

System z Expo

October 13 – 17, 2008 – Las Vegas, Nevada



Enterprise Modernization and z/VSE Exploitation with Linux

zEO01

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Authorized

IBM | **Training**

23-Sep-08

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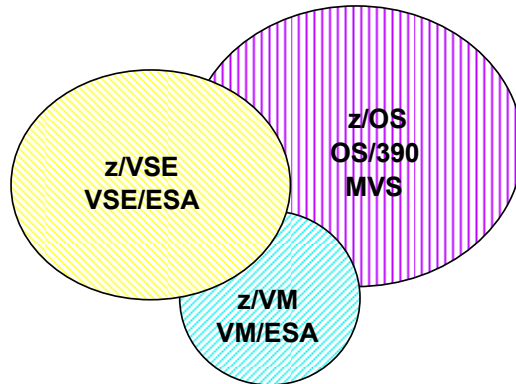


■ Agenda

1. The Role of System z for z/VSE customers
 2. An Enterprise Portal for z/VSE
 3. Centralized data Hub for z/VSE data
 4. SOA integration for z/VSE applications
 5. Centralized Backup for the Enterprise
- Q & A session

System z and the Operating Systems

Traditional Mainframe Operating Systems

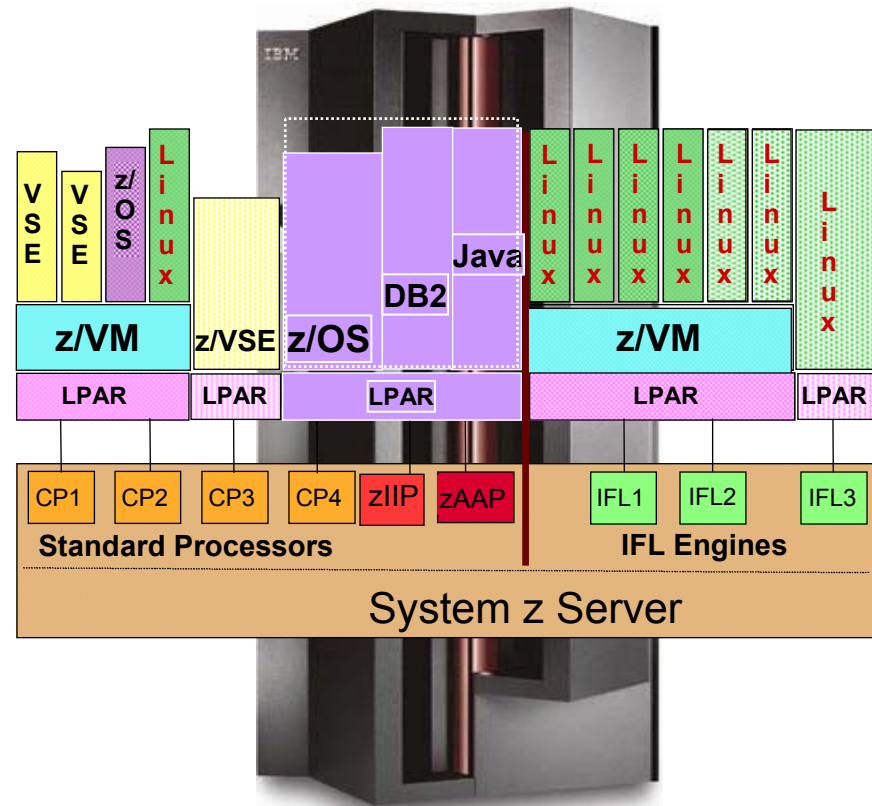


Standard Processors

- CP
 - For z/OS, z/VSE, z/VM workloads

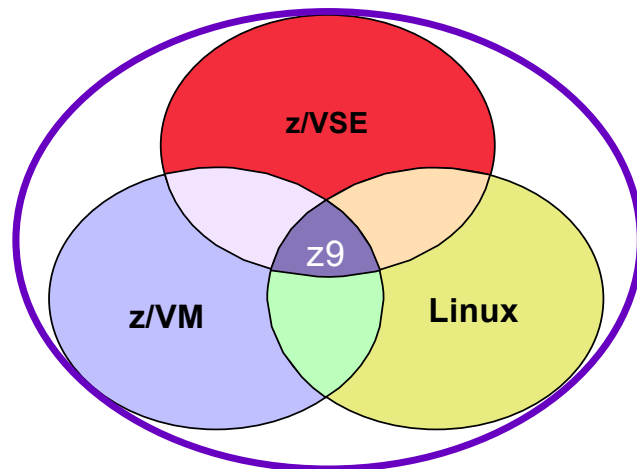
Specialty Processors

- **CF (Coupling Facility)**
 - For Parallel Sysplex with z/OS
- **IFL (Integrated Facility for Linux)**
 - For Linux and Linux applications
- **zAAP (zSeries Application Assist Processor)**
 - For offload of Java applications from z/OS
- **zIIP (System z9 Integrated Information Processor)**
 - For z/OS offload of DB2 distributed requests



Exploiting the Symbiosis with all Worlds on System z9

Symbiosis – *is an interaction of systems where the relationship is beneficial to all partners !*



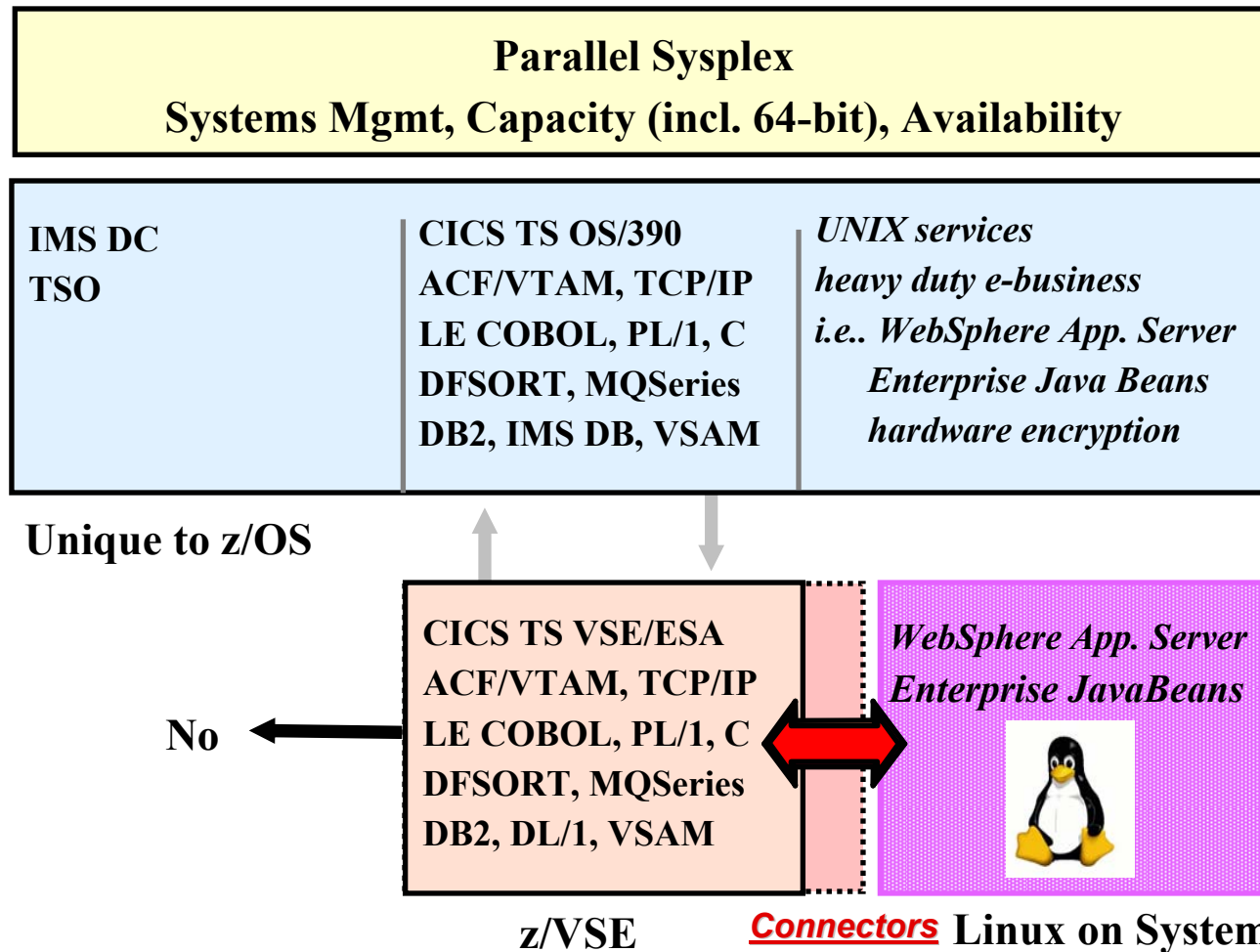
- z/VSE
 - Protect core IT investments
 - Cost-effective solutions
 - Interoperability with network / servers
- Linux on System z
 - Large portfolio of new applications
 - Platform for IBM middleware
 - Infrastructure Simplification
 - Massive scalability
- z/VM
 - Highly flexible, Advanced virtualization
 - Multiple images of z/VSE and Linux
 - Designed to exploit System z

(1) The Role of System z for z/VSE customers



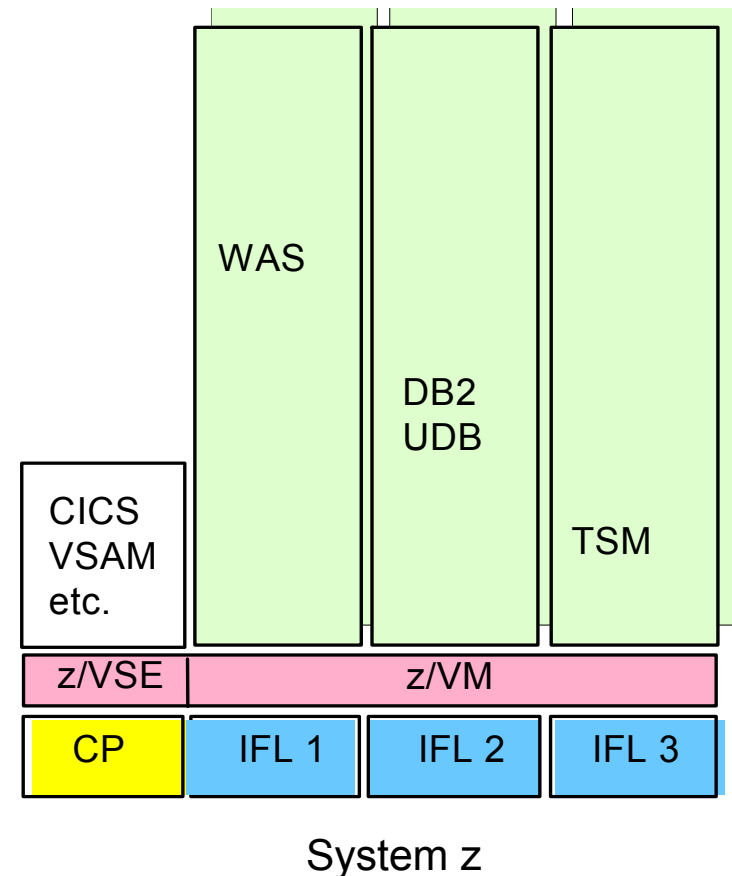
Extending z/VSE with Linux on System z

z/OS



Linux on System z – Advantages for VSE Customers

- **New Linux applications** from Vendors (ISV) and open source
 - Linux on system z to exploit 64-bit capabilities
 - Complement 31-bit core VSE applications
- **New solutions with IBM Middleware** based on Linux on System z
 - WebSphere Application Server
 - Modern Data management (i.e. DB2 UDB)
 - Mailing system with Lotus® Domino™
 - Network simplification with Communications Server
 - Advanced application development tools
- **Integrate Linux technology and VSE solutions**
 - Use Linux to access VSE applications and data
- **Infrastructure simplification** to help reduce cost
 - Possible TCO benefits with Linux
 - NO increase in VSE License Costs
 - Consolidation of existing distributed servers to Linux on System z



z/VSE “PIE” Strategy

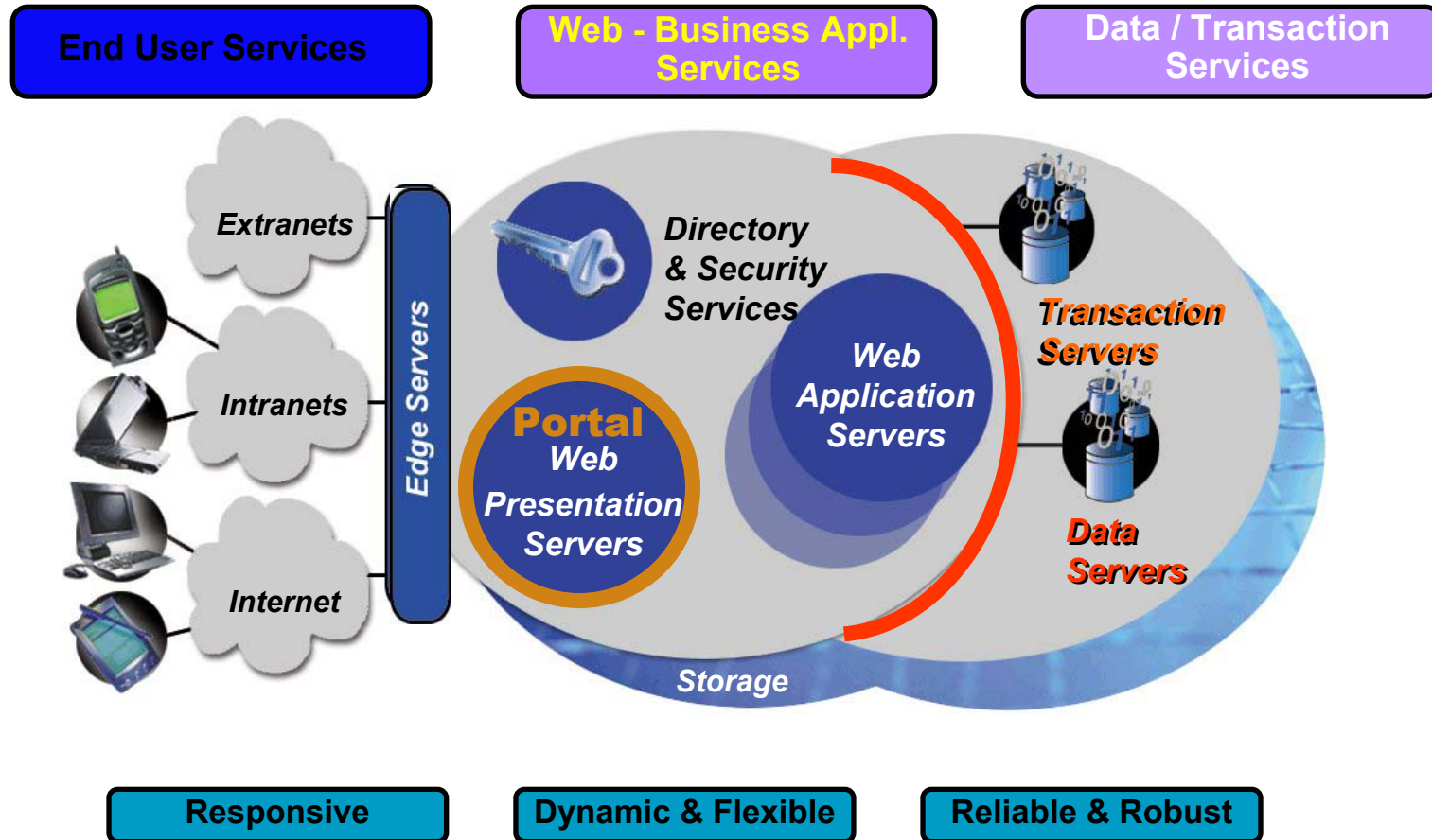
- **Protect** existing customer investments in core z/VSE programs, data, equipment, business & IT skills, *plus* business processes
 - Modernize, i.e. extend z/VSE resources to Web
 - Exploit IBM servers, storage, and software
 - z/OS affinity

- **Integrate** z/VSE with the rest of IT, based on open and industry standards
 - IBM middleware
 - VSE connectors and SOA with Web Services

- **Extend** solutions on System z with Linux on System z
 - Linux as a preferred platform for new workloads
 - leverage existing core VSE investments
 - low cost, low risk, fast time-to-market
 - New line-of-business applications
 - Low TCO and infrastructure simplification



Infrastructure



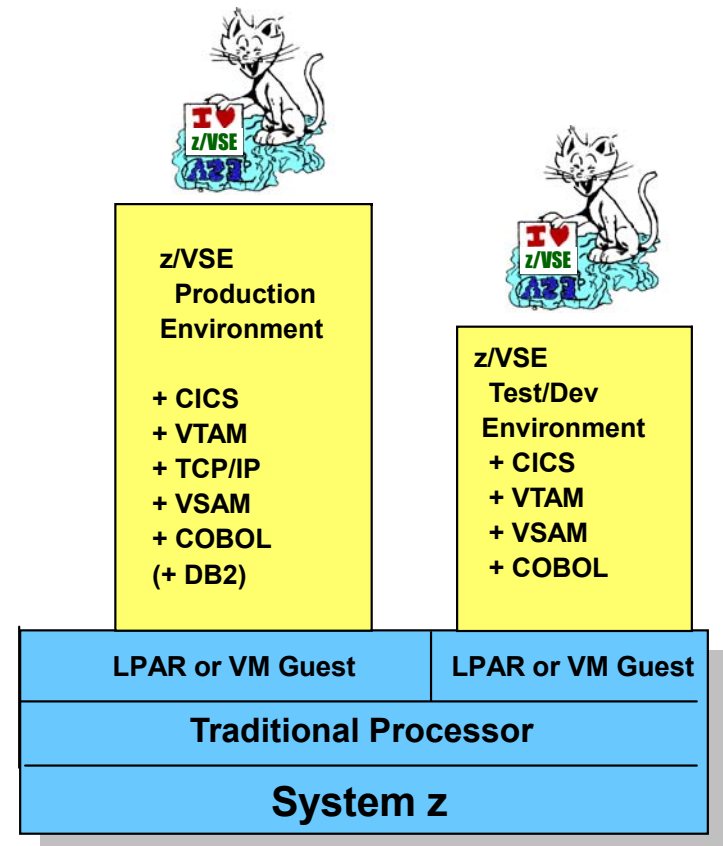
Examples of Modernization

Enhance core VSE applications

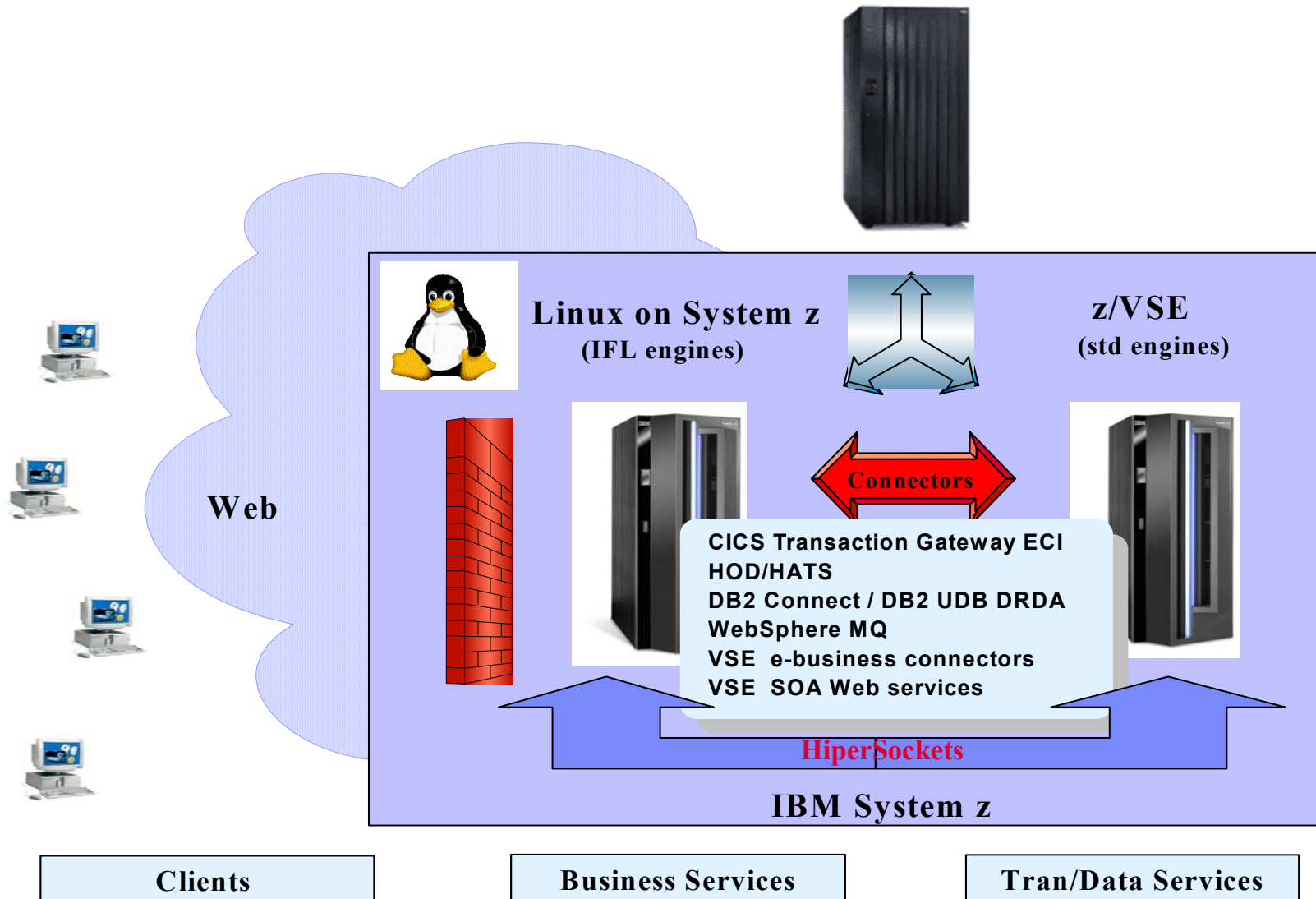
- web access to existing applications
- improve user interface
- simplify with a Portal solution
- extend core applications with distributed logic

Integrate new and existing VSE applications (regardless of platform)

- leverage VSE data – *replace FTP with real-time access to data*
- create modern solutions with Data Warehousing and BI
- leverage VSE logic – integrate it with Connectors and Service Oriented Architecture - SOA



Think *inside* the box – with Linux on System z

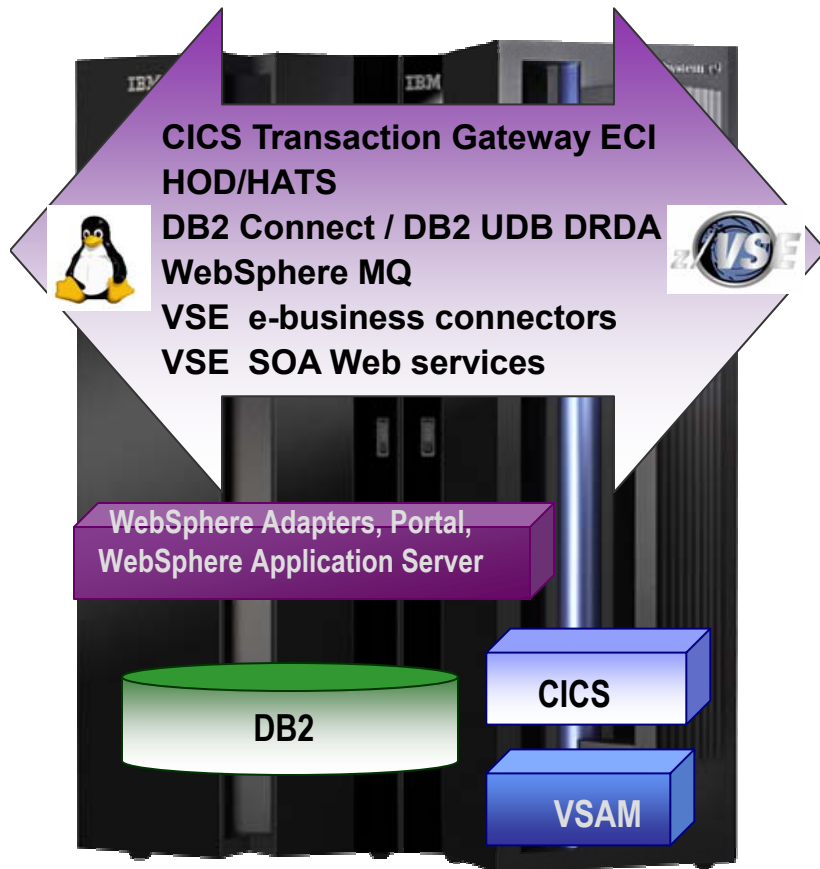


Enterprise solutions in an integrated environment

System z is an integration platform, with system level awareness across the SW stack, enabling you to work smarter

Benefits include:

- Easier Management
 - ✓ Fewer components to administer
 - ✓ Vertical dynamic scalability
- Stringent Security
 - ✓ Reduced interception opportunity
- Highly Available Infrastructure
- Highly Scalable
- High network Performance
 - ✓ No network time
 - ✓ No product specific network protocol construction / deconstruction



z/VSE 4.1 a new version for all needs

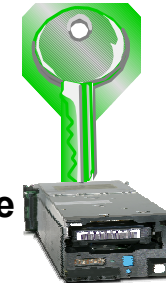
z/VSE 4.1



- 64-bit real addressing
- transparent for applications
- 30/60 LPARS
- VSAM – big DASDs
- bigger Systems – without paging

Security

- Crypto HW
- Secure FTP
- Encrypted Tape



Hardware support

- z Architecture
- Scalability
- Total Storage
- Crypto Cards



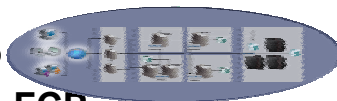
Integration with others

- DB2 UDB
- SOA
- WAS
- Portal
- Tivoli
- ESB - MQ
- Newest Java



Network

- FICON Express4
- OSA-Express2
- NPIV
- P-to-P
- NAS – FCP



Price

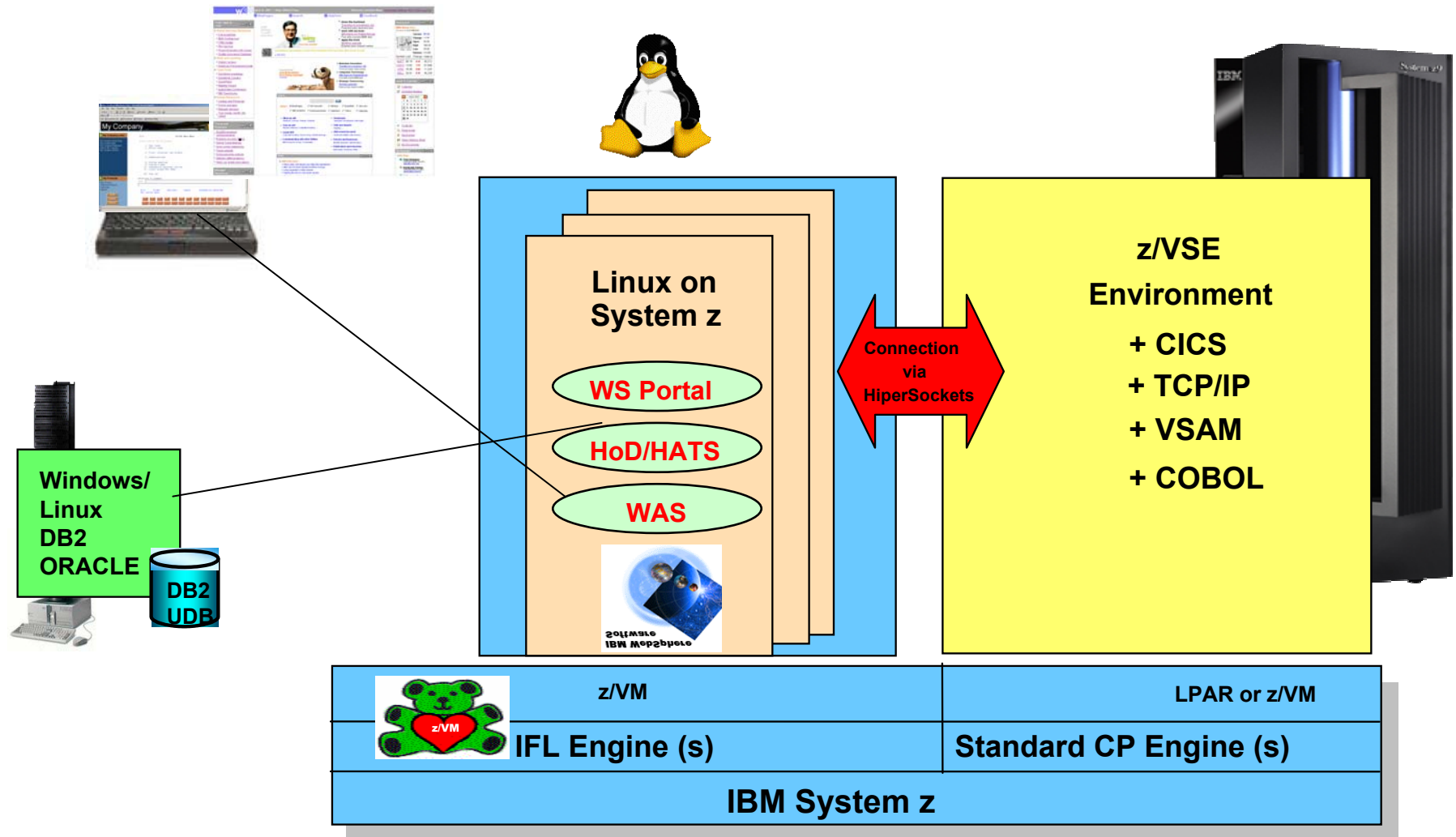
- New Pricing model - MWLC
- Workload based price – Sub Capacity Pricing
- Consolidation possibilities – easier management

(2) An Enterprise Portal with z/VSE



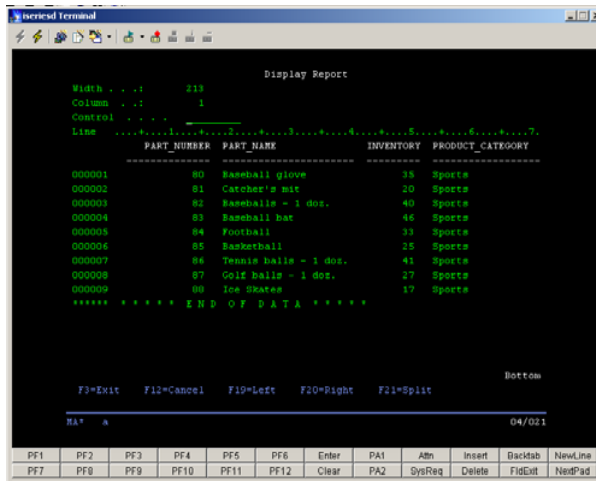
Scenario 1: Linux on System z as Enterprise Access point

Web enable, improve interface, simplify, extend existing applications

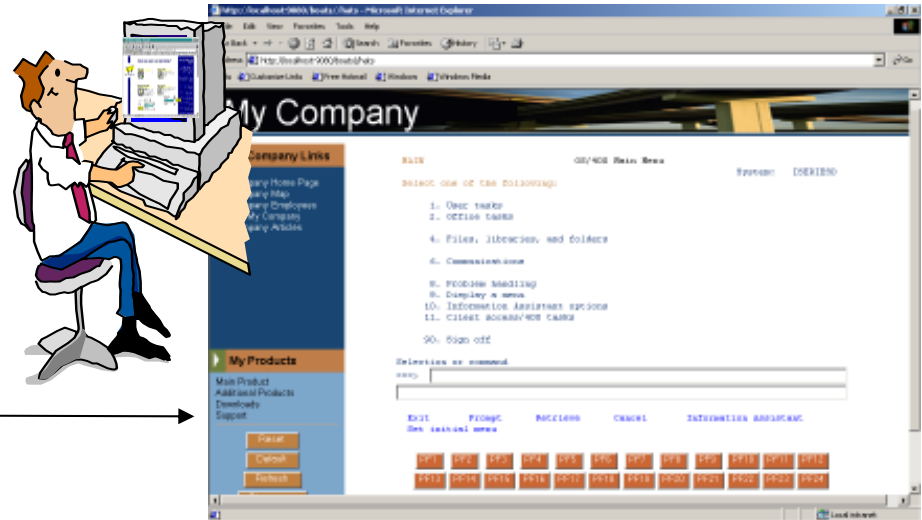
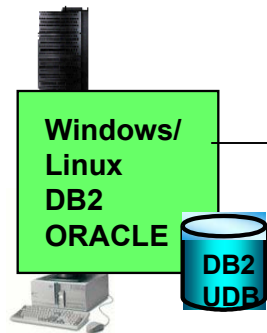


Application Integration with Host Access Transformation Services (HATS)

- No software download to the client
- Converts green screens to GUI
- Integration with distributed applications
- Improves ease of use of host applications
- Web Service on the fly



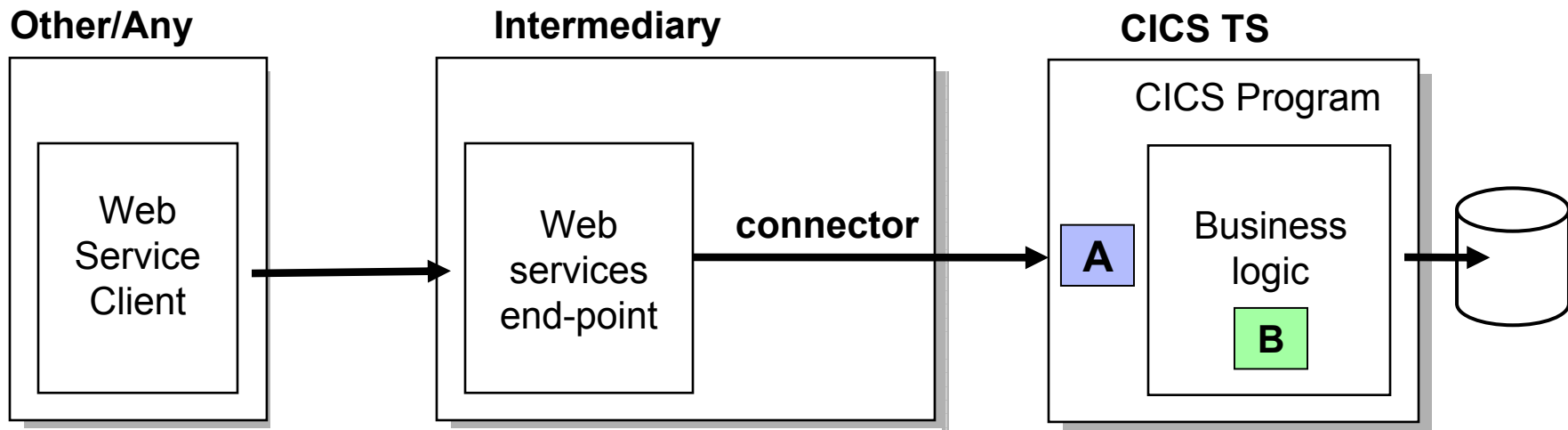
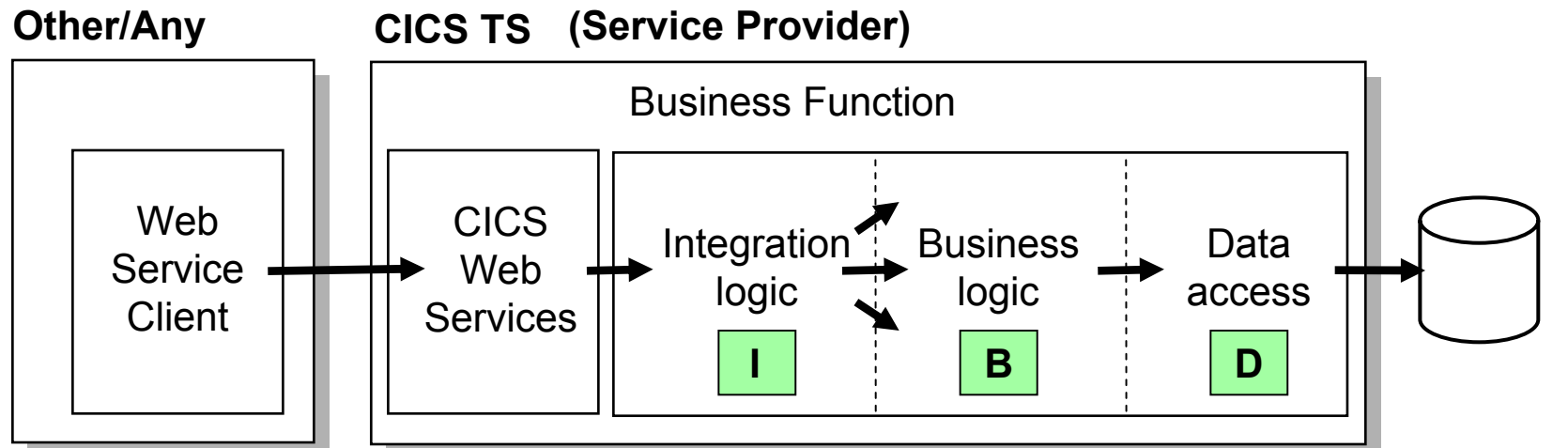
3270 or 5250 data stream



HTML in a Browser

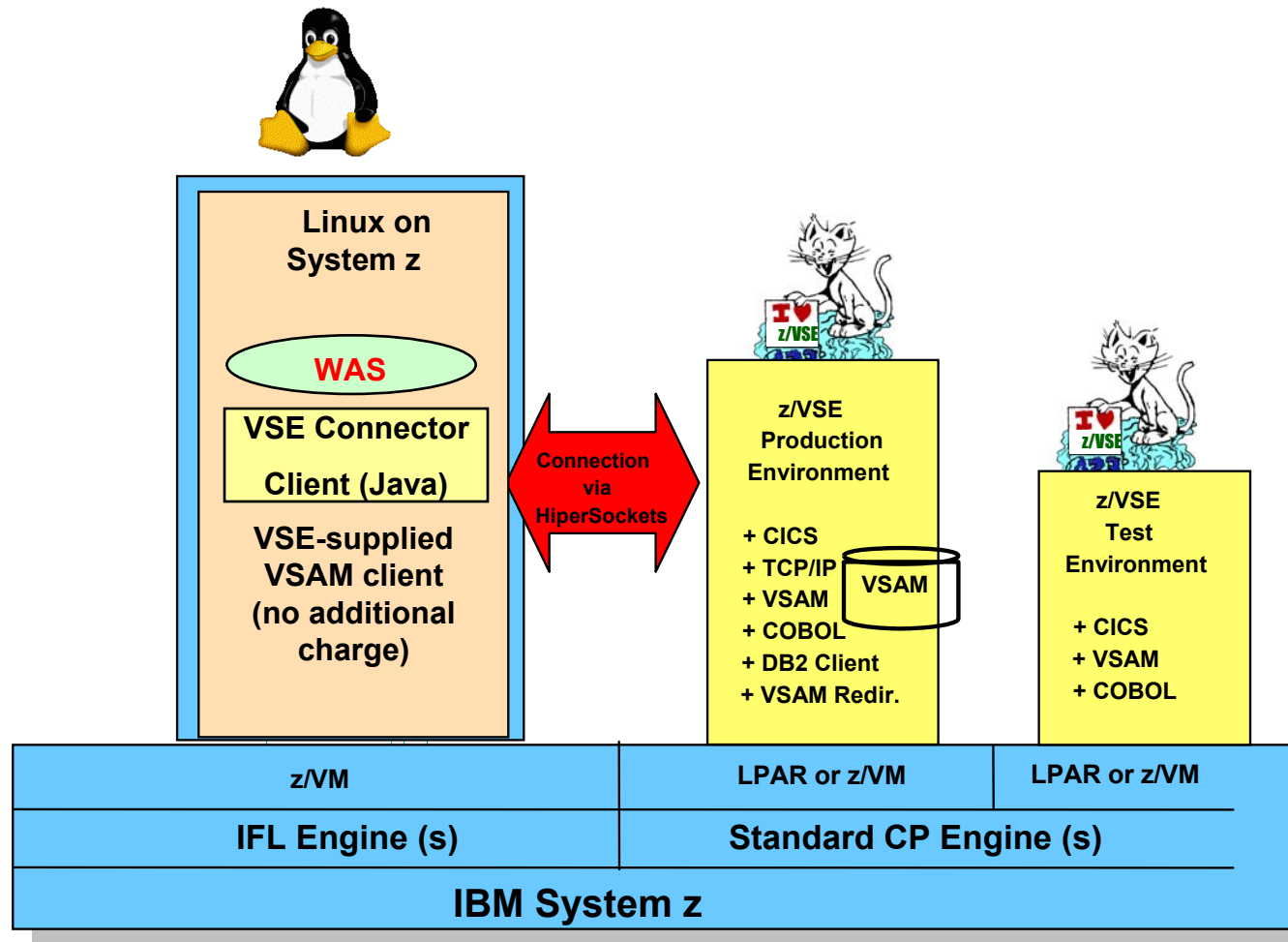
Screen transformation rules running on WebSphere Application Server

The Two Models of CICS Integration

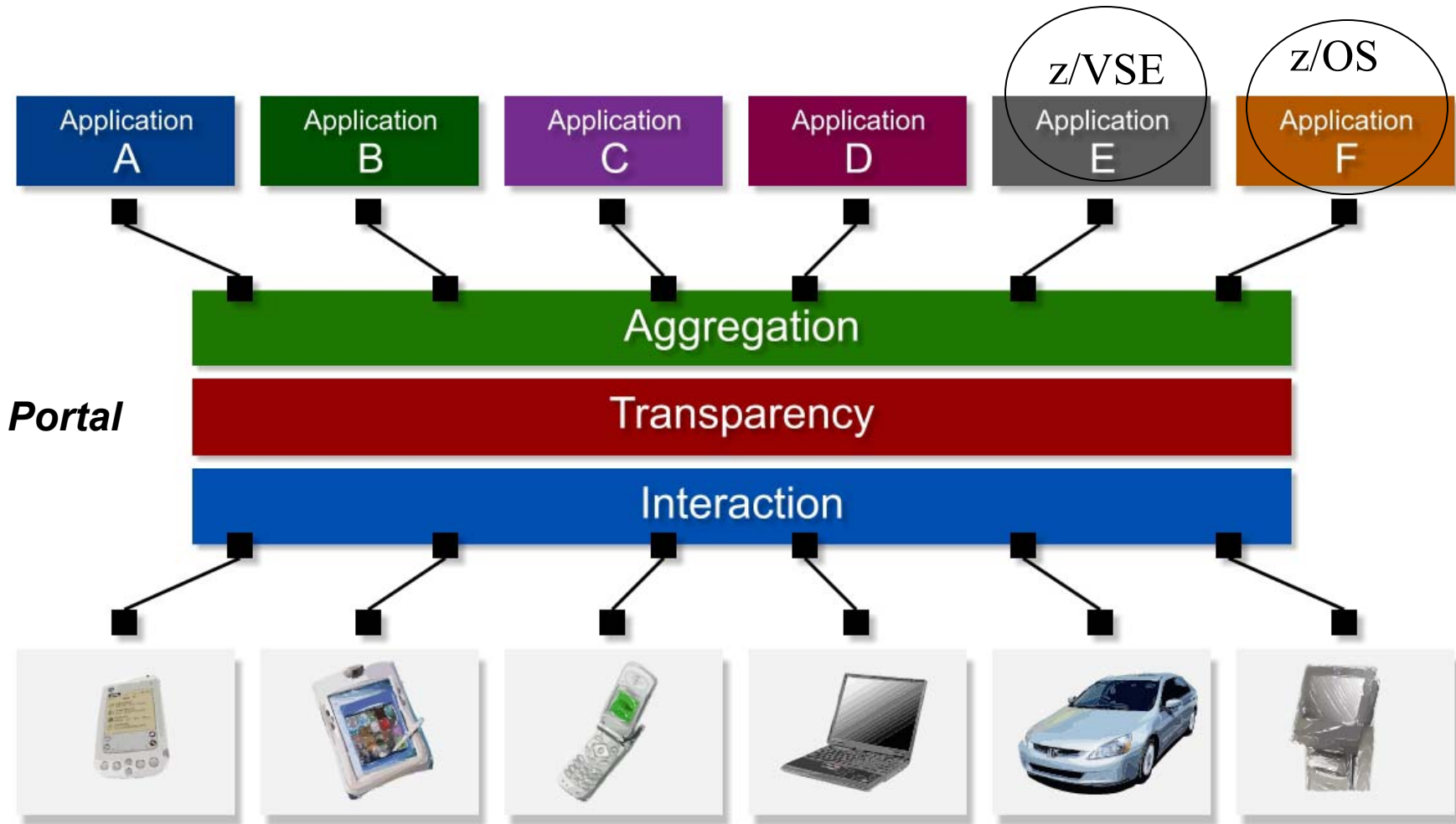


Leverage z/VSE data and resources

Leverage VSE/VSAM data using VSAM Connectors on Linux on System z



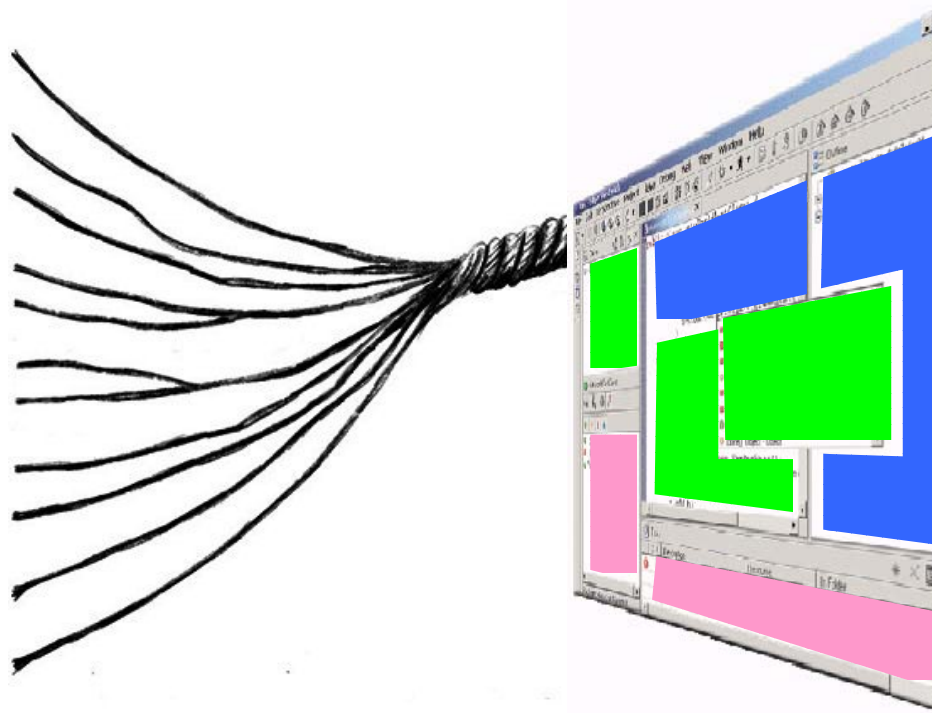
Portal – the integration platform



Application integration with Portal

A single point of personalized interaction with applications, content, processes and people

- Enterprise Applications
- Messaging
- Search
- Collaboration
- E-meetings
- Web Content
- People Finder
- Knowledge Management
- Business Intelligence
- Document management
- Host systems



Solution Benefits

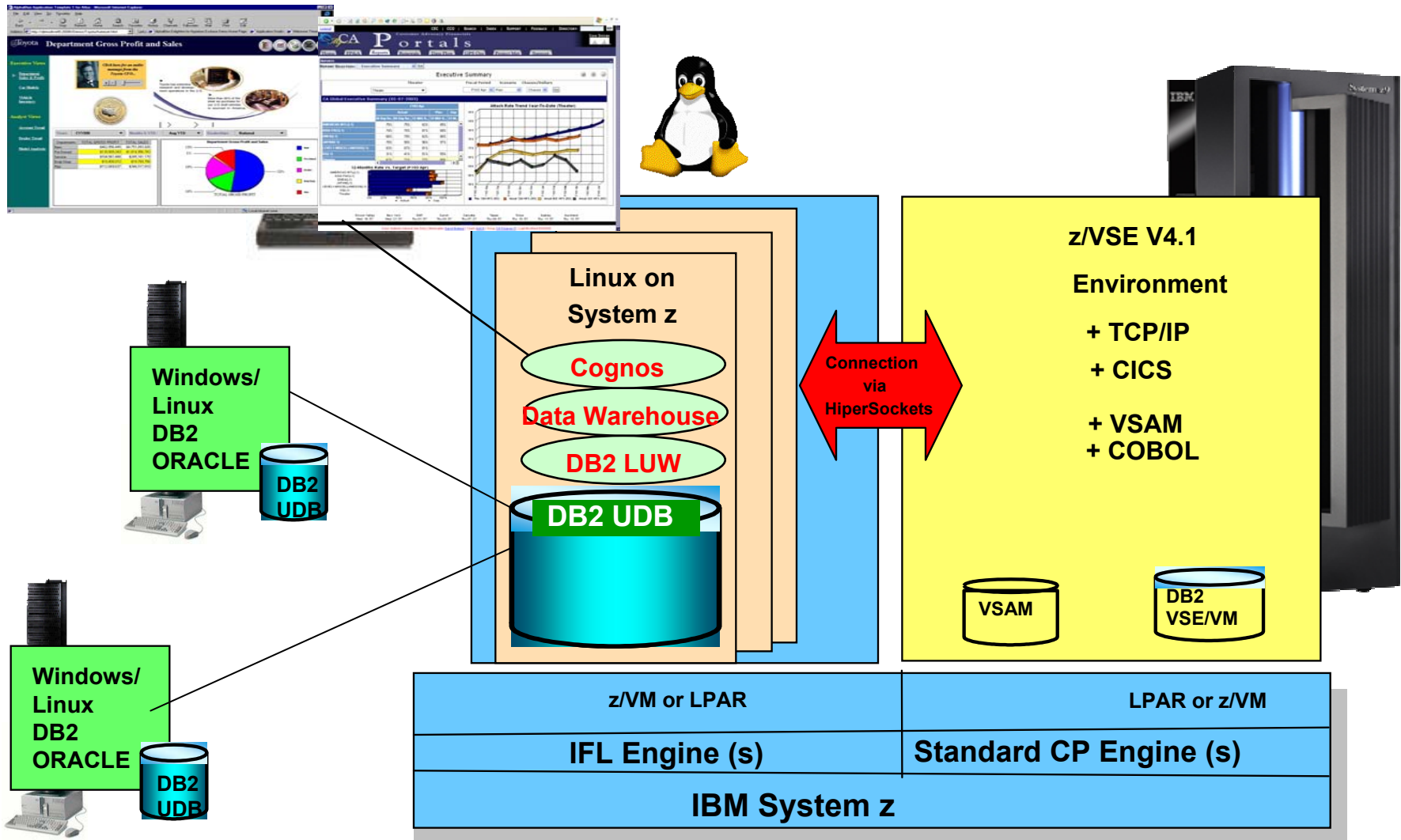
- High Stability – inherits from System z
- Highly Scalable horizontally and vertically
- Very flexible environment with z/VM
- Use of Standard interfaces and applications
- Very effective integration with existing applications

(3) Centralized data Hub for z/VSE data



Scenario 1: Linux on System z as data hub

Consolidate, Integrate, Evaluate, Decide,
Base for Business Intelligence (BI)



DB2 9 with pureXML feature – A Hybrid Data Server

XML Developer

"I see a sophisticated XML repository that also supports SQL."

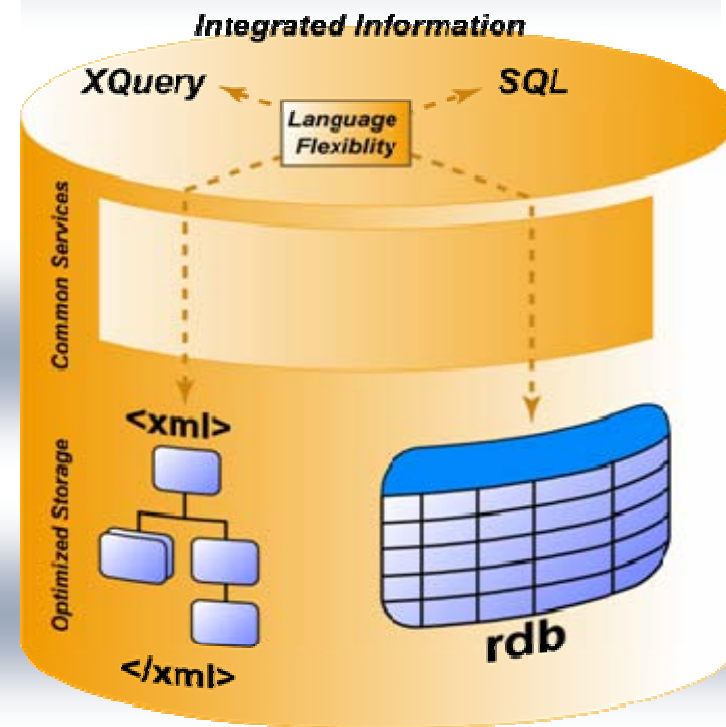


Familiar Programming Models



SQL Developer

"I see a sophisticated RDBMS that also supports XML."



Mature Services

Familiar Tooling

Optimized Storage Models

Optimized Performance & Scale

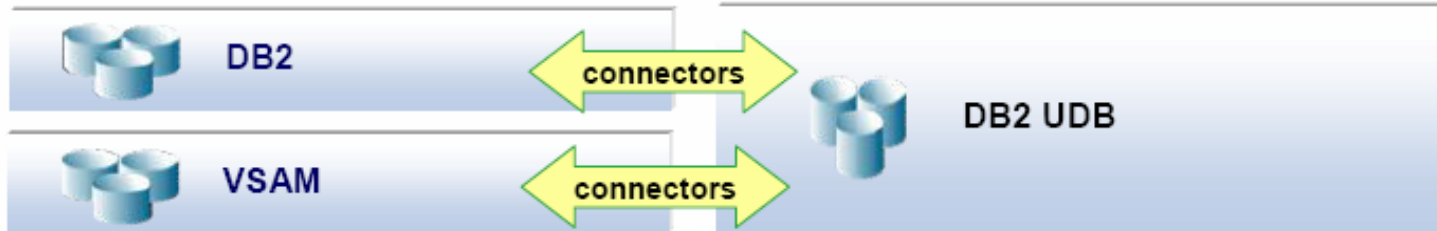
New XML applications benefit from:

- Ability to seamlessly leverage relational investment
- Proven Infrastructure that provides enterprise-class capabilities

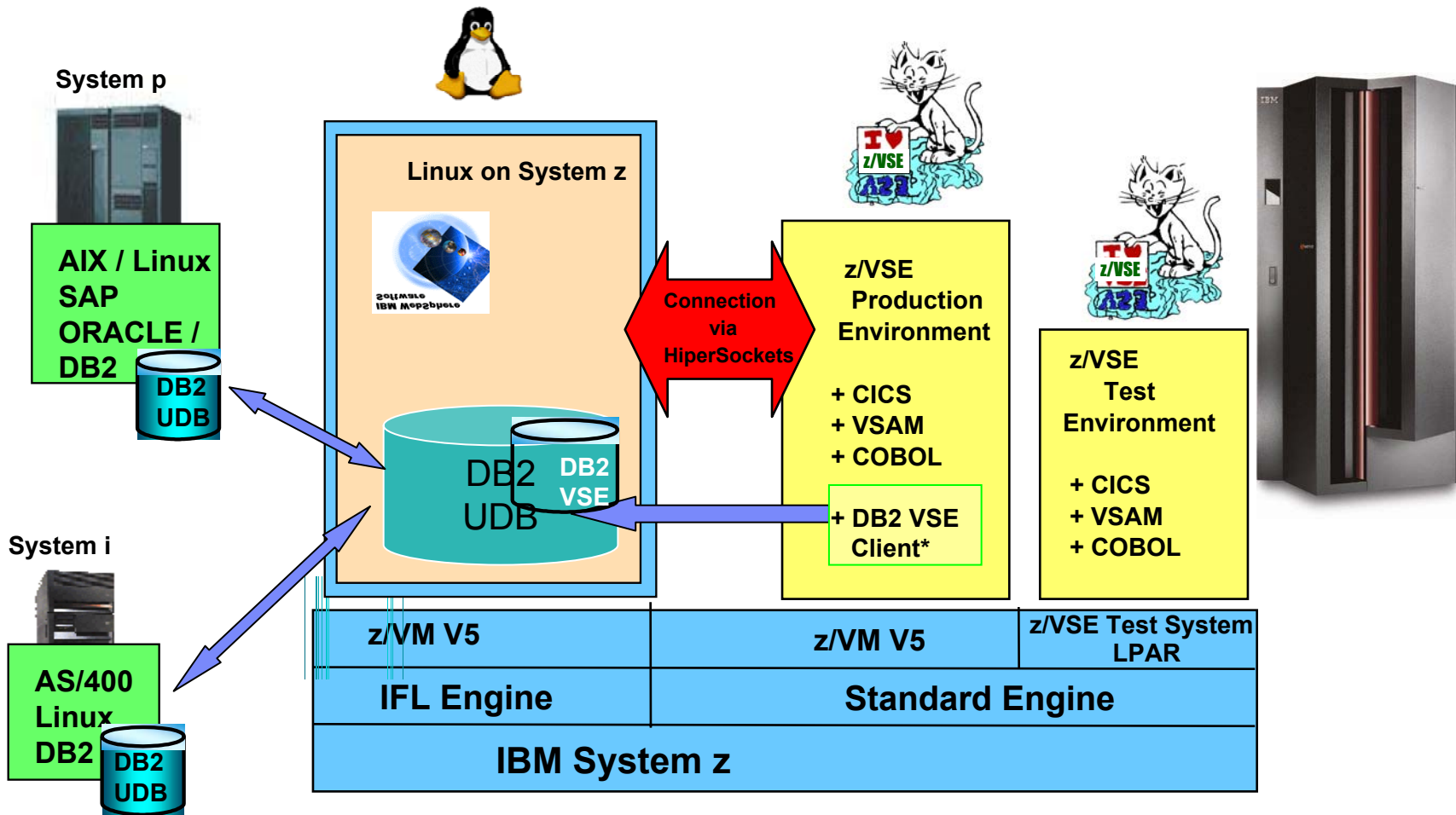
Cognos on IBM System z with z/VSE

Connectors like *VSAM Redirector* enable a VSE application to store data on a remote system.

The VSE program doesn't need any change. Working with a remote relational database (i.e. IBM DB2 UDB), a real time synchronization between VSAM data and the database can be done.

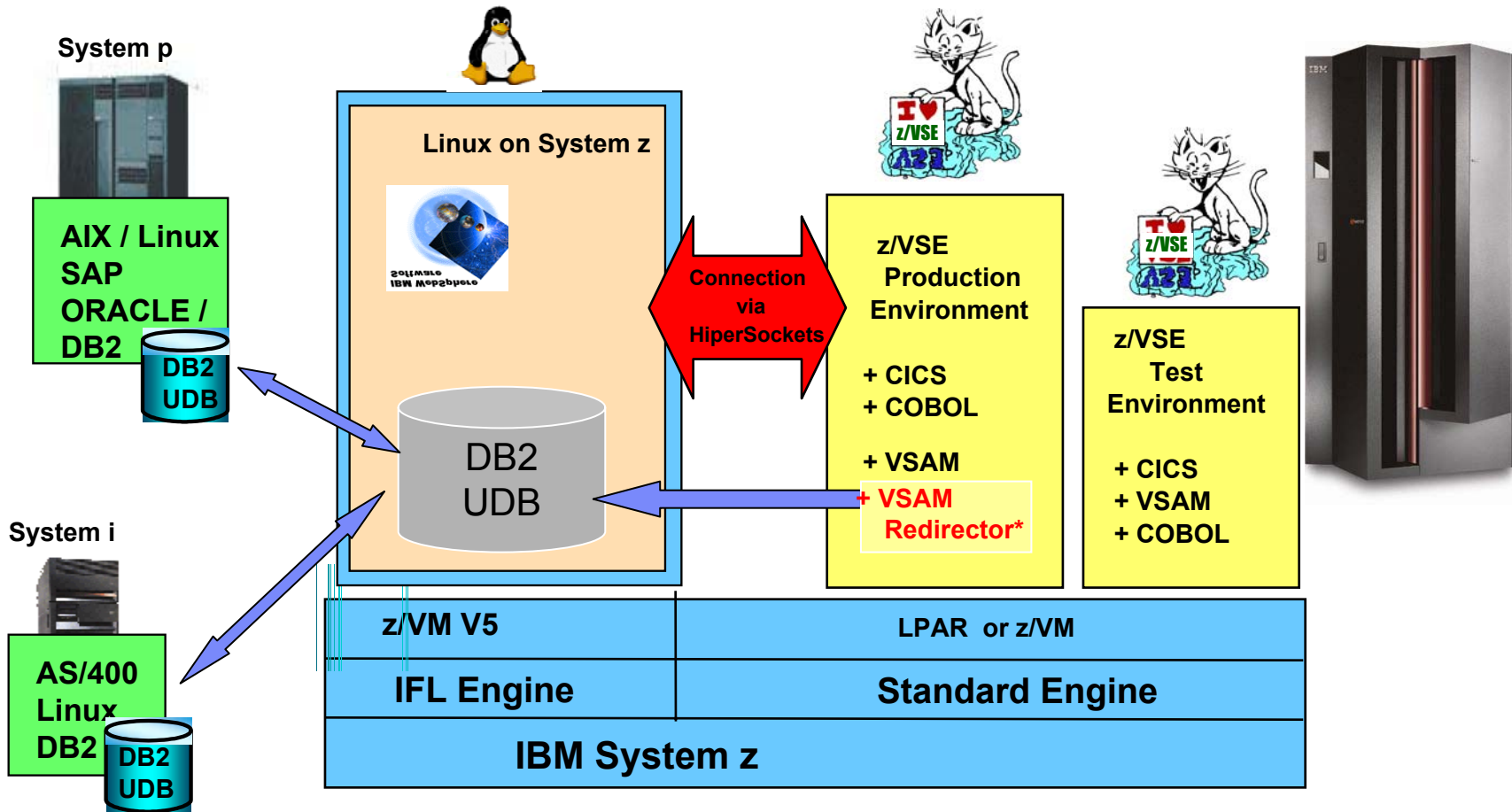


From DB2 VSE to – DB2 UDB using Linux on System z



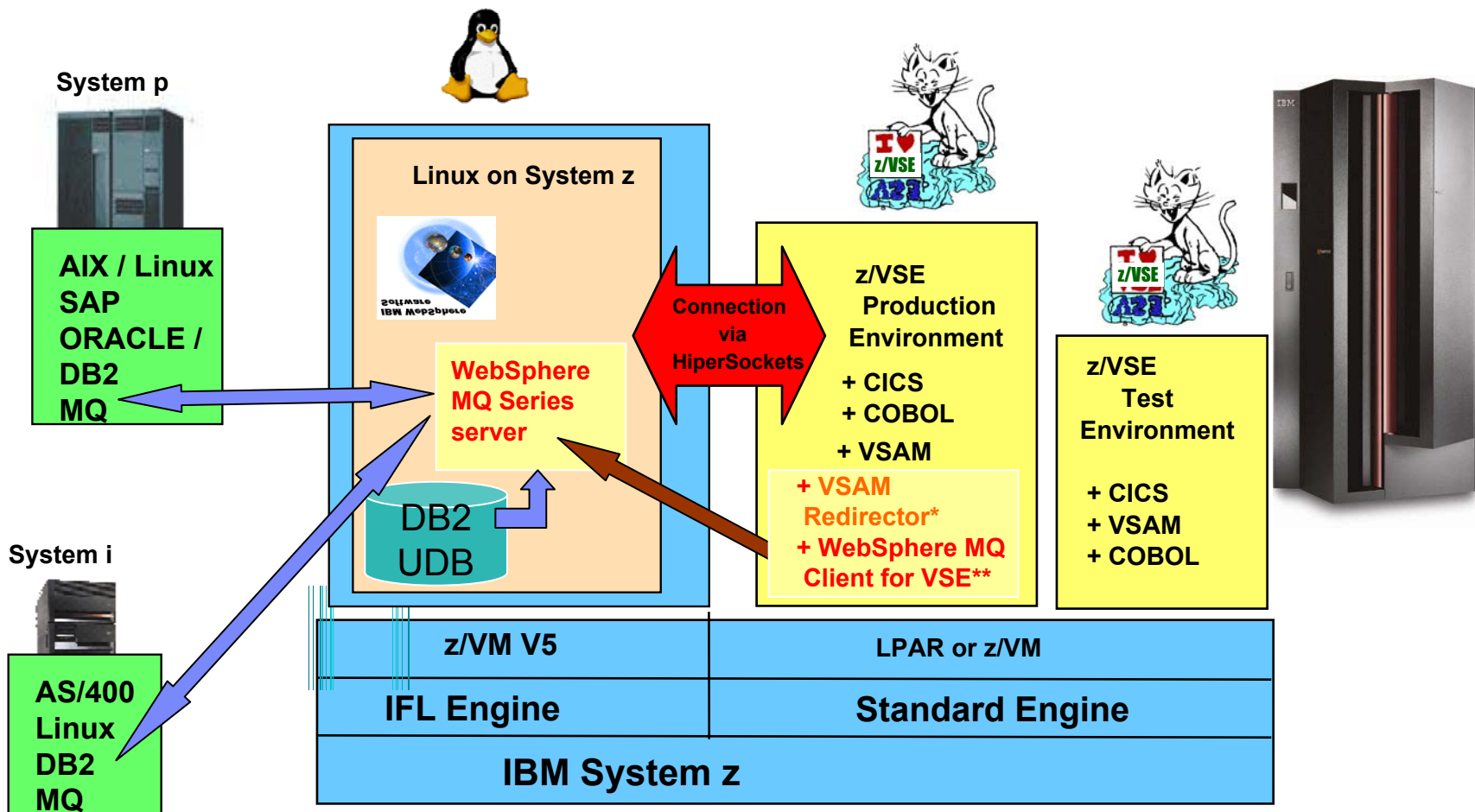
(*) DB2 VSE Client – the client functionality only, can be obtained with [PRPQ P10154](#)

Transparent Work of VSAM Programs with DB2 UDB on Linux on System z



(*) VSAM Redirector – Common data store solution – with DB2 on Linux on zSeries Solutions without changes to VSAM programs

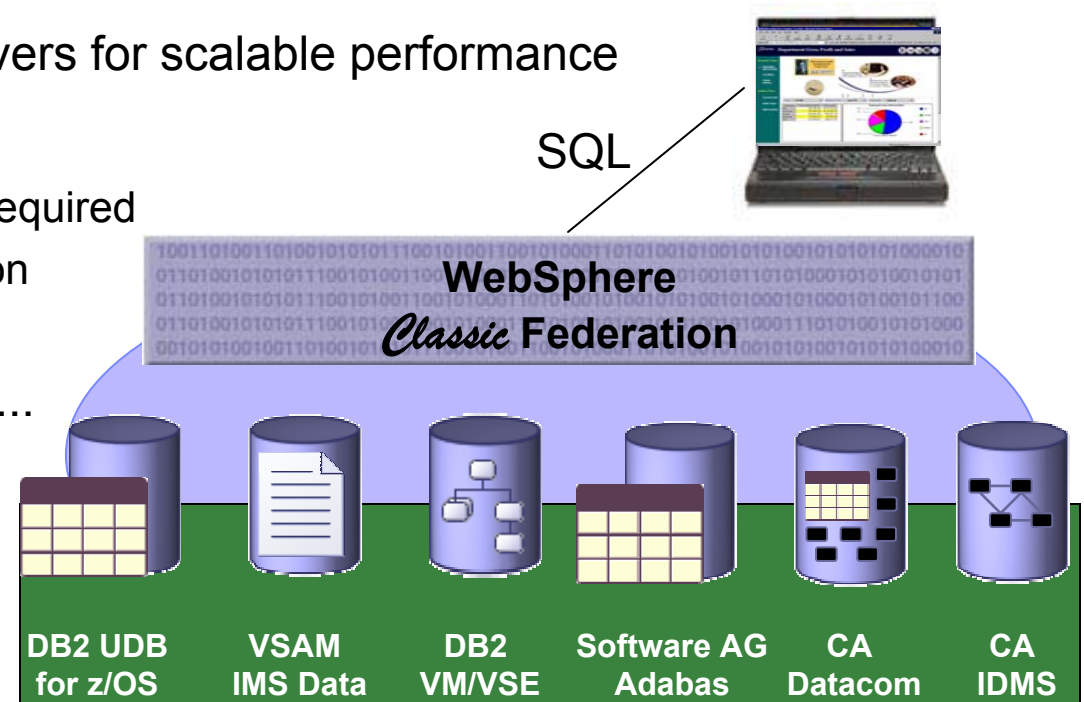
Solutions with MQ Messaging



(*) VSAM Redirector + Redirector MQ Exit allows MQ Solutions without changes to VSAM programs
 (**) WebSphere MQ Client for VSE is free of charge

WebSphere Classic Federation

- Integrating at the data layer – Federation of data
 - Read from and write to federated mainframe data sources using SQL
 - Standards-based access via JDBC, ODBC, or Call Level Interface
 - Including for VSAM
 - Multithreaded with native drivers for scalable performance
 - Metadata-driven means...
 - No mainframe programming required
 - Fast installation & configuration
 - Ease of maintenance
 - Works with existing and new...
 - Mainframe infrastructure
 - Application infrastructure
 - Toolsets



Solution Benefits

- High Stability – inherits from System z
- High Scalability of Databases
- Very flexible environment with z/VM
- Use of Standard ASCII databases
- Very effective consolidation and federation
- Very good possibilities for centralized data analysis

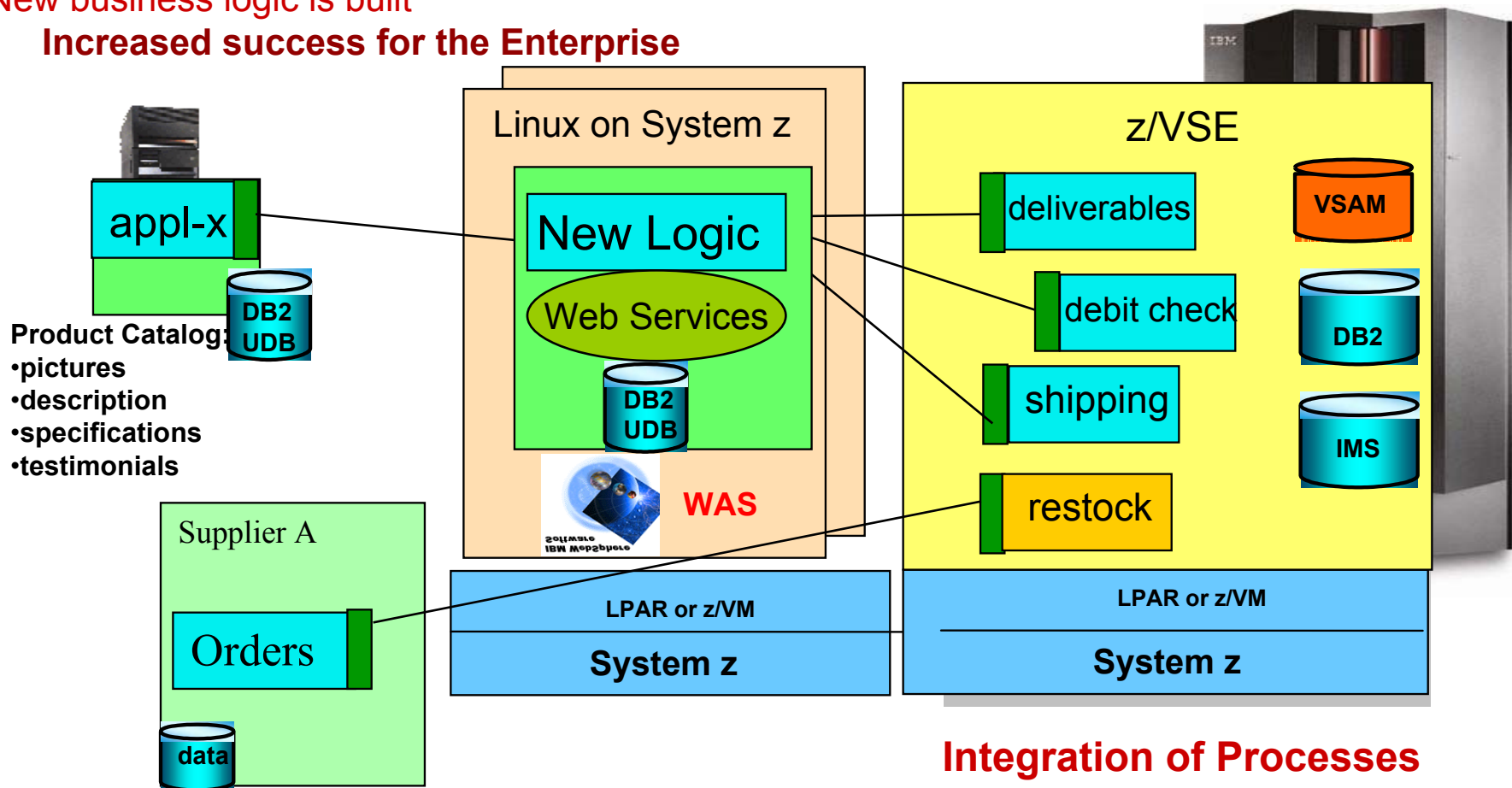
(4) SOA integration for z/VSE applications



SOA – the way to new applications and processes

- Applications look the same for all users
- Core applications can be enhanced with an interface (independent of their language, COBOL, ASM, PL/I)
- New business logic is built

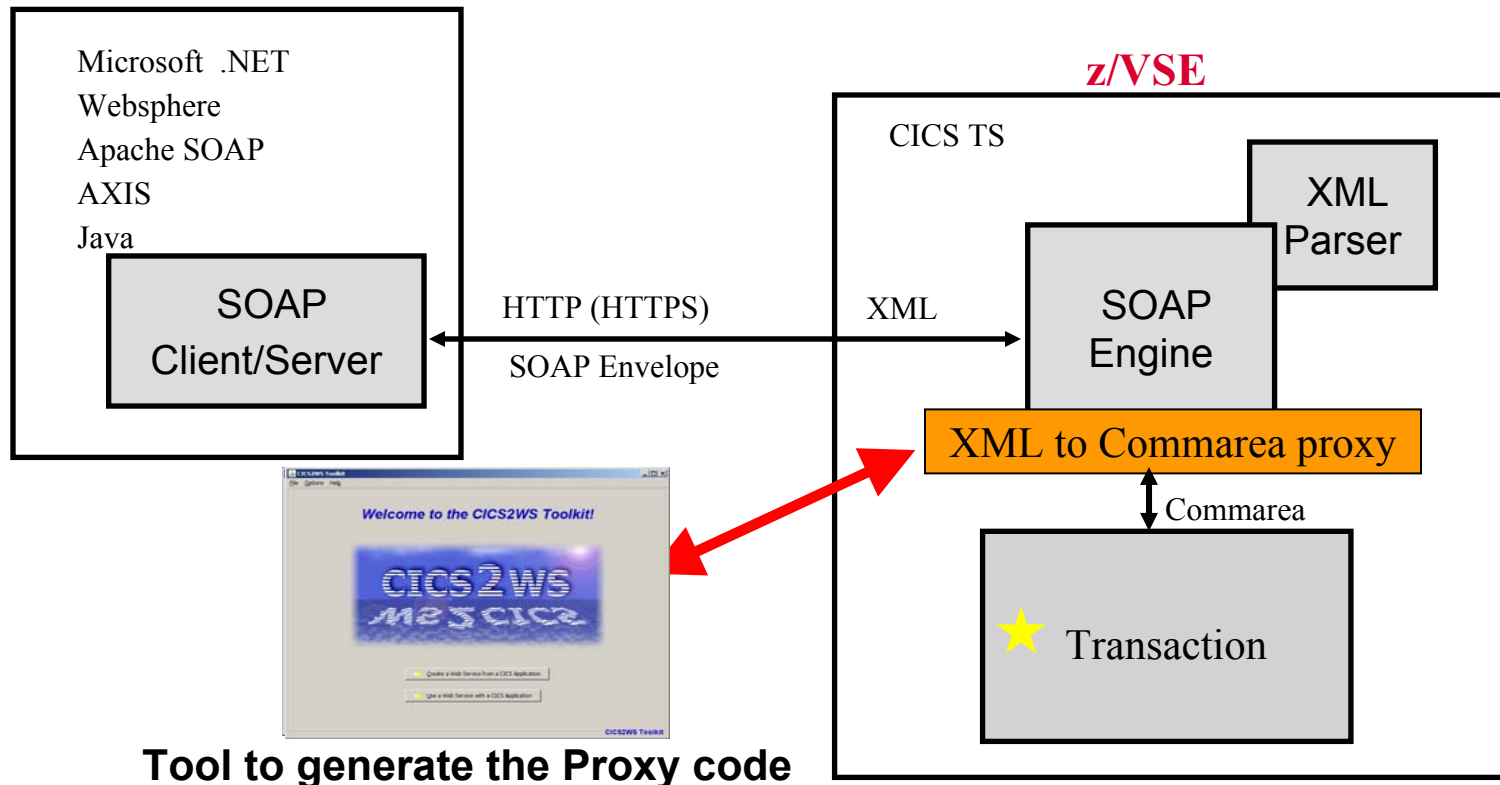
Increased success for the Enterprise



Integration of Processes

Web Services with z/VSE

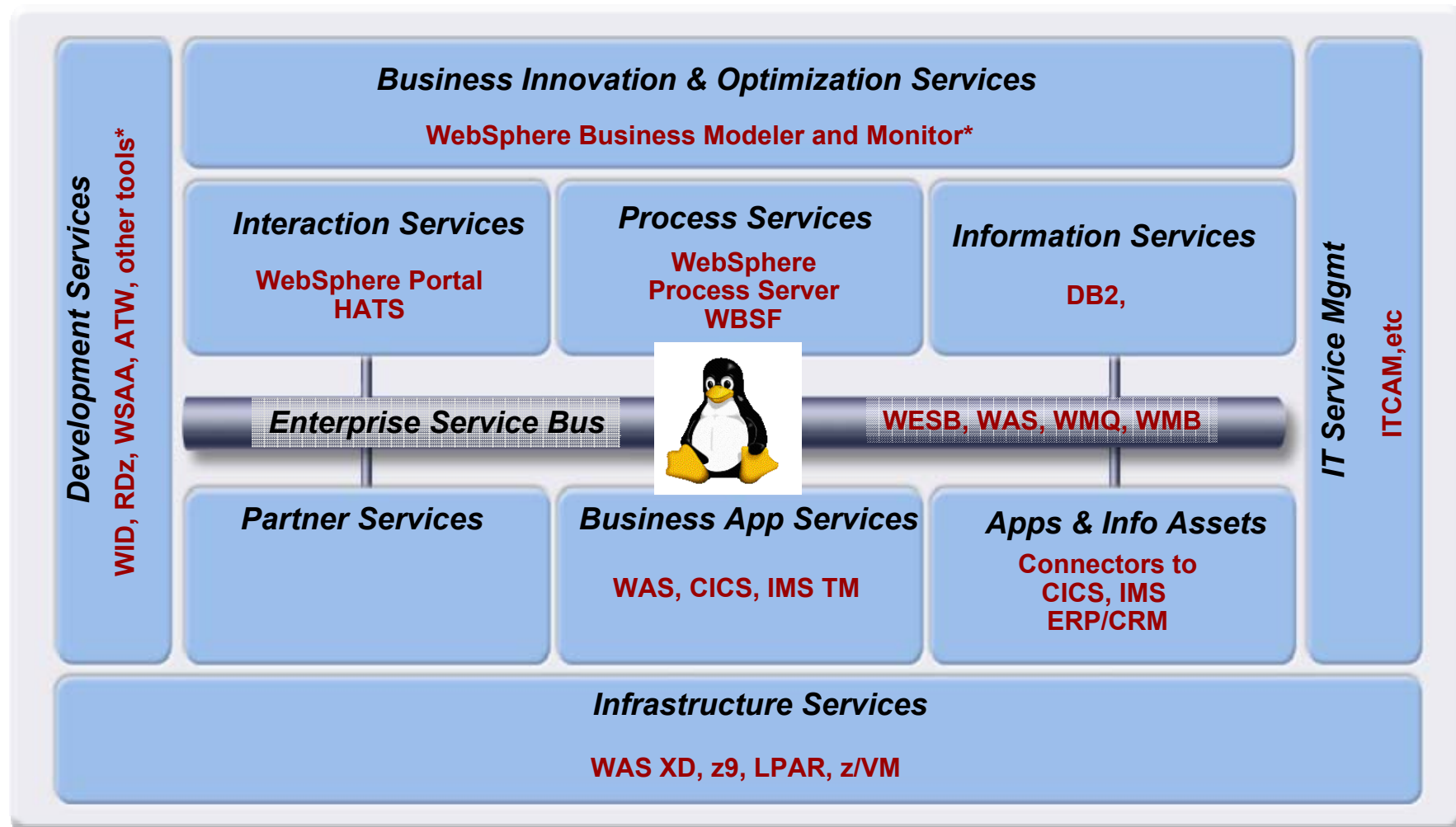
SOA and XML data interchange with CICS applications in VSE



Tool to generate the Proxy code

- ★ Existing VSE Transactions as Web Service
- ★ Existing Transactions can call a remote Web Service

SOA Reference Architecture with z SW Products



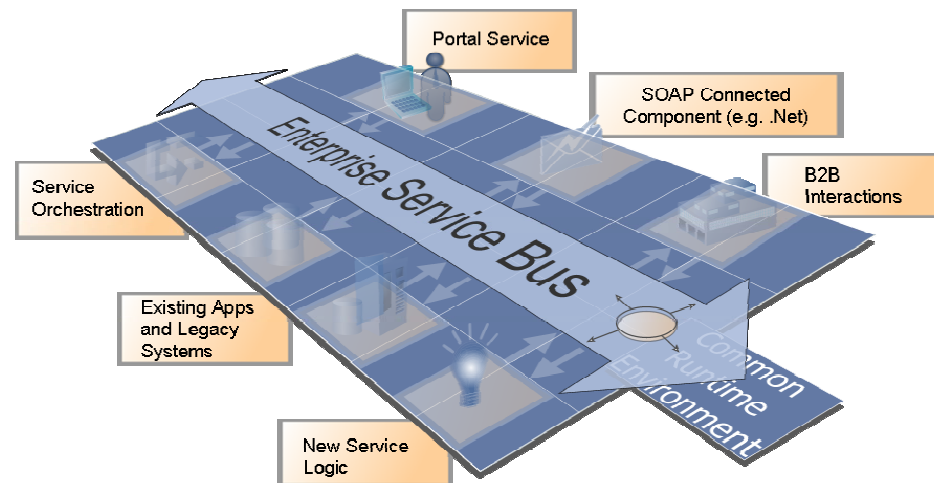
What is an Enterprise Service Bus?

An Enterprise Service Bus (ESB) is a flexible Infrastructure for services and application integration

An ESB reduces the number, size and complexity of your interfaces in a SOA solution.

An ESB realizes following tasks between requestor and service

- **ROUTING** of messages between Services
- **CONVERTING** the transport protocol between requestor and service
- **TRANSFORMING** message formats between requestor and service
- **HANDLING** of business events between different types of services



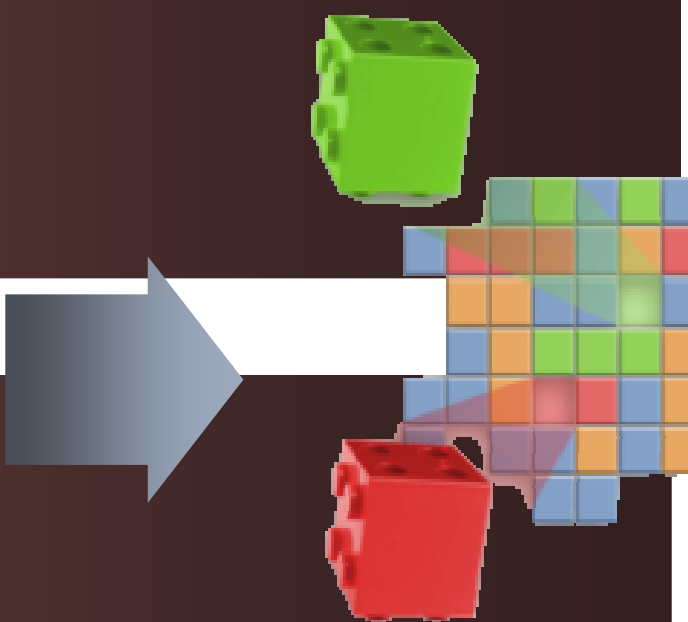
System z - Greater Value through SOA

Value

- VSE looks the same to any other platform
- Any other platform looks the same to VSE
- Flexibility and integration with other platforms
- Expanded access to core applications
- Use of standard Internet protocols

Start with

- What services are needed to run your business?
- Identify high-value existing IT assets
- Service-enable them for reuse
- Fill in gaps by creating new services for today's business needs and future reuse



“With reuse, solving the next business problem can be done more quickly and efficiently.”

- Amy Wohl

* Software Productivity Research (SPR)

Solution Benefits

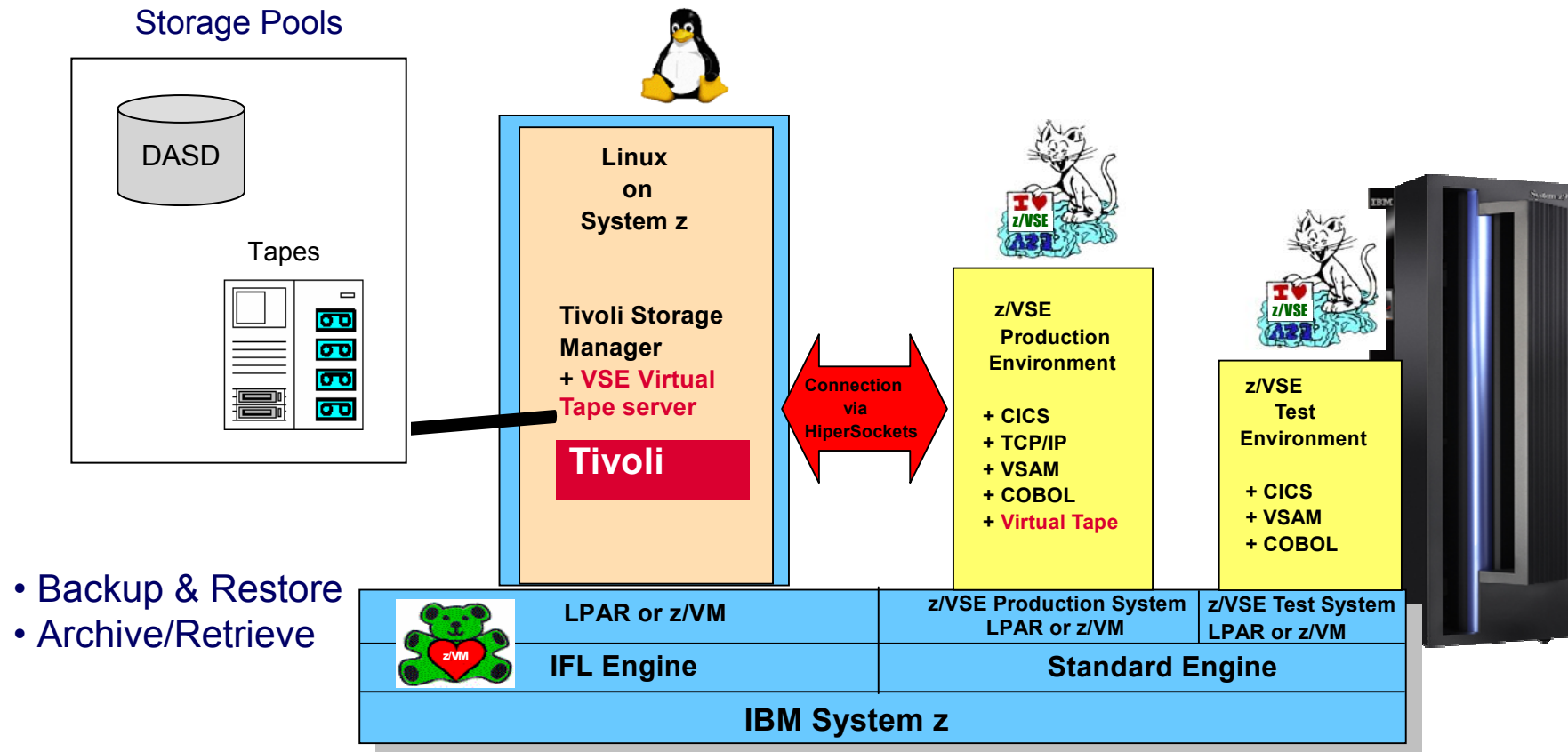
- High Scalability and effective Hub for applications
- Use of Standard SOA architecture and interfaces
- Very good possibilities for new solutions
- High performance integration with transactional load
- System z integration with distributed applications using standard interfaces

(5) Centralized Backup for the Enterprise and z/VSE



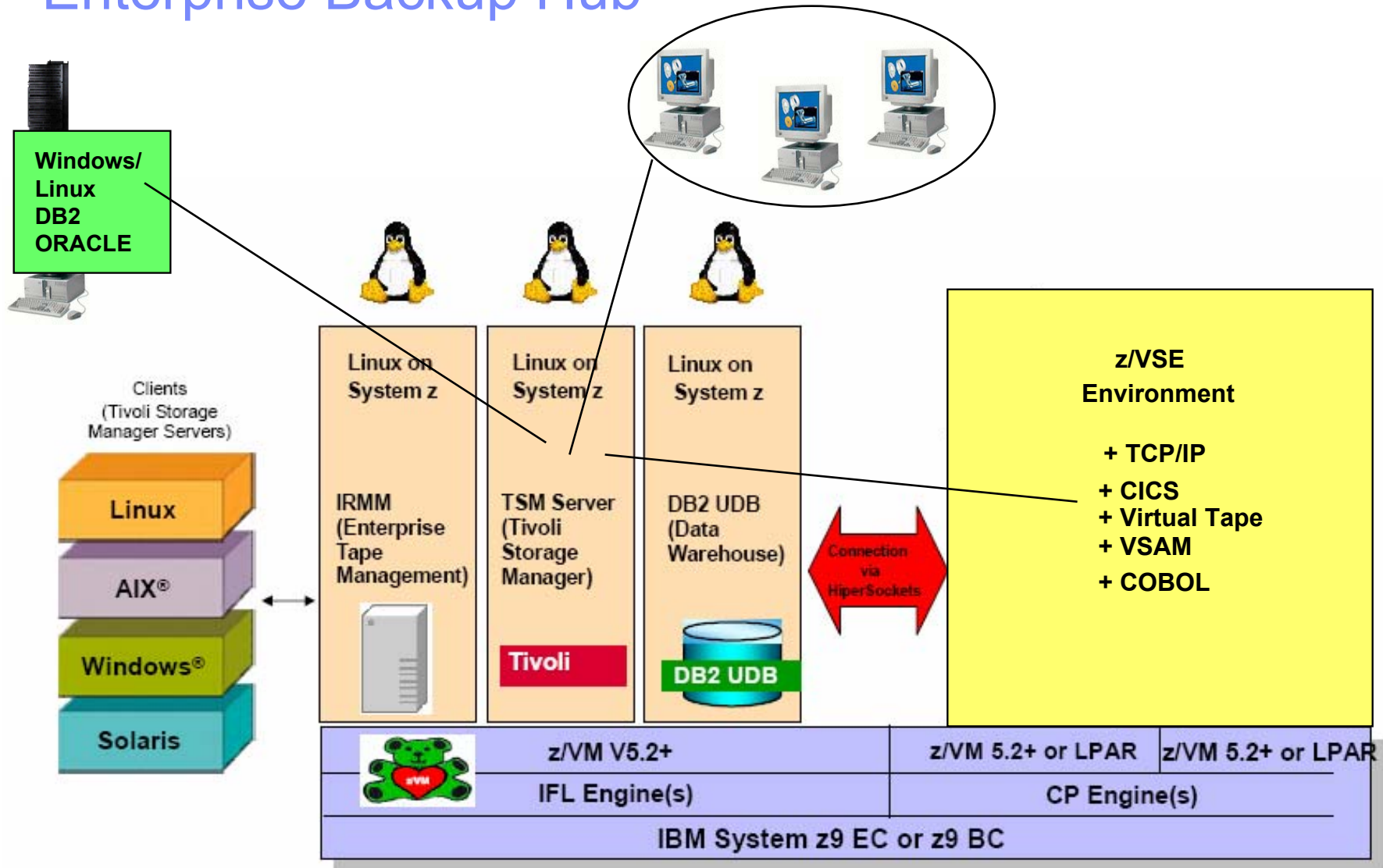
TSM – Backup integration

Integration of z/VSE with Tivoli Storage Manager (TSM)



- Backup & Restore
- Archive/Retrieve

Enterprise Backup Hub



Solution Benefits

- Centralized Backup procedure for the enterprise
- One tool for System z and distributed backups and archives
- Use of Stability of System z for Recovery

z/VSE and Linux on System z – Happy pair

