



E40

VSE – 40 Years and Still Going Strong

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zSeries Expo

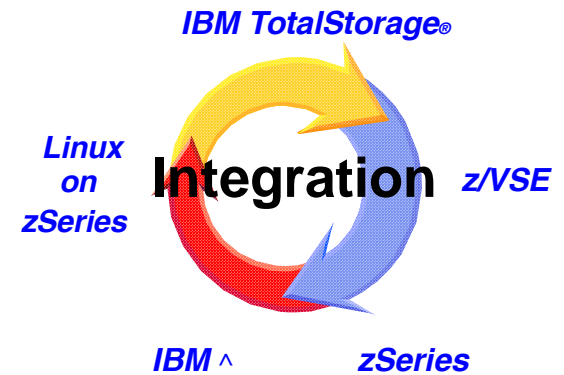
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Abstract:

Want to know more about z/VSE? This presentation covers the present and future of VSE, including the role of Linux on zSeries. This overview is intended for VSE customers, z/OS customers with VSE somewhere within the enterprise, plus IBMers and BPS with responsibilities for VSE accounts.



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DRDA*	Lotus*	VSE/ESA
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		z/VM*
		zSeries*

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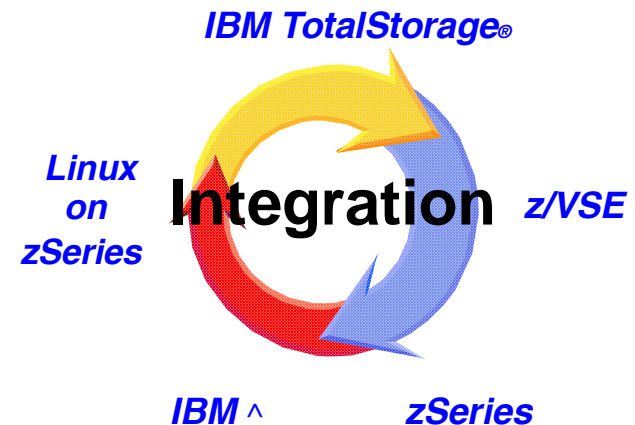
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Agenda

- *What's New*
- z/VSE
- Environment
- Hybrid Model
- VSE Connectors
- Linux
- Conclusion



What has changed since Las Vegas?

- 12/31/2003 - End of hardware service for ES/9221 and 9672-Rx1 (G1)
- **12/31/2003 - VSE/ESA V2.5 End-of-Service**
- 03/19/2004 - VSE/ESA V2.7.2
 - service integration, z990 items, IBM 3592 tape
- 03/19/2004 – distribution via e-delivery and CD-ROM
 - internet delivery of releases via ShopzSeries
 - full releases, no change in service delivery at this time
- 03/19/2004 - introduce Recommended Service Level (RSL) concept
 - new preventative service concept
 - designed to fill gap between refreshs and HIPER service



What has changed Las Vegas (Part 2)?

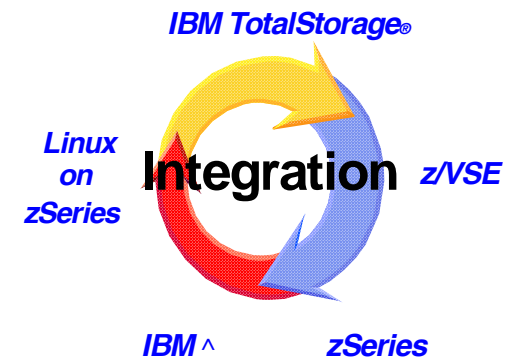
- 04/07/2004 – 40th Anniversary of S/360 Announcement
 - IBM eServer™ zSeries® 890
 - IBM TotalStorage Enterprise Storage Server (ESS) 750
 - z/VM V5.1
 - **z/VSE V3.1 Preview !**
- 6/08/2004 – **High Level Assembler V1.5** (new release) announcement
- 8/03/2004 – Announced date for discontinuance of software service for **VSE/ESA V2.6** (EoS will be effective **3/31/2006**)
- 8/17/2004 – **DB2 for VSE and VM V7.4** (new release) announcement
- 09/24/2004 – **z/VM V5.1 General Availability**



The fundamental VSE strategy has not changed

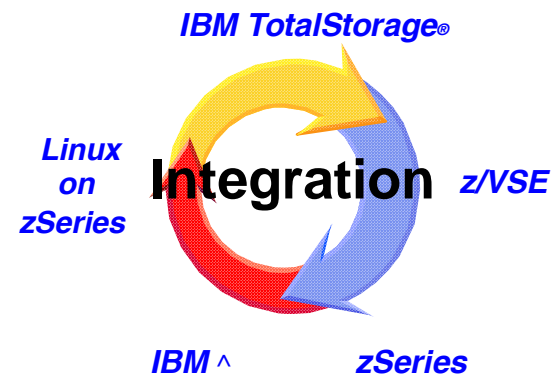
- Helps **Protect** your extensive investments in *VSE* programs, data, equipment, and IT skills, plus business processes, end user training, etc.
 - modernize – i.e. extend core CICS® TS VSE/ESA applications to the Web
 - exploit IBM servers, storage, and software
- **Integrate** VSE with the rest of your IT - based on open and industry standards
 - IBM Middleware
 - VSE e-business connectors and web services
- **Extend** with Linux on IBM eServer™ zSeries® where appropriate
 - infrastructure simplification
 - new infrastructure and/or line-of-business applications

Leverage your VSE investment
– without being limited by it



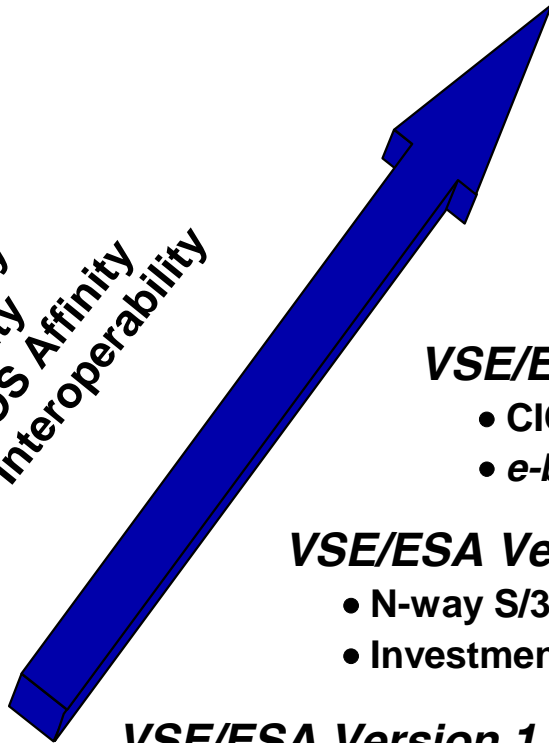
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- [z/VSE](#)
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Recent Highlights

Capacity
Quality
z/OS Affinity
Interoperability



VSE/ESA Version 1 1990

- Constraint Relief
- ESA exploitation



VSE/ESA Version 2 1994

- N-way S/390 Servers
- Investment Protection - Year 2000



VSE/ESA V2.4 1999

- CICS Transaction Server for VSE/ESA
- *e-business*

VSE/ESA V2.7 3/14/2003

- Enhanced Interoperability
- ALS2 servers only

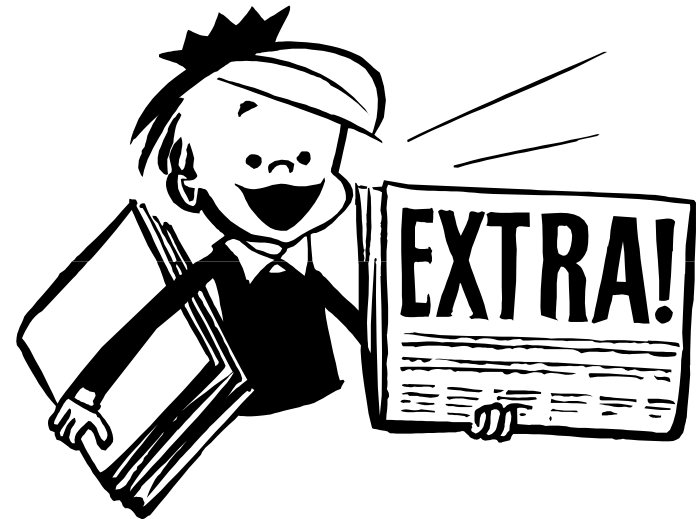


z/VSE V3.1 tbd

- zSeries features, FCP-SCSI
- 31-bit mode only

z/VSE (1) V3.1 Preview

- Helps **Protect** investments in your core VSE assets
 - **Fibre Channel Protocol (FCP) Channel attached SCSI disk**
 - HiperSockets, incl spanned HiperSockets
 - PCICA hardware encryption assist
 - Adapter interrupts for OSA-Express
 - OSA-Express, incl Ethernet and Token Ring
 - OSA-Integrated Console Controller
 - Up to 30 LPARs
 - Up to 2 LCSSs on z890 - 4 on z990
 - FICON-Express
- **Integrate** VSE with the rest of your IT
 - VSE Connectors and web services
 - IBM middleware
- **Extend** with Linux on zSeries



Note 1: z/VSE can operate in 31-bit mode only. It does not implement z/Architecture and specifically does not implement 64-bit mode capabilities. z/VSE is designed to support selected features of IBM zSeries hardware

z/VSE V3.1 Planning Information

- z/VSE can operate in 31-bit mode only. It does not implement z/Architecture and specifically does not implement 64-bit mode capabilities. z/VSE is designed to support selected features of IBM zSeries hardware. There are NO plans for 64-bit support.
- Language Environment for VSE/ESA will disappear as a separate product and become a component of VSE Central Functions
- Equivalent monthly prices for IBM software are planned to be 'net neutral'
- CICS/VSE V2.3 is planned to ship together with CICS TS for VSE/ESA as before at no additional charge
- FSU is planned to be available from VSE/ESA V2.6 and V2.7
- GA is planned for 2005
- Previews provide insight into current IBM plans and direction. IBM development plans are subject to change or withdrawal without further notice. Any reliance on this preview is at the relying party's sole risk and will not create any liability or obligation for IBM. Availability, prices, ordering information, and terms and conditions will be provided when the product is announced.

VSE Server Support

IBM zSeries Servers	z/VSE V3.1	VSE/ESA V2.7	VSE/ESA V2.6	Hdwr EoS
zSeries 800, 890, 900, 990 (31-bit only)	Yes	Yes	Yes	tbd
S/390 Parallel Enterprise Server™ G5/G6	Yes	Yes	Yes	tbd
S/390® Multiprise® 3000	Yes	Yes	Yes	tbd
S/390 Parallel Enterprise Server™ G3/G4	No	No	Yes	tbd
S/390® Multiprise® 2000	No	No	Yes	tbd
S/390 Integrated Server	No	No	Yes	tbd
S/390 Parallel Enterprise Server™ G2	No	No	Yes	12/2004
P/390 and R/390	No	No	Yes	12/2004
S/390 Parallel Enterprise Server™ G1	No	No	Yes	12/2003
ES/9000® – 9221	No	No	Yes	12/2003
ES/9000® – 9121, 9021	No	No	Yes	06/2003

VSE Pricing for zSeries 890

1-way	2-way	3-way	4-way
110 (zELC)	210 (EWLC Tier A)	310 (EWLC Tier A)	410 (EWLC Tier B)
120 (EWLC Tier A)	220 (EWLC Tier B)	320 (EWLC Tier C)	420 (EWLC Tier C)
130 (EWLC Tier B)	230 (EWCL Tier C)	330 (EWLC Tier C)	430 (EWLC Tier D)
140 (EWLC Tier C)	240 (EWLC Tier C)	340 (EWLC Tier D)	440 (EWLC Tier D)
150 (EWLC Tier C)	250 (EWLC Tier D)	350 (EWLC Tier D)	450 (EWLC Tier E)
160 (EWLC Tier C)	260 (EWLC Tier D)	360 (EWLC Tier E)	460 (EWLC Tier E)
170 (EWLC Tier D)	270 (EWLC Tier E)	370 (EWLC Tier E)	470 (EWLC Tier E)

Note: For z890, VSE is priced according to EWLC – Tiered Price Structure. However, zELC prices are used for the z890 Capacity Setting 110 (only).

VSE Support for z800 and z890

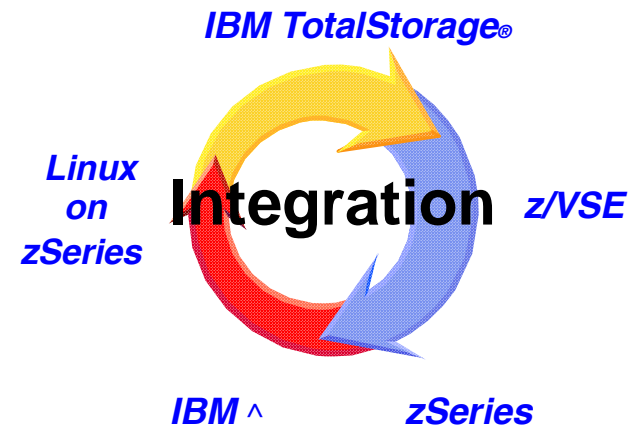
VSE Version and Release	z800	z890	VSE EoS
z/VSE V3.1	Yes (2)	Yes (2)	tbd
VSE/ESA V2.7	Yes (2)	Yes (2)	tbd
VSE/ESA V2.6	Yes (2)	Yes (2)	tbd
VSE/ESA V2.5	Yes (2)	No	12/2003
VSE/ESA V2.4	Yes (2)	<u>No</u>	06/2002
VSE/ESA V2.3	No	<u>No</u>	12/2001

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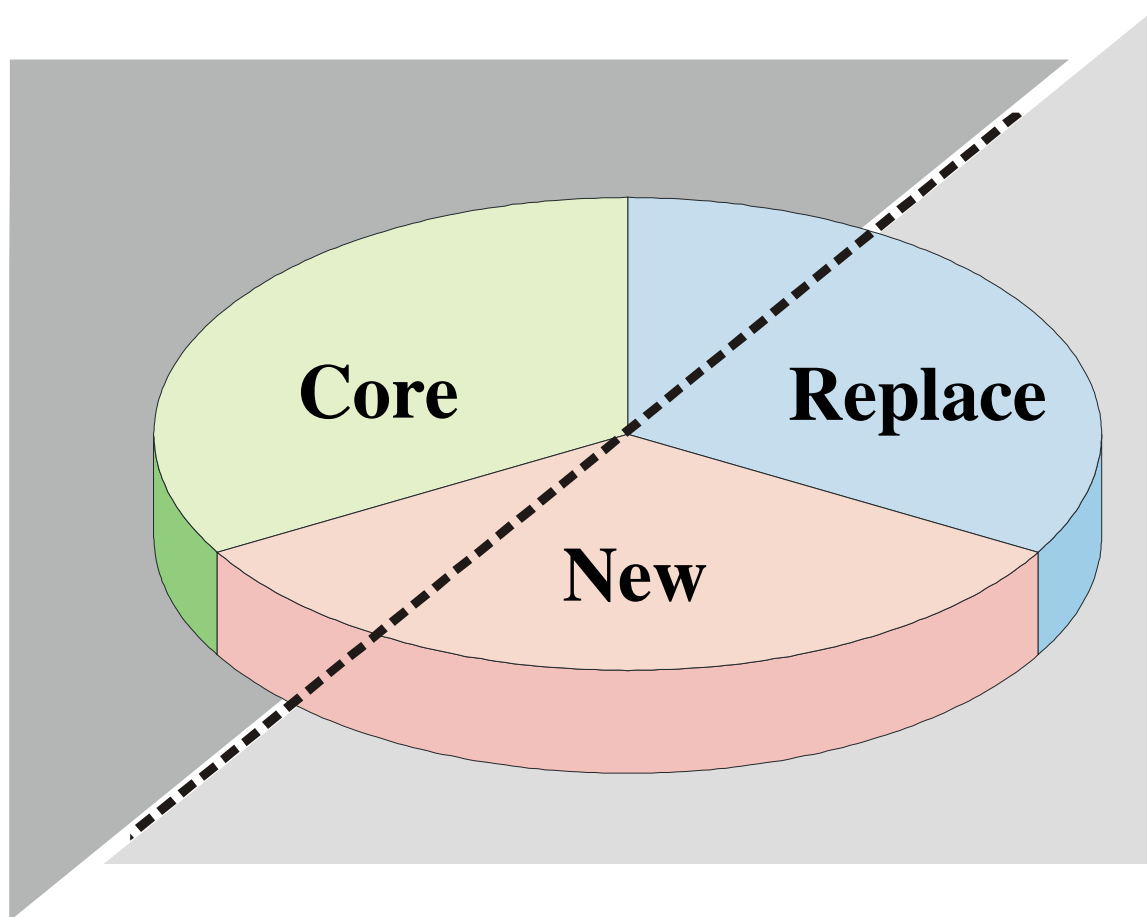
Note 2: 31-bit mode only

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- z/VSE
- *Environment*
- Hybrid Model
- VSE Connectors
- Linux
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Customer Application Portfolio:

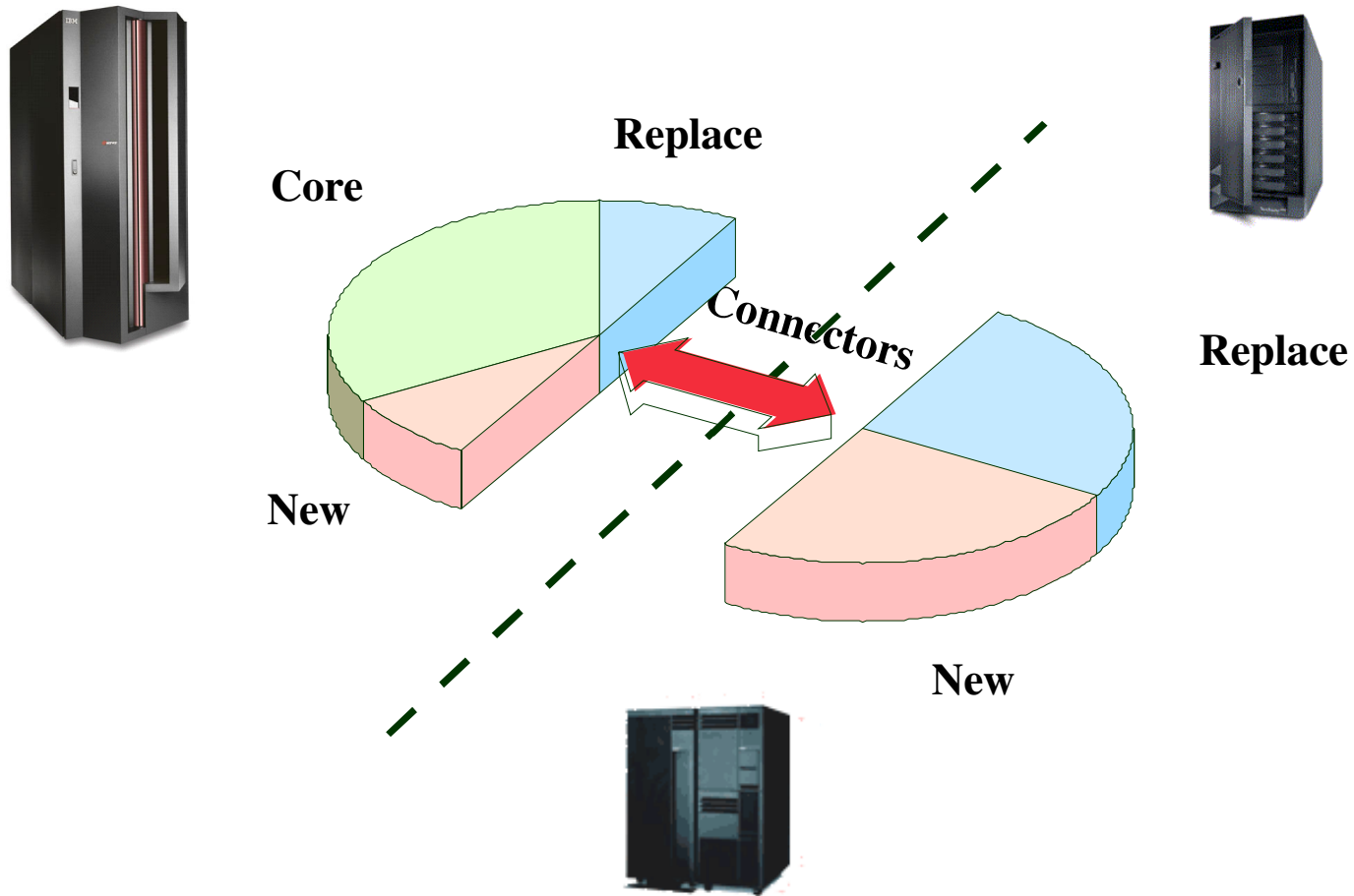


VSE Customer Profile

- **It's a hybrid world**
 - Average 3.5 *unique* platforms including Microsoft® Windows®, various UNIX® dialects, etc.
 - No single hardware/software platform is always best
- **Core VSE applications**
 - Mostly alive, doing well, and growing
- **Replacement applications**
 - Platform driven by application selection
 - Often customers have growing core applications *and* replacement
- **New infrastructure and e-business applications**
 - Platforms other than VSE/ESA™ are often a better choice
 - Usage of Linux growing rapidly

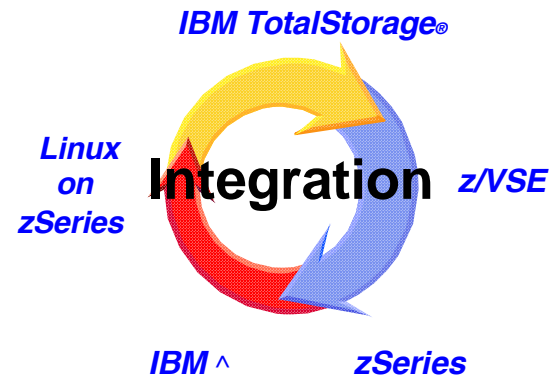
Customers need an on demand IT model that's flexible and extendable, yet protects core investments

Integrating Hybrid Environments



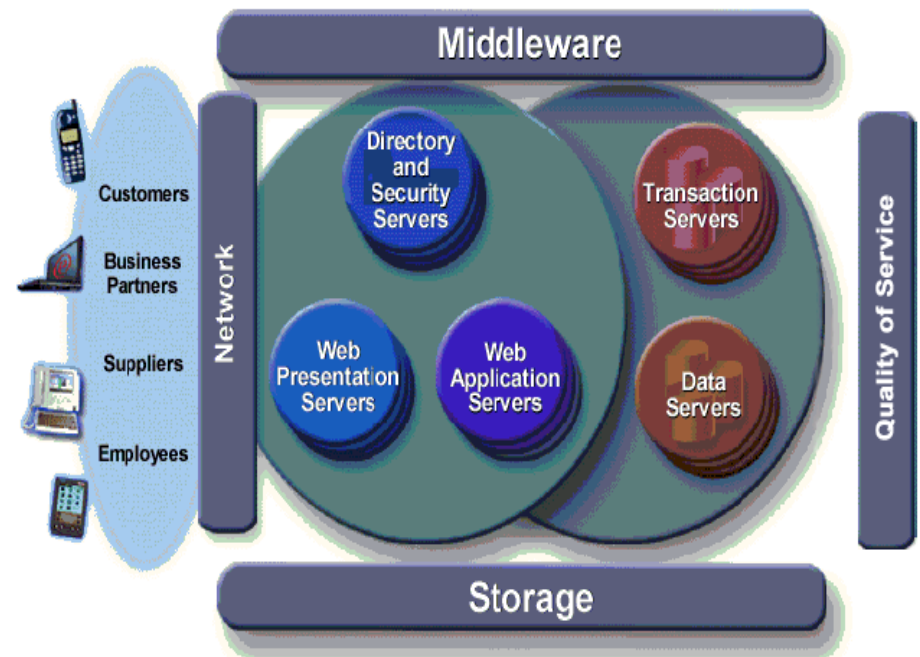
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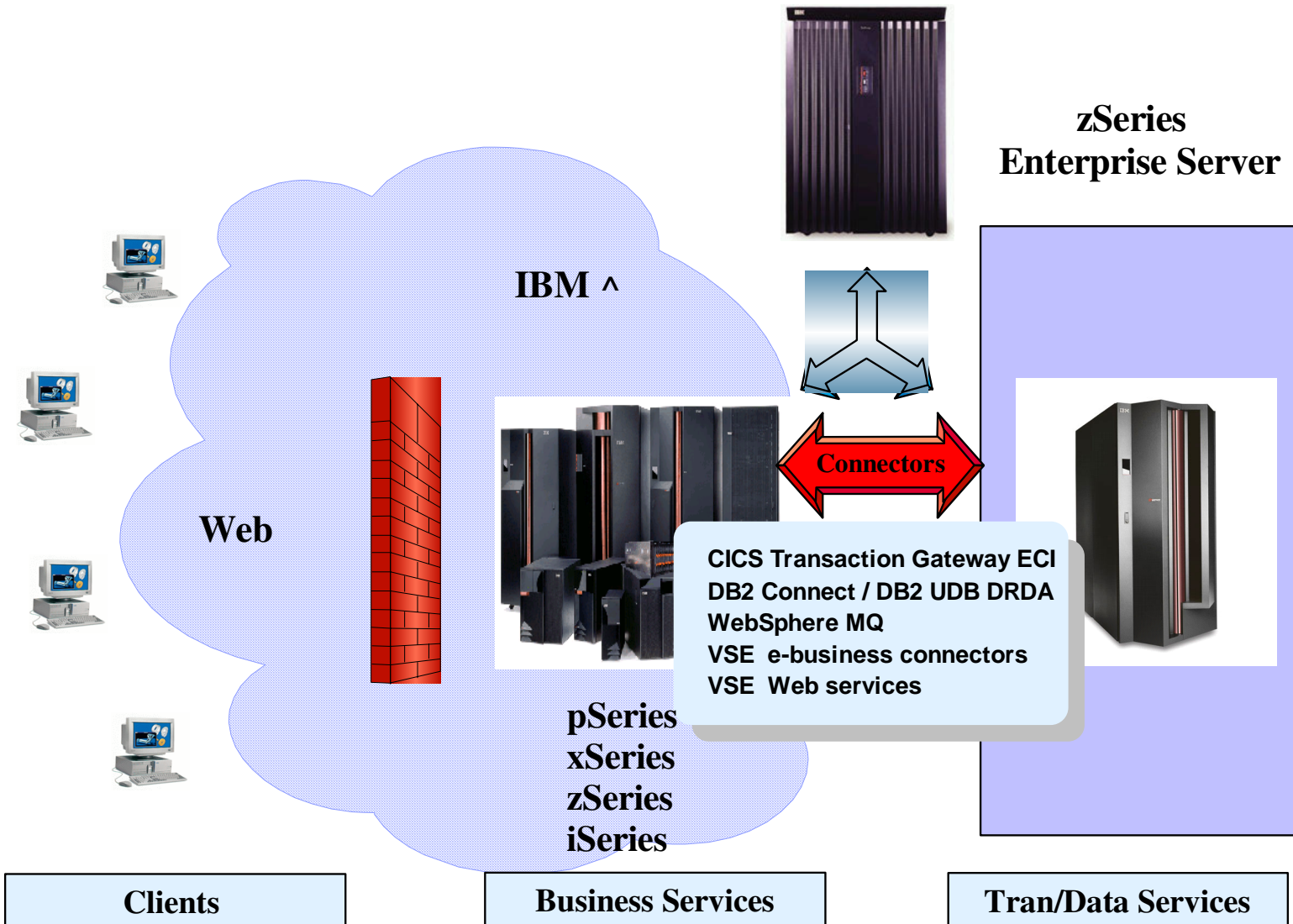


Unlock your VSE information assets

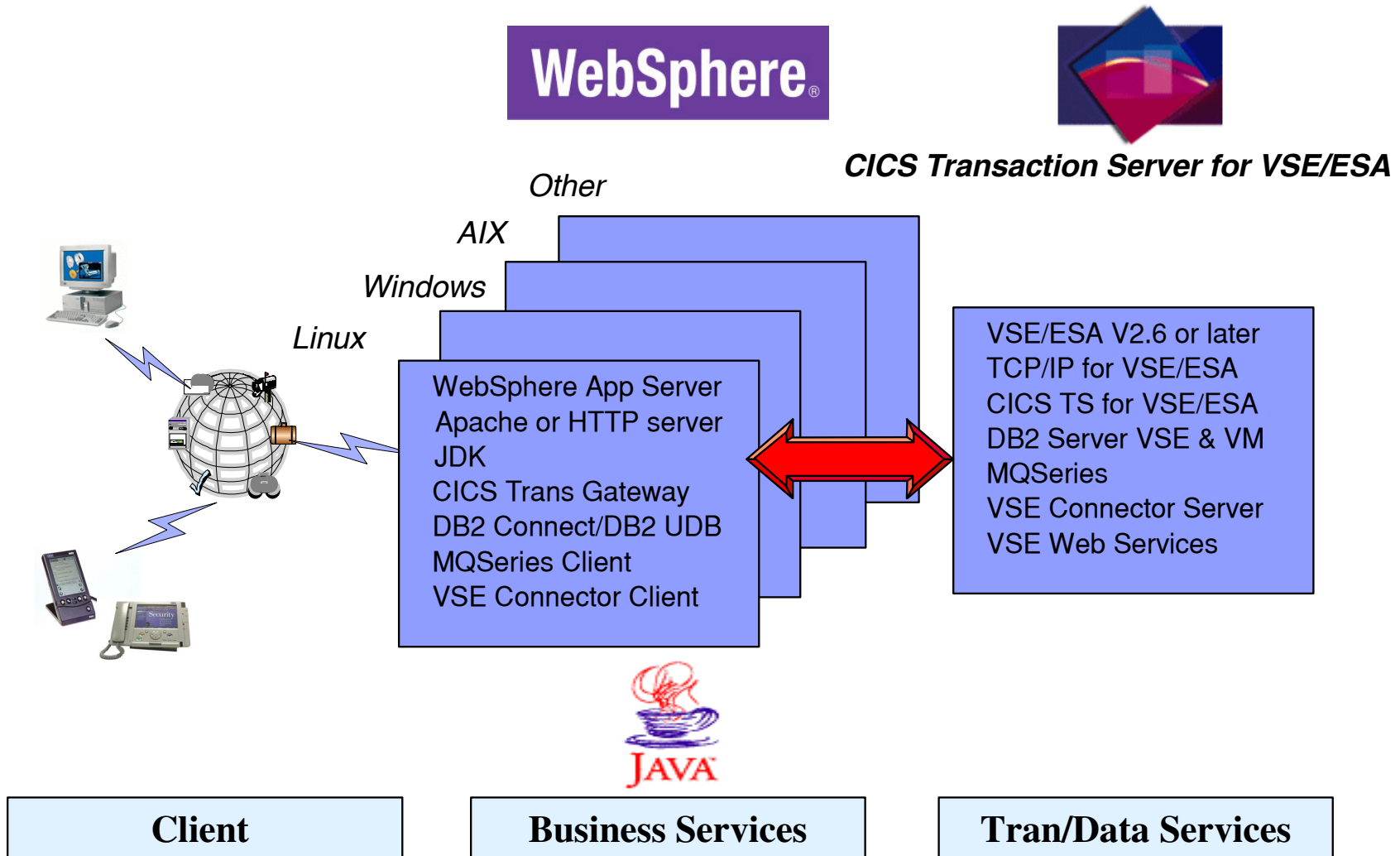
- **A hybrid, 3-tier framework**
 - A comprehensive, robust e-business model
 - Based on open and industry standards
 - Supports key platforms
 - Leadership products
 - Helps protect core investments



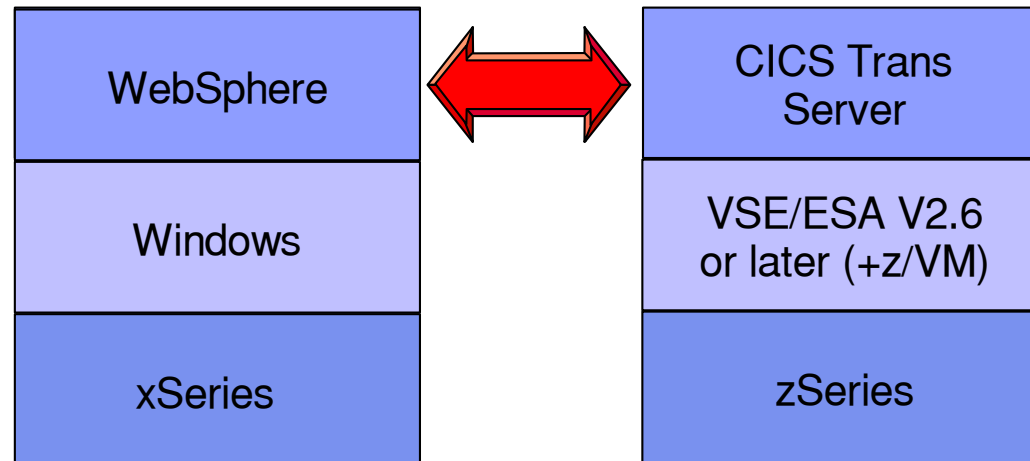
Hybrid model



Middleware for a Hybrid model



Alternative 1: Integrate xSeries and zSeries



IBM [^] [®]
xSeries (Intel-based)

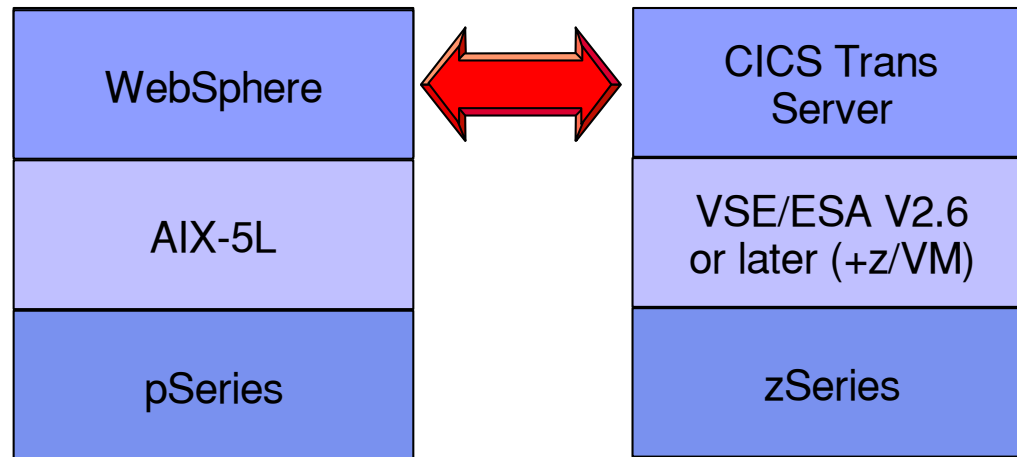


IBM TotalStorage[®]
Enterprise Storage Server[®]



IBM [^] [®]
zSeries

Alternative 2: Integrate pSeries and zSeries



IBM [^] [®]
pSeries (POWER)

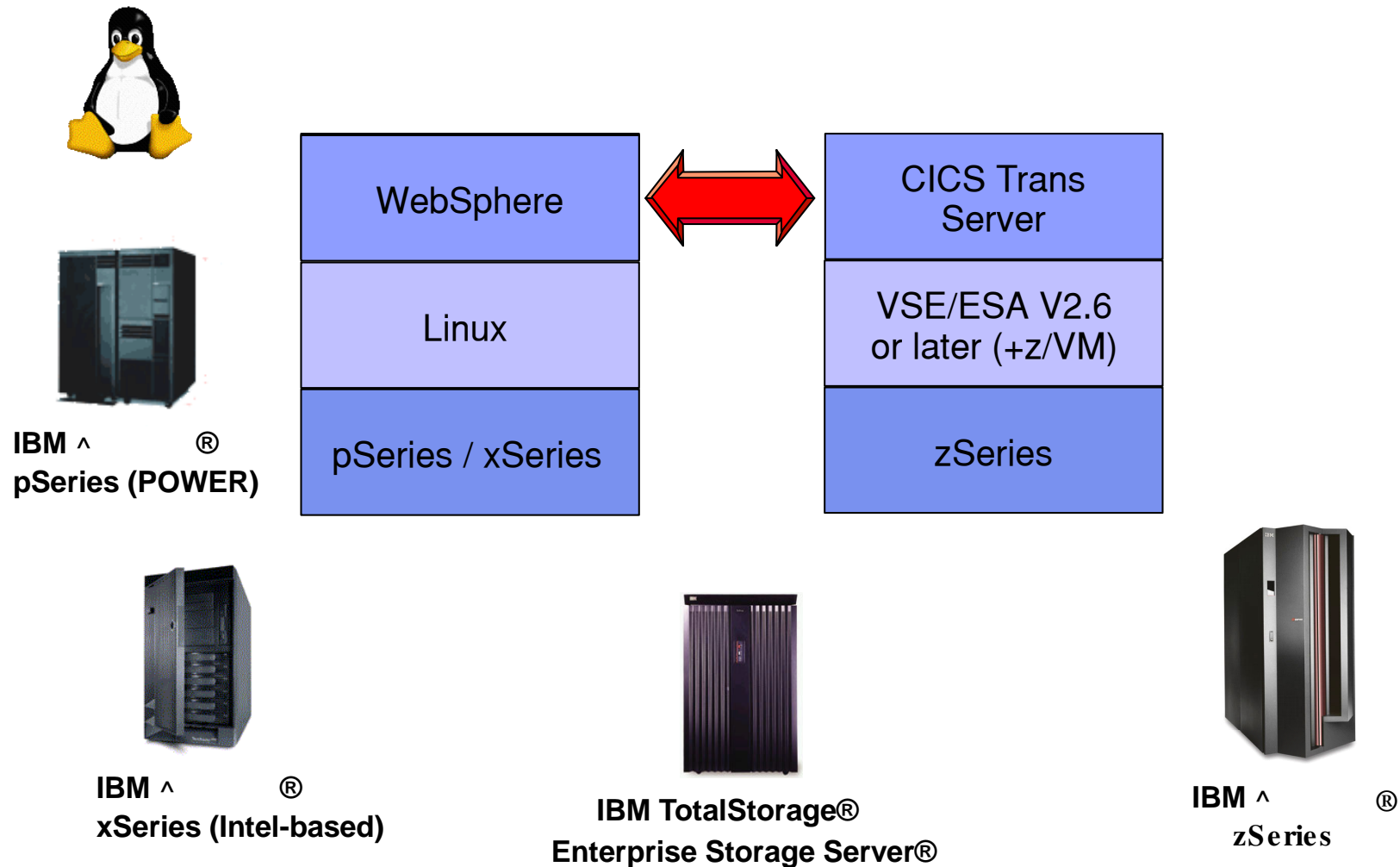


IBM TotalStorage[®]
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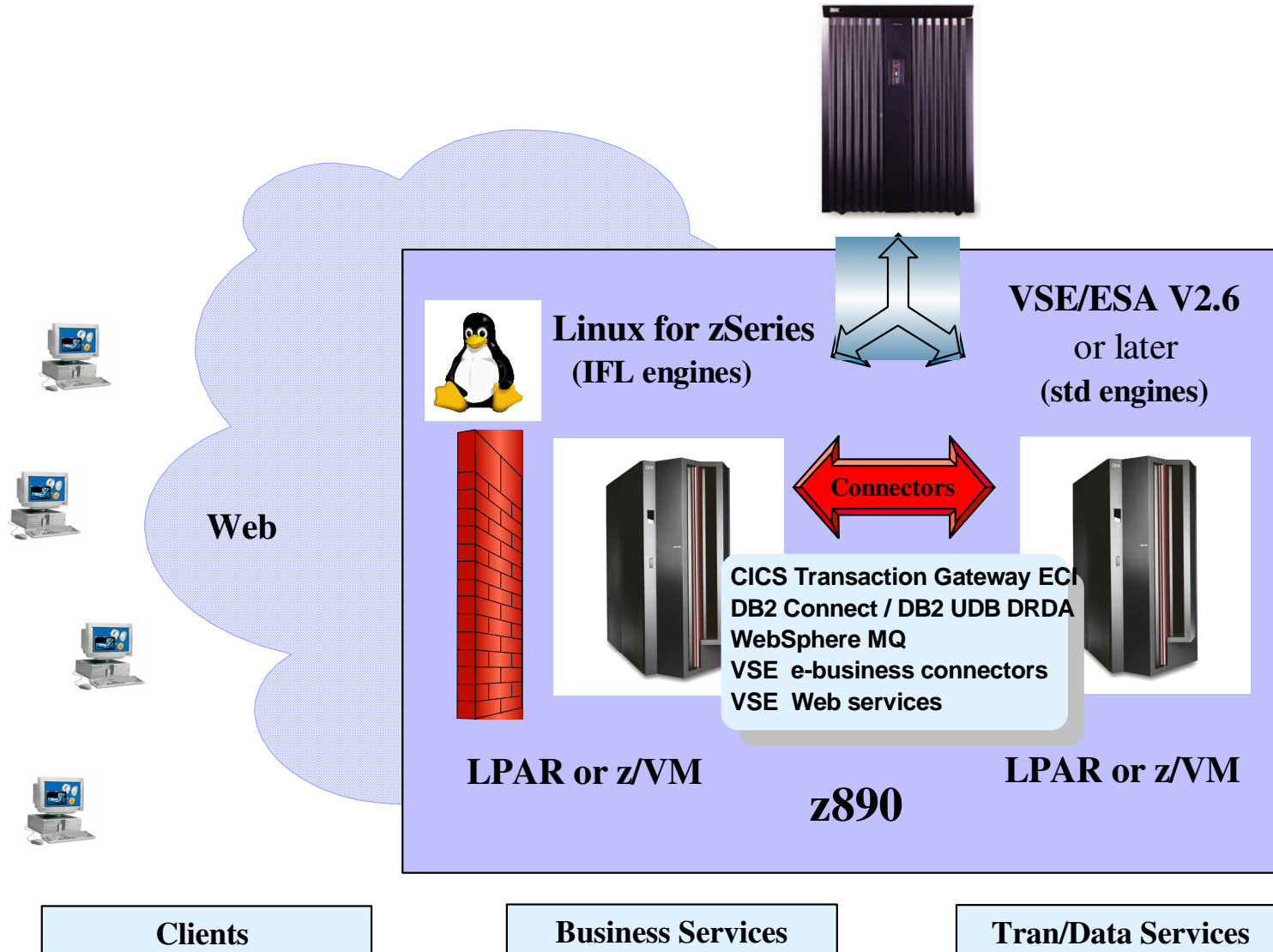


IBM [^] [®]
zSeries

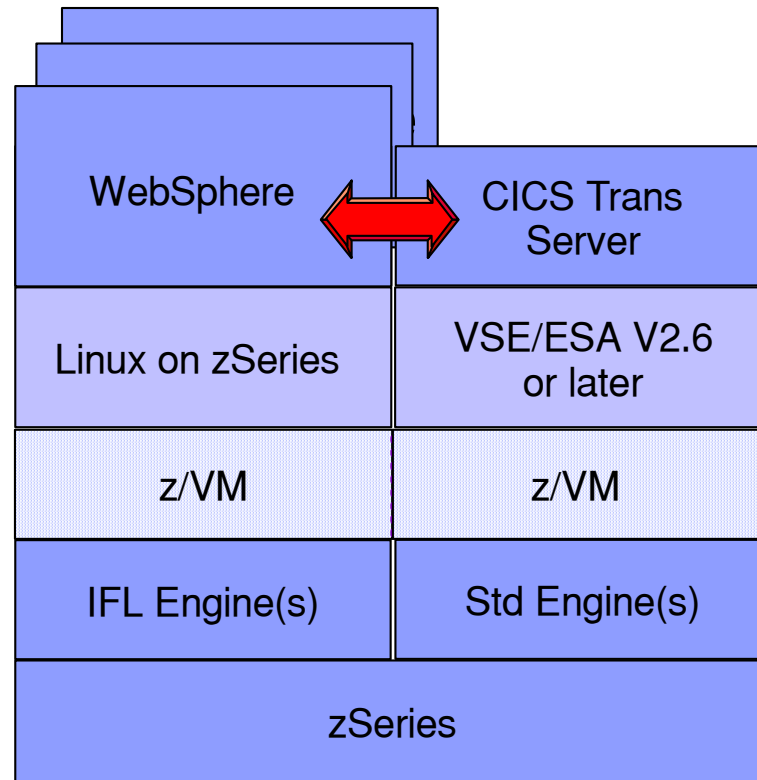
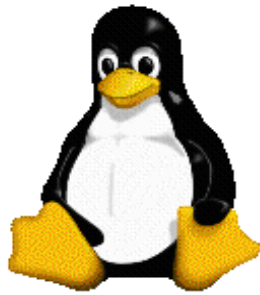
Alternative 3: Integrate x & pSeries with zSeries



Why not think *inside* the box?



Alternative 4: Integrate Linux and VSE on zSeries



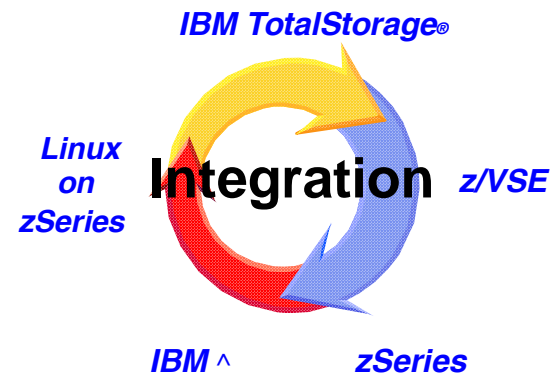
IBM TotalStorage®
Enterprise Storage Server®



IBM ^ ®
zSeries

Agenda

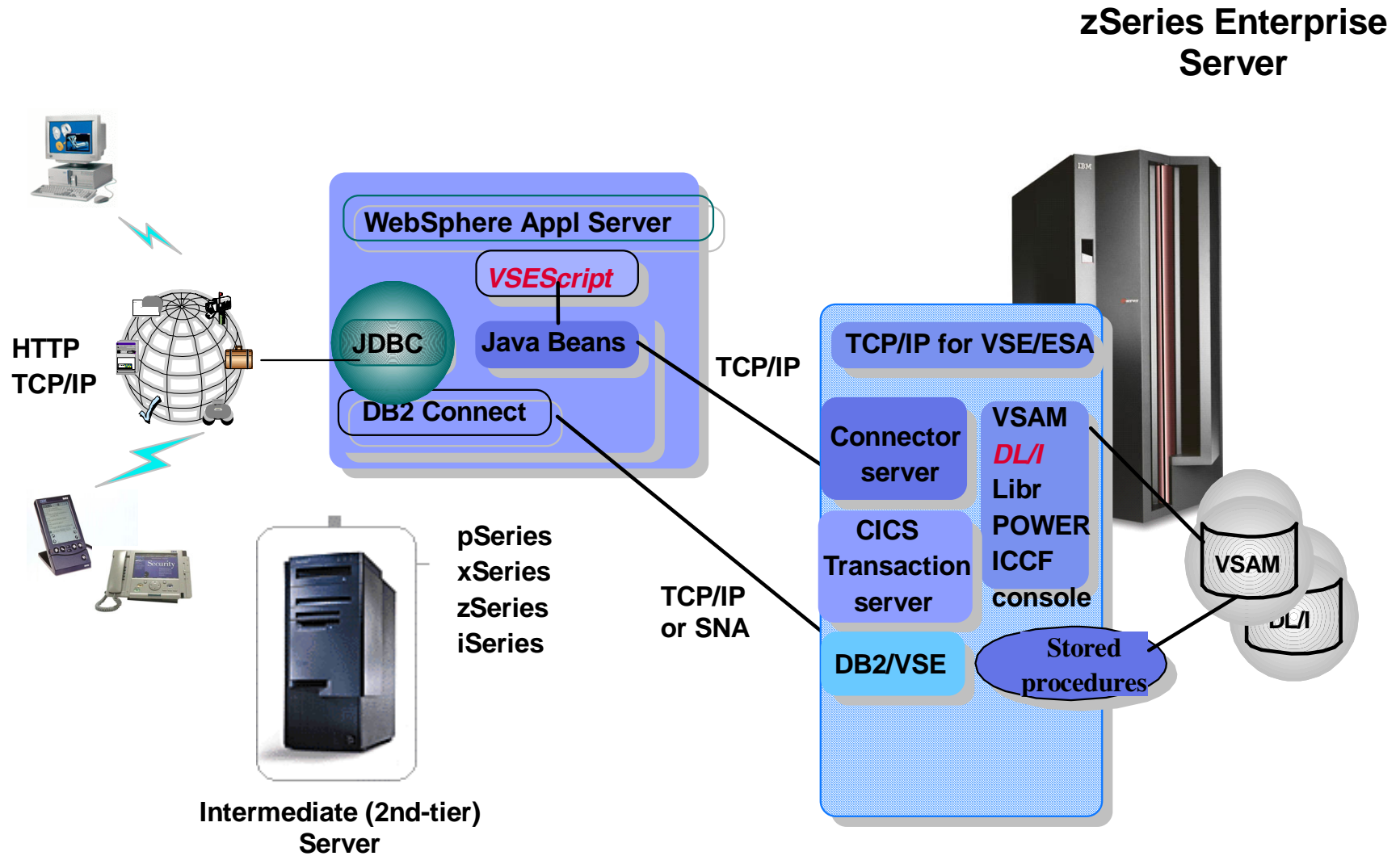
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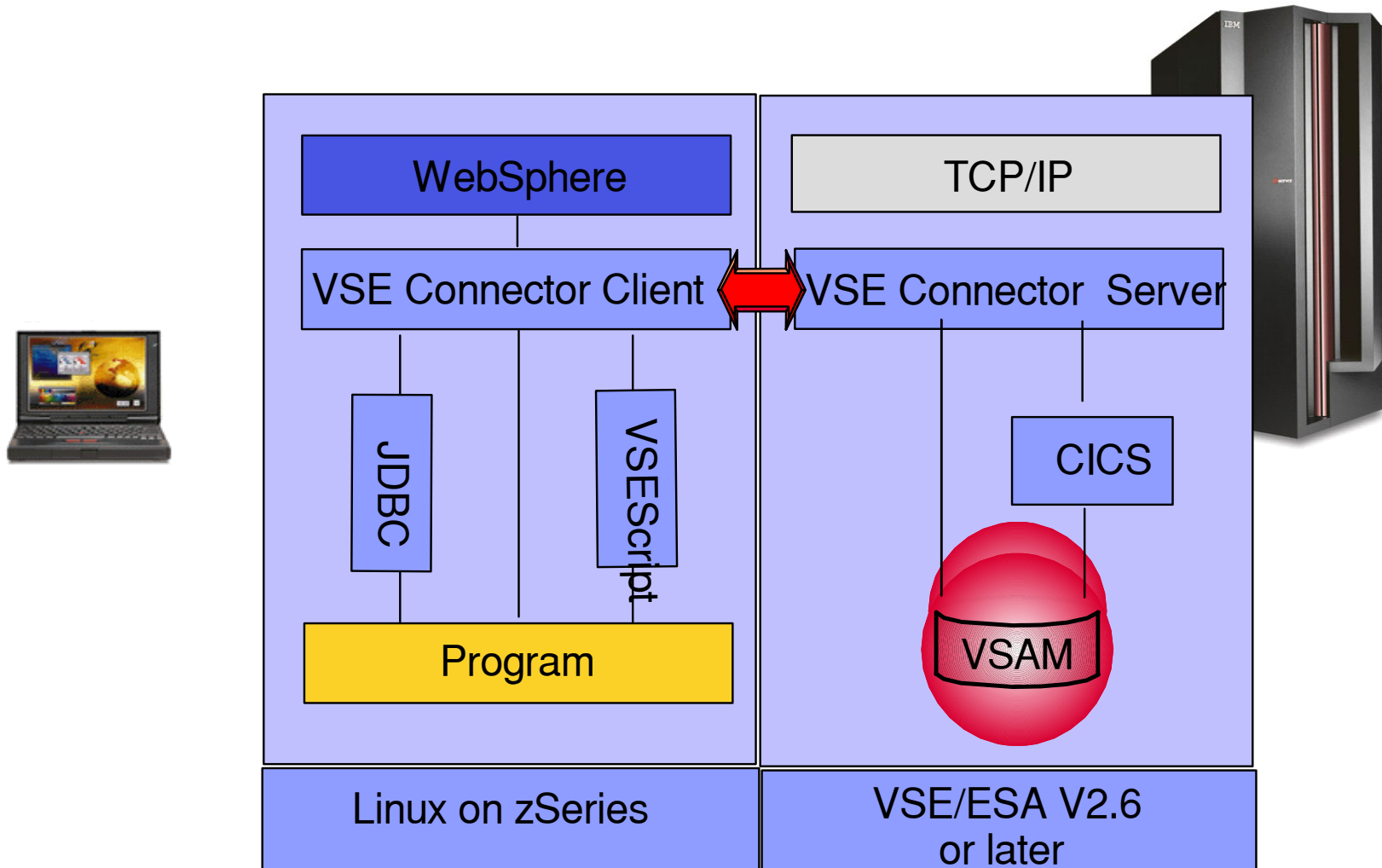
VSE e-business connectors

- Java technology-based connectors
 - Connectivity via TCP/IP (BSD Sockets)
 - VSE server implemented as a long-running partition
 - Clients implemented as Java classes
 - Access to VSAM, DL/1, POWER™, Librarian, ICCF Lib, console
- DB2 based connectors
 - Connectivity via TCP/IP or SNA
 - VSE server implemented as DB2® stored procedures
 - Client is DB2 Connect on “middle tier”
 - Access to DL/1 and VSAM (plus DB2 via DRDA)
- Provided with VSE at no additional charge
 - DB2-based connectors require DB2 Server for VSE and VM on VSE plus DB2 Connect or DB2 Universal Database on a middle tier

VSE e-business connectors

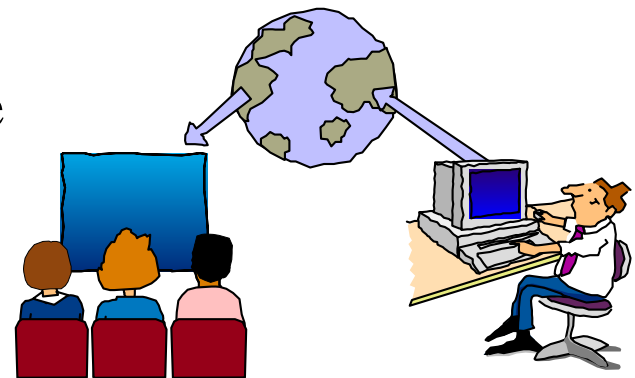


Scenario 1 – ‘Pull’



VSE/VSAM Redirector

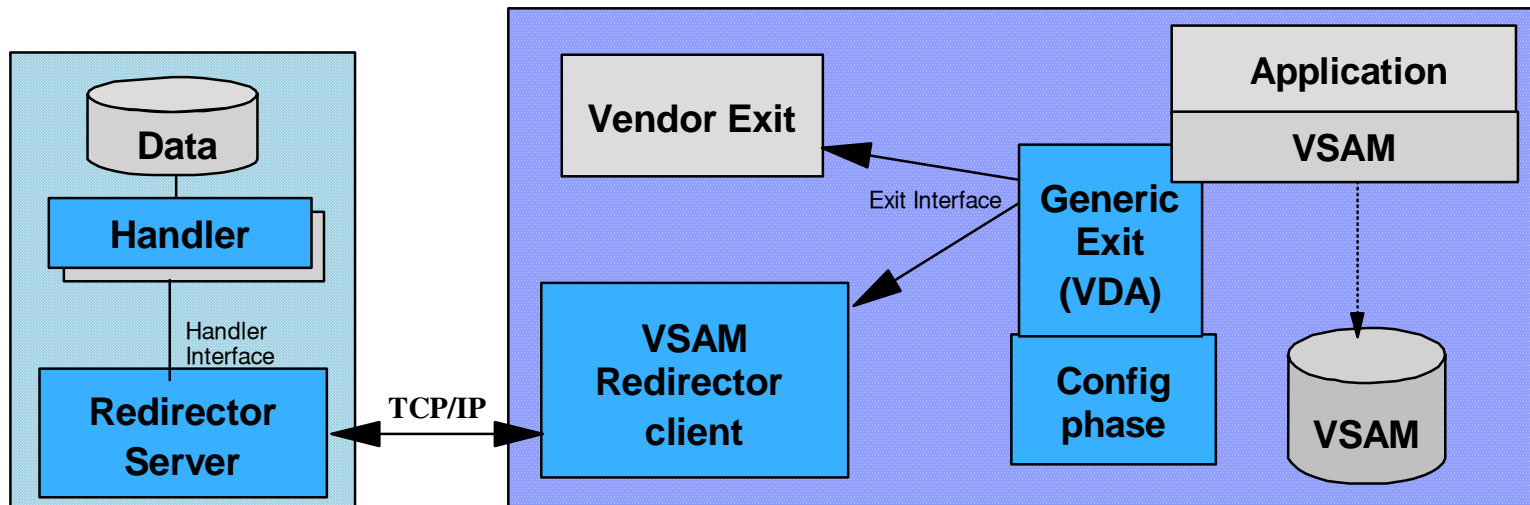
- VSAM Redirector Client (runs on VSE)
 - Based on generic VSAM exit
 - Designed to be transparent (no changes) to VSE application
 - Intercepts VSAM request and routes to Redirector Server
- VSAM Redirector Server (runs on any Java Platform)
 - Implemented in Java
 - Fields request from VSE client
 - Calls file-specific handler
 - Returns result to VSE
- Provided with VSE at no additional charge



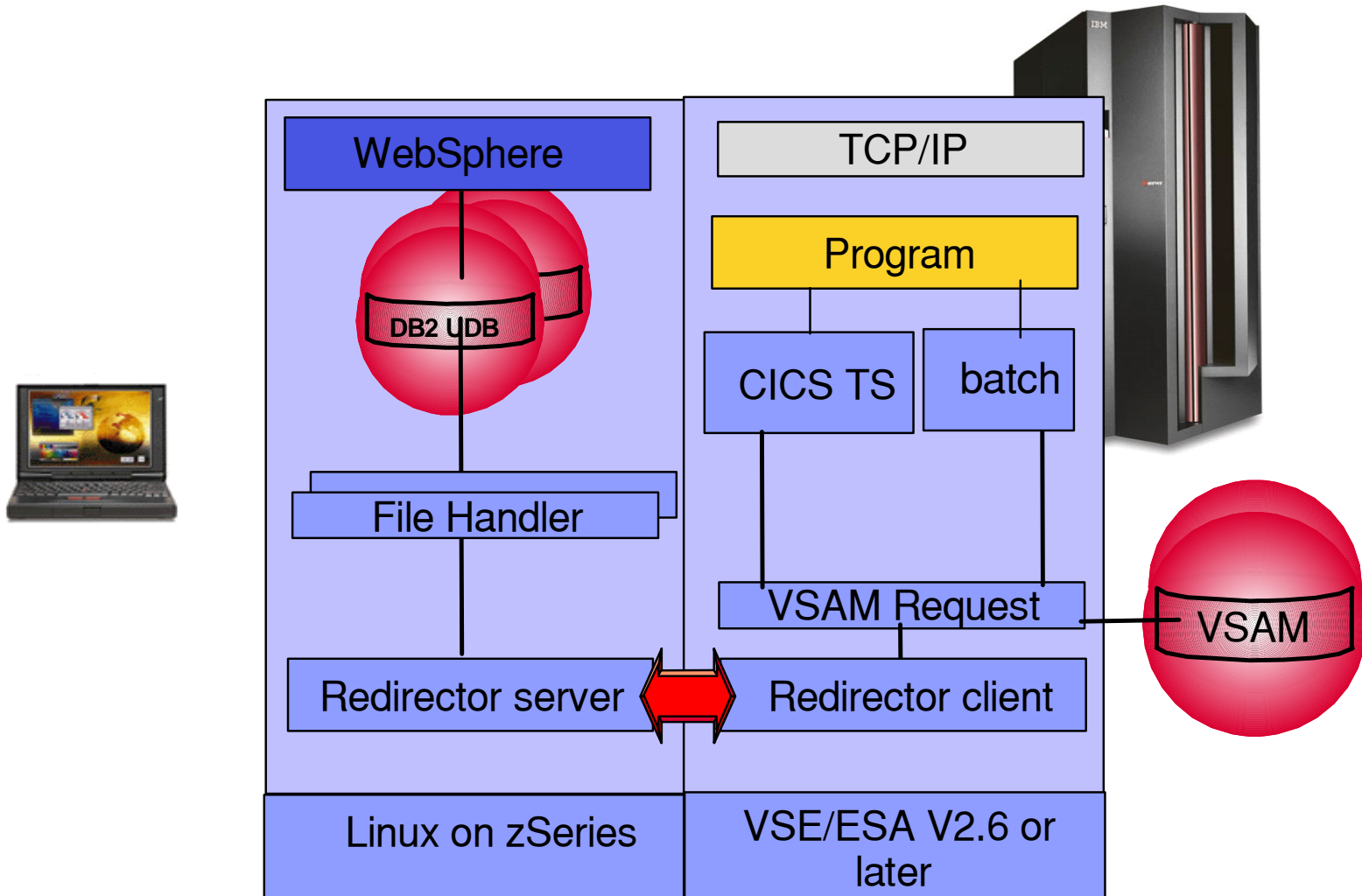
VSE/VSAM Redirector

Java Platform

VSE



Scenario 2 – ‘Push’



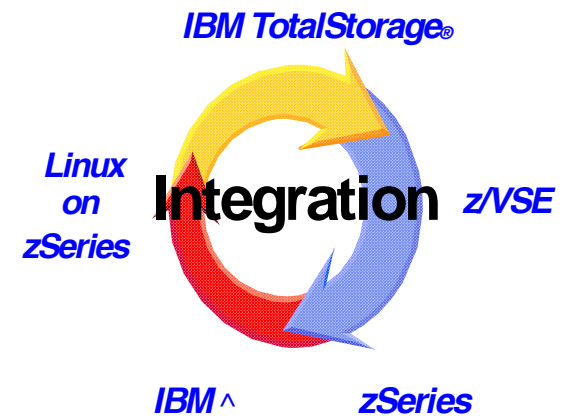
z/VSE ⁽¹⁾ V3.1 Interoperability

zSeries Functions	z/VSE V3.1	VSE/ESA V2.7	VSE/ESA V2.6
VSE Connectors (no additional charge)			
Web Services i.e. SOAP and XML	Yes	Yes	Yes*
VSEScript and DL/1	Yes	Yes	Yes*
VSAM Redirector	Yes	Yes	Yes
VSAM, POWER, Librarian, ICCF Lib, console	Yes	Yes	Yes
DB2 Stored Procedures for VSAM and DL/1	Yes	Yes	Yes
IBM Middleware (priced)			
CICS Transaction Gateway	Yes	Yes	Yes
DB2 Connect/DB2 UDB link to stored procedures	Yes	Yes	Yes
MQSeries	Yes	Yes	Yes

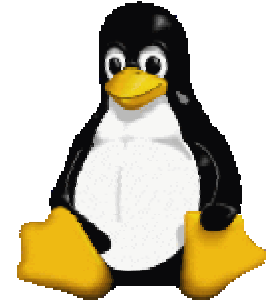
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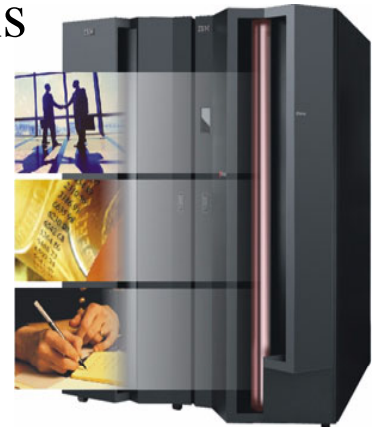
Linux on zSeries – TCO advantages



- Help improve computing resource utilization
 - Resource sharing and workload balancing
- Help improve management of resources
 - Flexible & responsive (quickly add or reconfigure 'virtual' servers)
 - Improve systems reliability and availability
 - Improve and simplify disaster recovery
 - Simplify application architecture and/or infrastructure (i.e. combine application tiers from multiple platforms onto one platform, reduce intersystem networking, etc.)
 - Simplify system administration
- Helps reduce operational costs related to personnel, environment (power, heating and cooling), floor space, etc.
- Help reduce distributed software licensing costs

Linux on zSeries – Advantages for VSE customers

- Infrastructure simplification to help reduce cost
 - Consolidate existing distributed servers
 - Possible TCO benefits of Linux and zSeries
- New Linux on zSeries applications based on IBM Middleware
 - WebSphere Application Server
 - DB2 UDB
 - Lotus® Domino™
 - Advanced application development tools
- New Linux-based open source and/or ISV applications
 - Linux *for* zSeries to exploit zSeries 64-bit capabilities
 - Complement 31-bit core VSE applications
- Integrate Linux and VSE solutions
 - Linux access to VSE applications and data



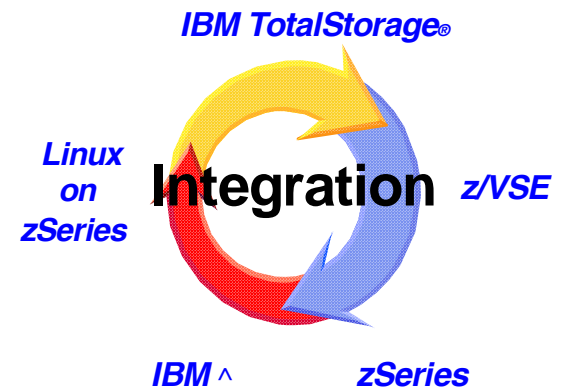
z890 Integrated Facility for Linux (IFL)

- Dedicated exclusively to Linux workloads
 - Linux or Linux guests under z/VM
- Uses PR/SM™ technology
- Full processor functionality
- Cost benefits
 - lower price for IFL than standard engine
 - IBM's traditional zSeries software charges unaffected



Agenda

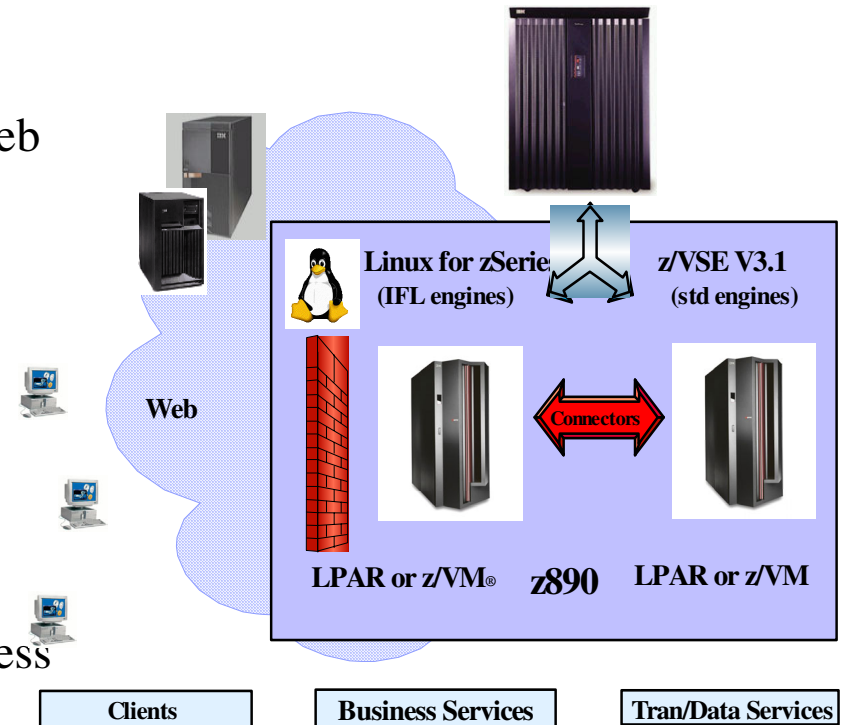
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z/VSE (1) Strategy

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Why Not Think Inside the Box?



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Common Linux and VSE Development Team



After almost 40 years
providing robust,
cost-effective solutions,
VSE doesn't get older –
it gets better.....

P rotect
I ntegrate
E xtend



Simple as P i e !

Additional VSE-related Events

- **WAVV 2005** - featuring
 - z/VM, z/VSE, and Linux on zSeries
 - May 20 - 24, 2005
 - Colorado Springs, CO
 - Sheraton Hotel



Thanks for listening, and **thanks for your business**



→ The History of IBM



Your friends, the VSE team

