delivery

Office

Production

Suppliers

S/390

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After 35 Years Providing Cost/Effective Solutions to IBM Customers the World Over, VSE Doesn't Get Older - It Gets Better. Now, following the IBM Application Framework for e-business, *you can be as competitive as you want to be!*

S/390