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IBM

Il Mondo dei Partner 2007

L'INTEGRAZIONE DEL NOSTRO VALORE

Parma, 1-2 febbraio

Software Ecosystem on zSeries

Paolo Chieregatti
Certified IT Specialist
zCompetitive Team

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IBM System z Technology
An Evolution ……..

From Datacenter

1964 S/360
1968 IMS
1969 CICS
1979 MVS
1983 DB2
1986 NetView
1994 MQ Series
2000 z/OS
2002 IBM TCO Tools
2003 WAS V5.0 for z/OS
2004 DB2 V8, IMS V9, Candle
2005 CICS V3, MQ V6, z/OS V1.7
2006 WAS V6, ESB, Process Server, Portal, DB2 V9

To SOA Server

System z Software
Evolution, not revolution
Modernizing applications

Openness and Standards

Linux

UNIX

SOA

SAN

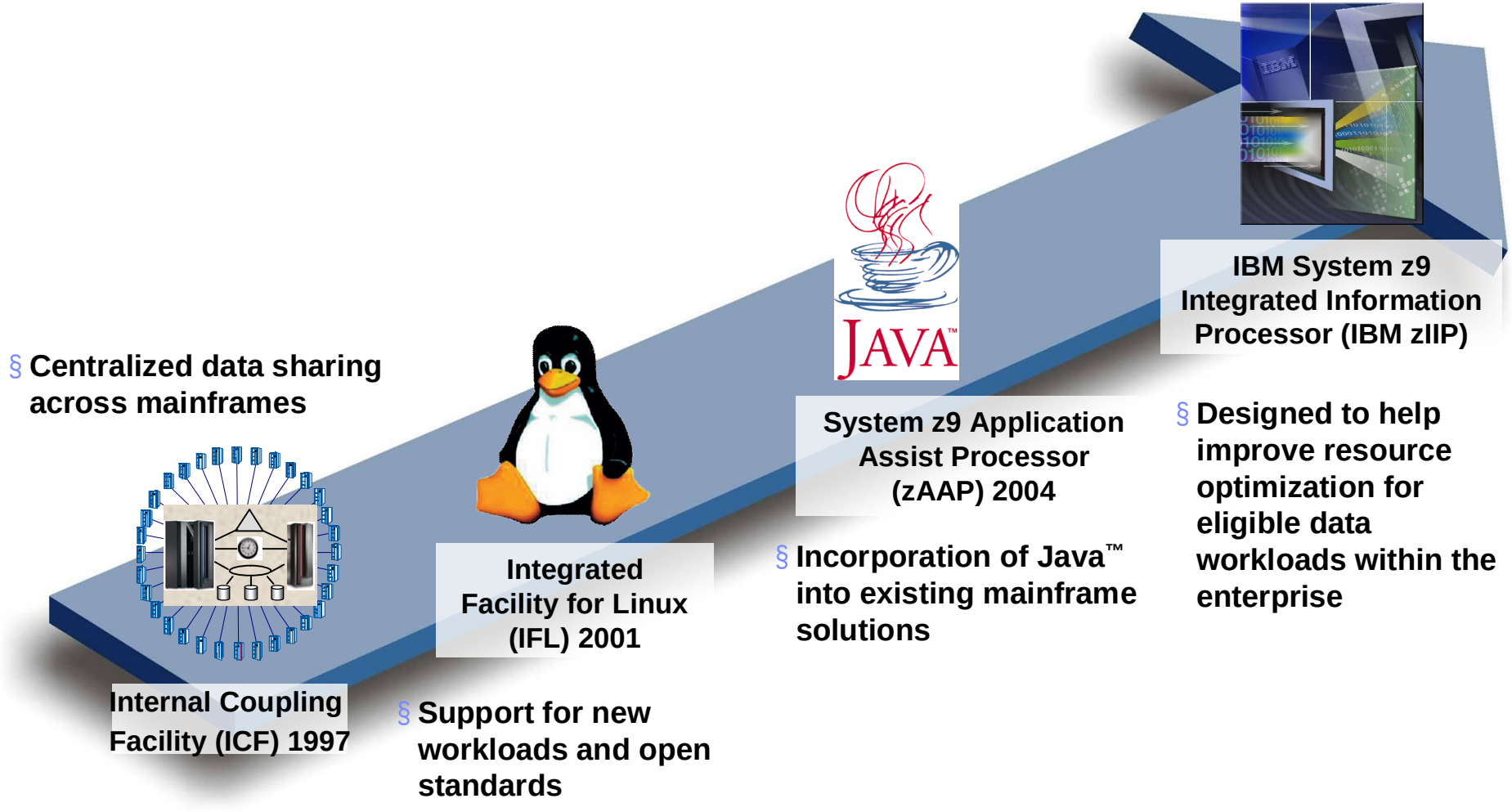
Java

Web Services

J2EE

Grid & Autonomic Sys. Mgmt

Mainframe Innovation: Specialty Engines



Internal Coupling Facility (ICF) 1997

- Centralized data sharing across mainframes

Integrated Facility for Linux (IFL) 2001

- Support for new workloads and open standards

System z9 Application Assist Processor (zAAP) 2004

- Incorporation of Java™ into existing mainframe solutions

IBM System z9 Integrated Information Processor (IBM zIIP)

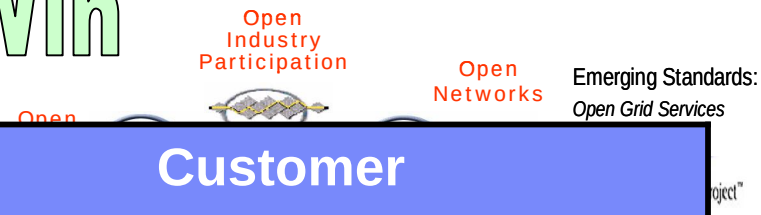
- Designed to help improve resource optimization for eligible data workloads within the enterprise

Agenda…

1. Linux on zSeries
2. SOA on zSeries
3. Enterprise Transformation and Tools strategy
4. Data Server on zSeries
5. Conclusion

Linux: an Open Standards Operating System

Win - Win



Ensures cross platform integration

Vendor (IBM)	Customer
Common Development across HW platforms	Independence of HW platforms and a viable alternative for Intel
Unified HW offering from workgroup computing to Enterprise class computing	Common skills across platforms and easy to find in the market
Ecosystem: Leverage on a worldwide development factory and giveback to the community	Direct vendor (es. IBM) involvement lowers the technology adoption risk.

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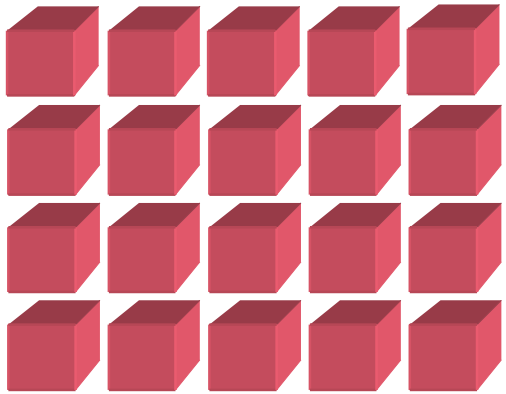
Linux on System z Opportunity

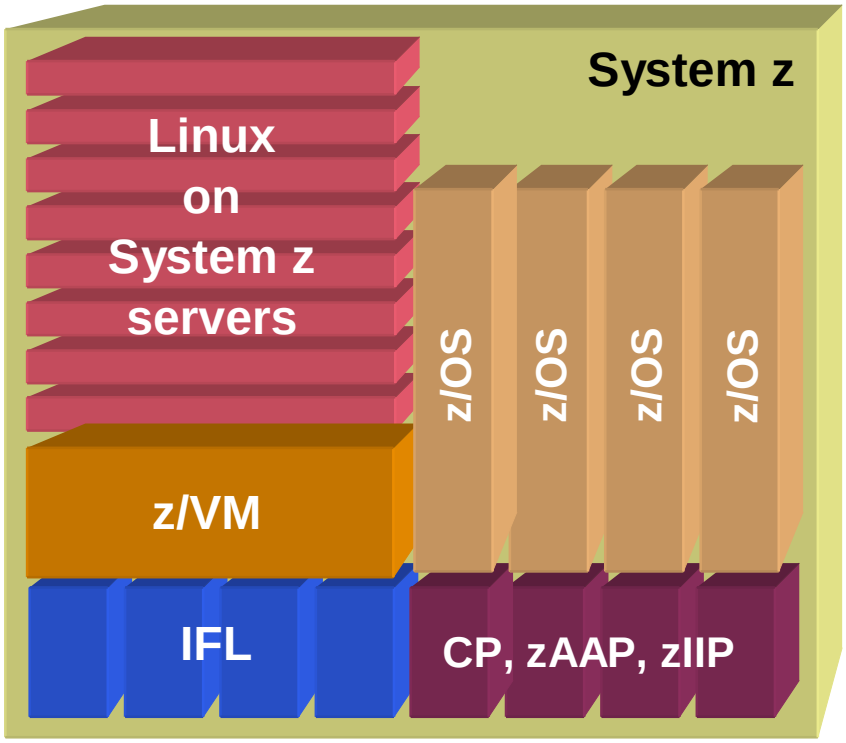
Server Farms



Windows Intel / Unix Risc
Single purpose
servers

Infrastructure simplification

Virtual rack and stack servers



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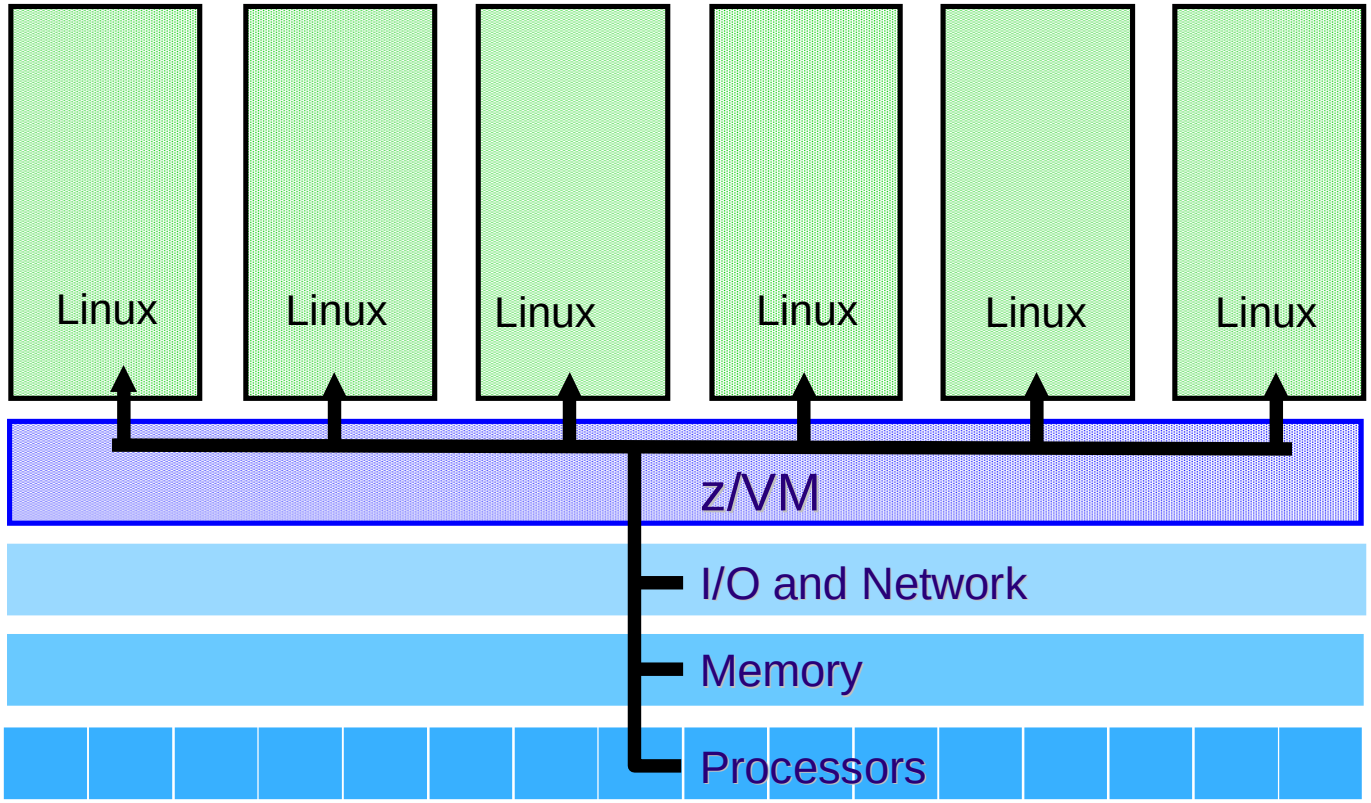
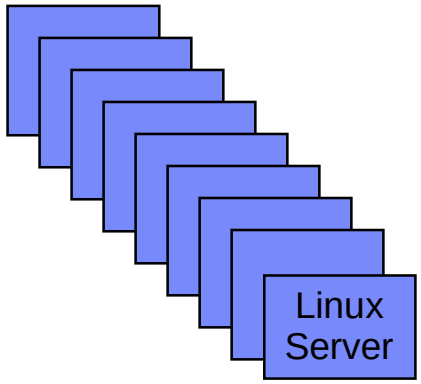
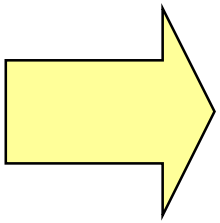
Virtual Machine Partitioning

A *Virtual Machine* simulates the existence of a dedicated real machine, including processor functions, storage, and input/output resources.



Linux & Unix Applications
The Economics of Workload Consolidation





60 Linux servers with low utilization

Plus 60 middleware licenses

Plus $6,500 x 60 = $390,000/yr labor

One IFL processor with high utilization

Plus one middleware license

Plus little additional labor

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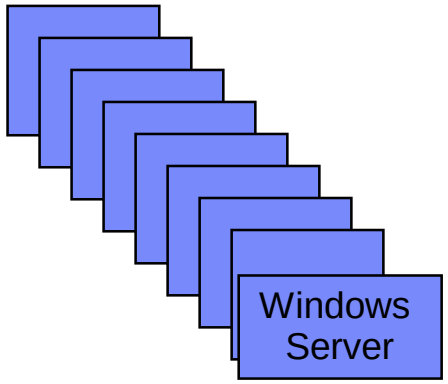
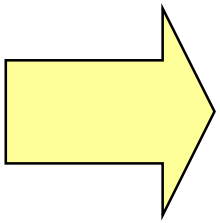
Linux & Windows applications





You can do it

Partnership with Mainsoft Corporation
www.mainsoft.com

REHOSTING .NET applications in Java

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Oracle 10g Database Server on Linux for zSeries

ORACLE DATABASE 10g

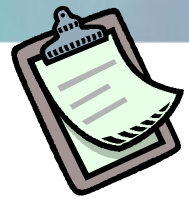
Oracle Database 10g *Release 1*

- 64-bit implementation only
- Linux Distribution Certification: Completed
  - SuSE Linux Enterprise Server 8 (64-bit)
  - SuSE Linux Enterprise Server 9 (64-bit)

Oracle Database 10g *Release 2*

- 64-bit implementation only
- Linux Distribution Certification: Completed
  - SuSE Linux Enterprise Server 9 (64-bit)
  - Red Hat Advanced Server 4 (64-bit)

Oracle Transparent Gateway for DRDA (e.g. connecting to DB2)



Agenda…

1	Linux on zSeries
2	SOA on zSeries
3	Enterprise Transformation and Tools strategy
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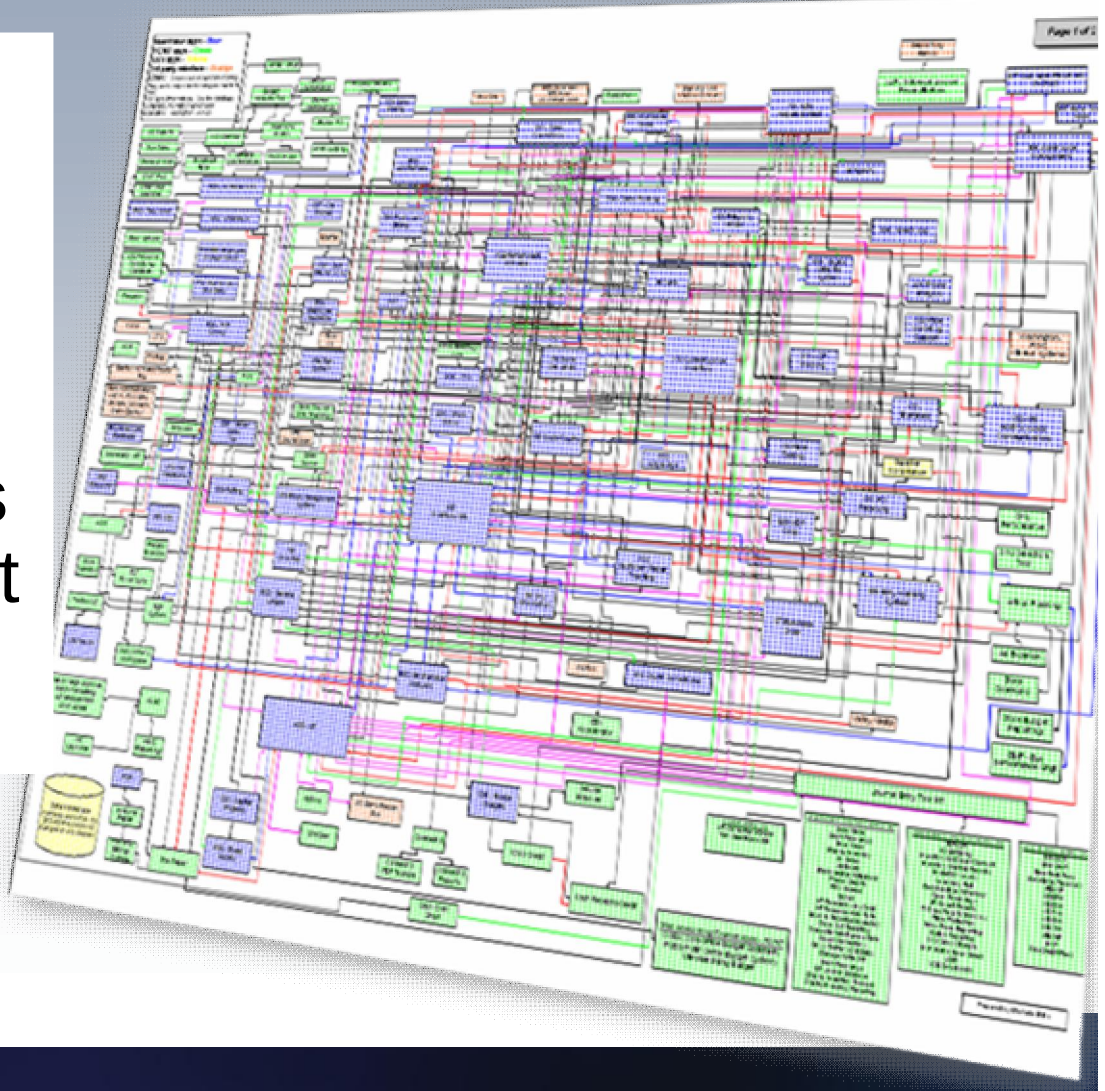
What are the barriers to business flexibility?

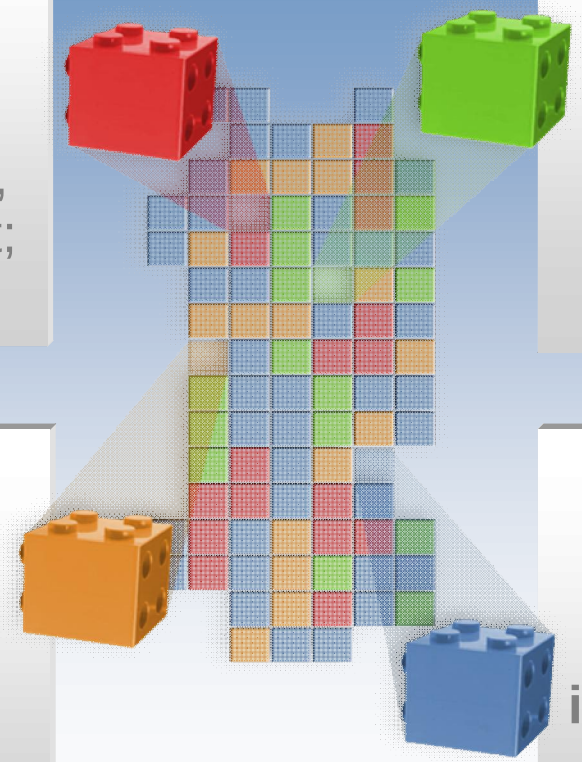
- Lack of business process standards
- Architectural policy limited
- Point application buys to support redundant LOB needs
- Infrastructure built with no roadmap



SOA : Some definitions ...

… a service?

A **repeatable business task** – e.g., check customer credit; open new account



… service orientation?

A way of integrating your **business as linked services** and the outcomes that they bring

… service oriented architecture (SOA)?

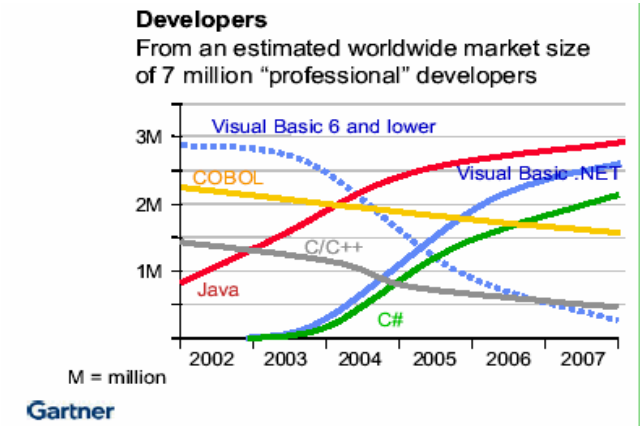
An IT **architectural style** that supports service orientation

… a composite application?

A set of **related & integrated** services that support a business process built on an SOA

SOA and zSeries : highlight

Rewriting all existing applications and moving them to new platforms is not a viable option



New code cost 5X than reusing existing code

Software Productivity Research (SPR)

« 200 Billion lines of COBOL code in existence

eWeek

« 5 Billion lines of COBOL code added yearly

Bill Ulrich, TSG Inc.

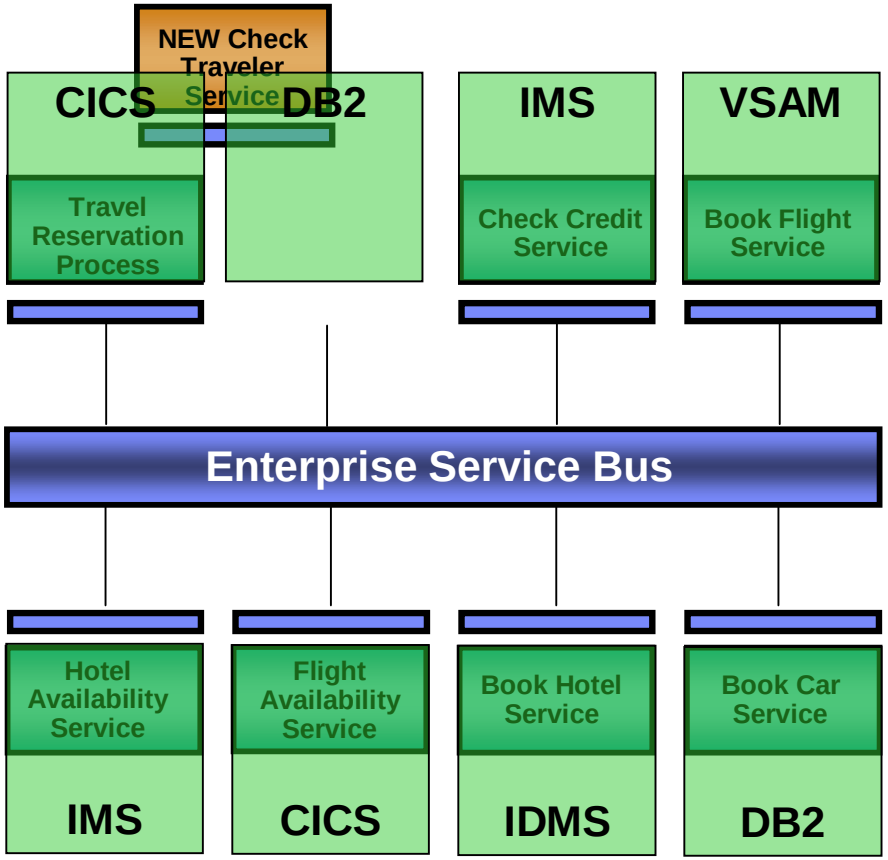
« Between 850K and 1.3 Million COBOL developers with 12,000 per year attrition

IDC

« Majority of customer data still on mainframes, even though a lot of it is front-ended through the Web and e-Commerce applications

Don Greb, Mellon Financial Corp from Computerworld

SOA lets you focus on core business, not IT



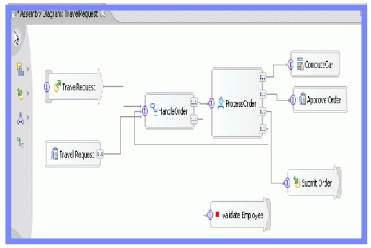
Add new services faster

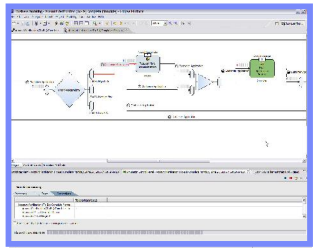
Change services with minimal impact to existing services

REUSE core System z resources in composite SOA service implementations!

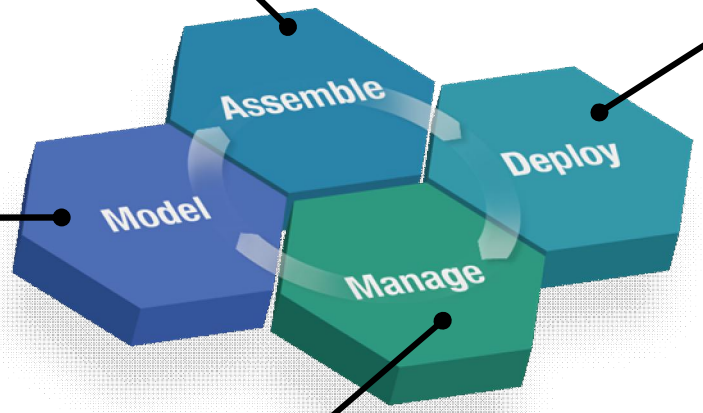
The SOA Foundation and SOA life cycle

- Discover and extend
- Construct and test
- Compose



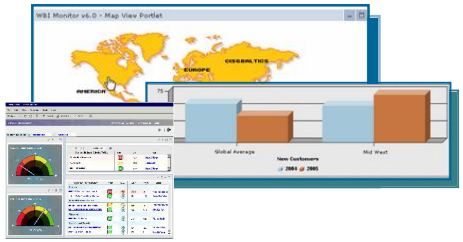


- Gather requirements
- Model and simulate
- Design

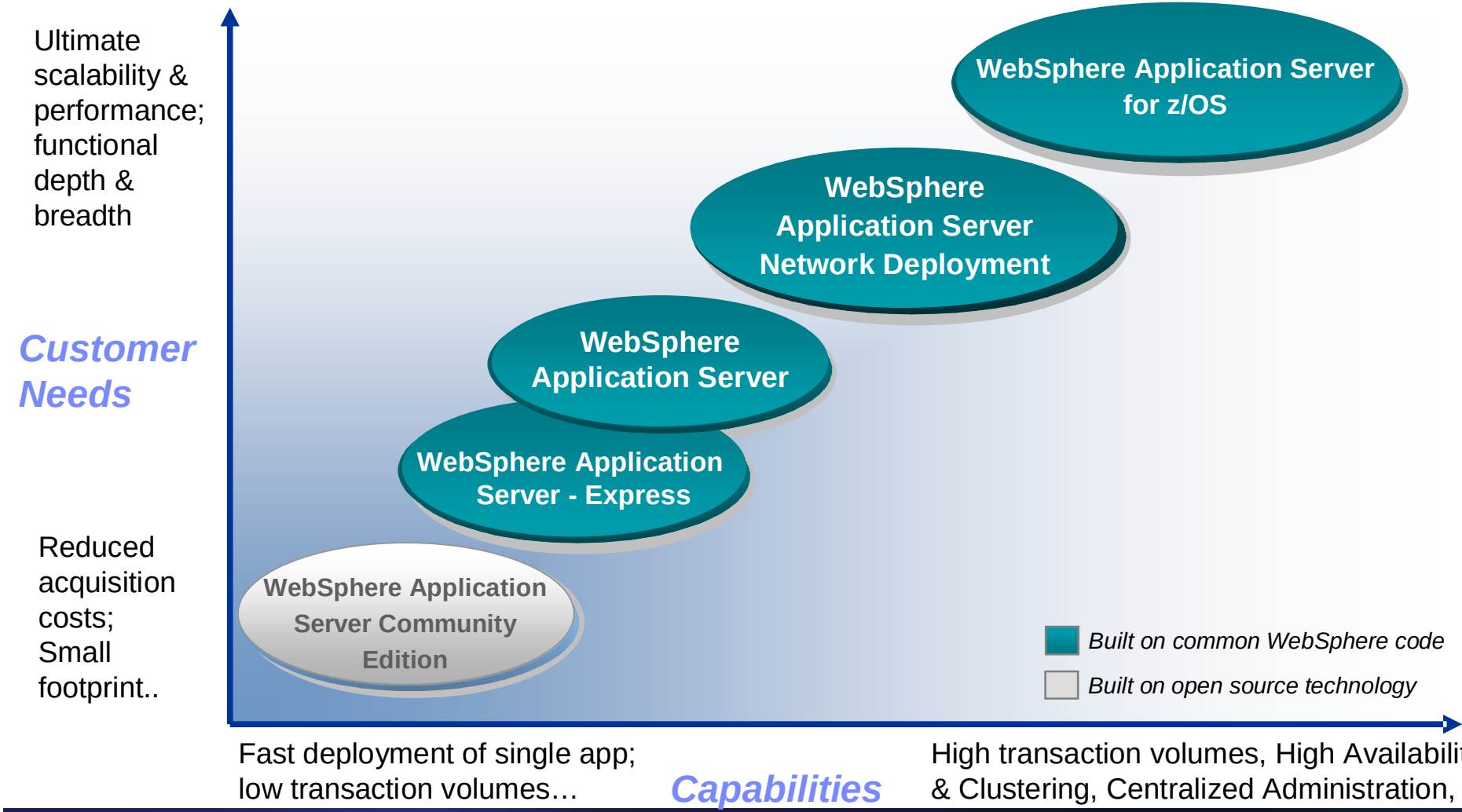


- Integrate people
- Integrate processes
- Manage and integrate information

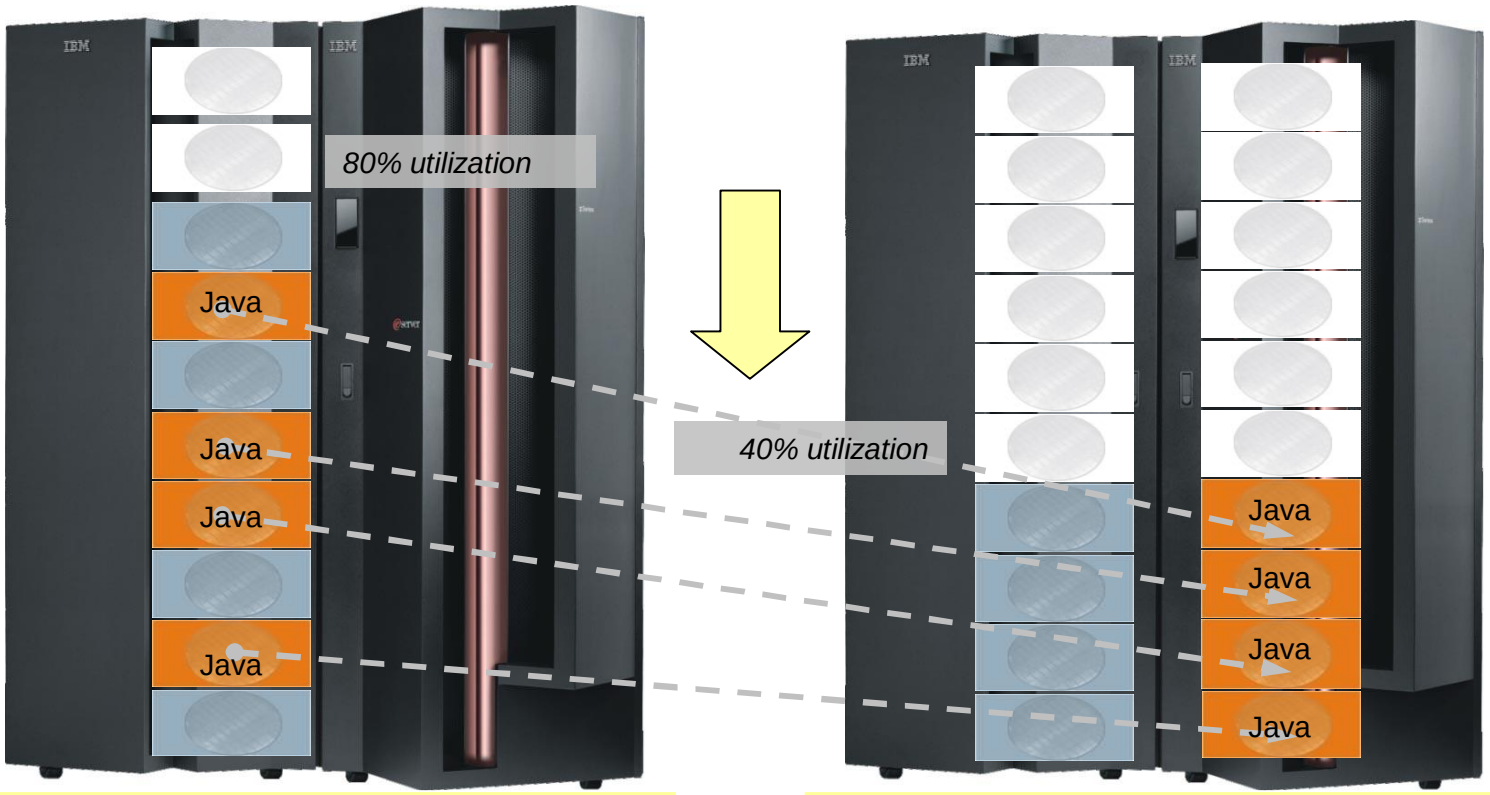
- Manage applications and services
- Manage identity and compliance
- Monitor business metrics



WebSphere Application Server Family



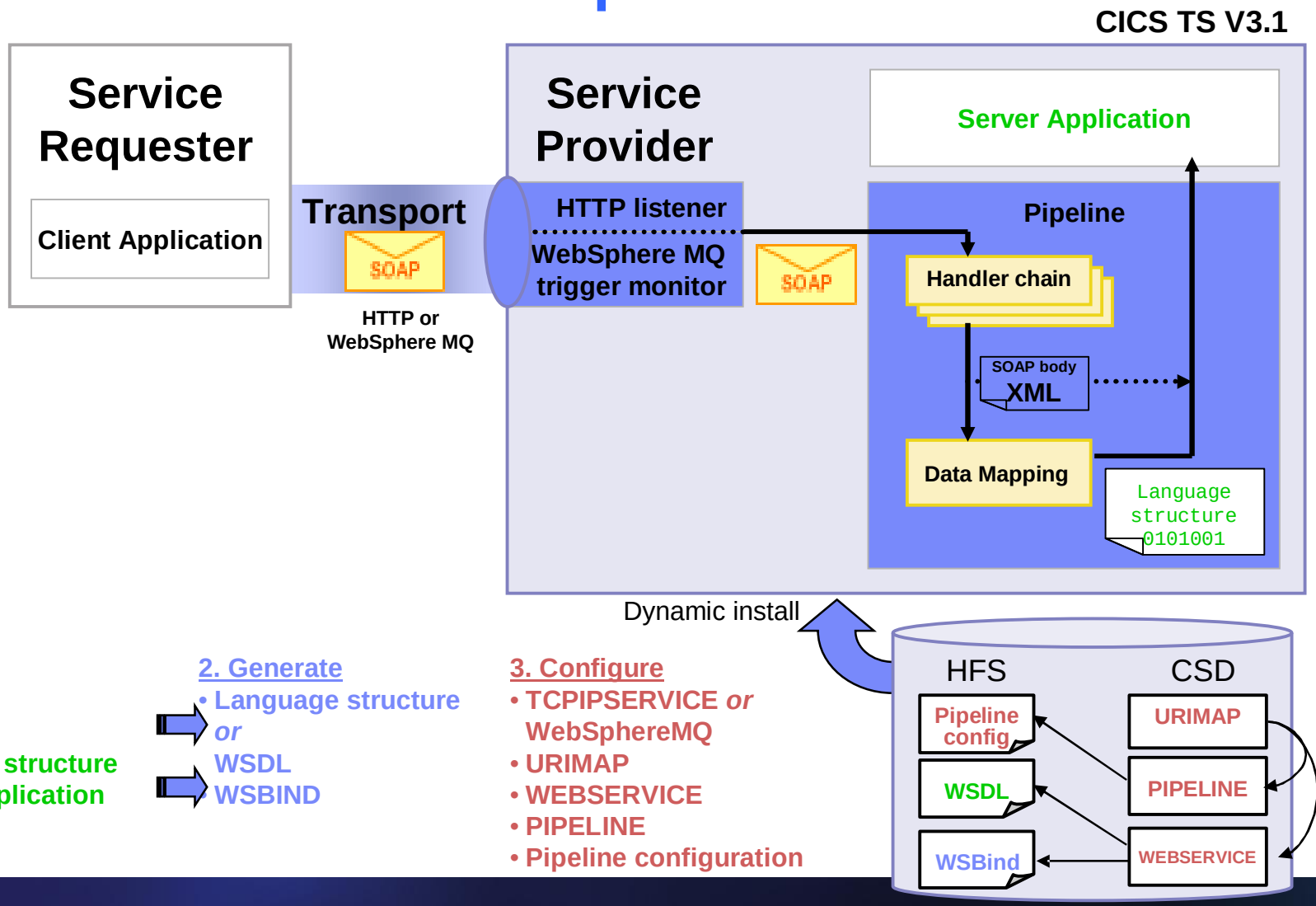
WAS for z/OS – featuring zAAP Processors



1000 MIPS for WAS

500 MIPS for WAS +
500 MIPS now available for additional workloads

CICS as a Web service provider



1. Develop
- WSDL
  or
  Language structure
- Server Application

2. Generate
- Language structure
  or
  WSDL
- WSBIND

3. Configure
- TCPIPSERVICE *or* WebSphereMQ
- URIMAP
- WEBSERVICE
- PIPELINE
- Pipeline configuration

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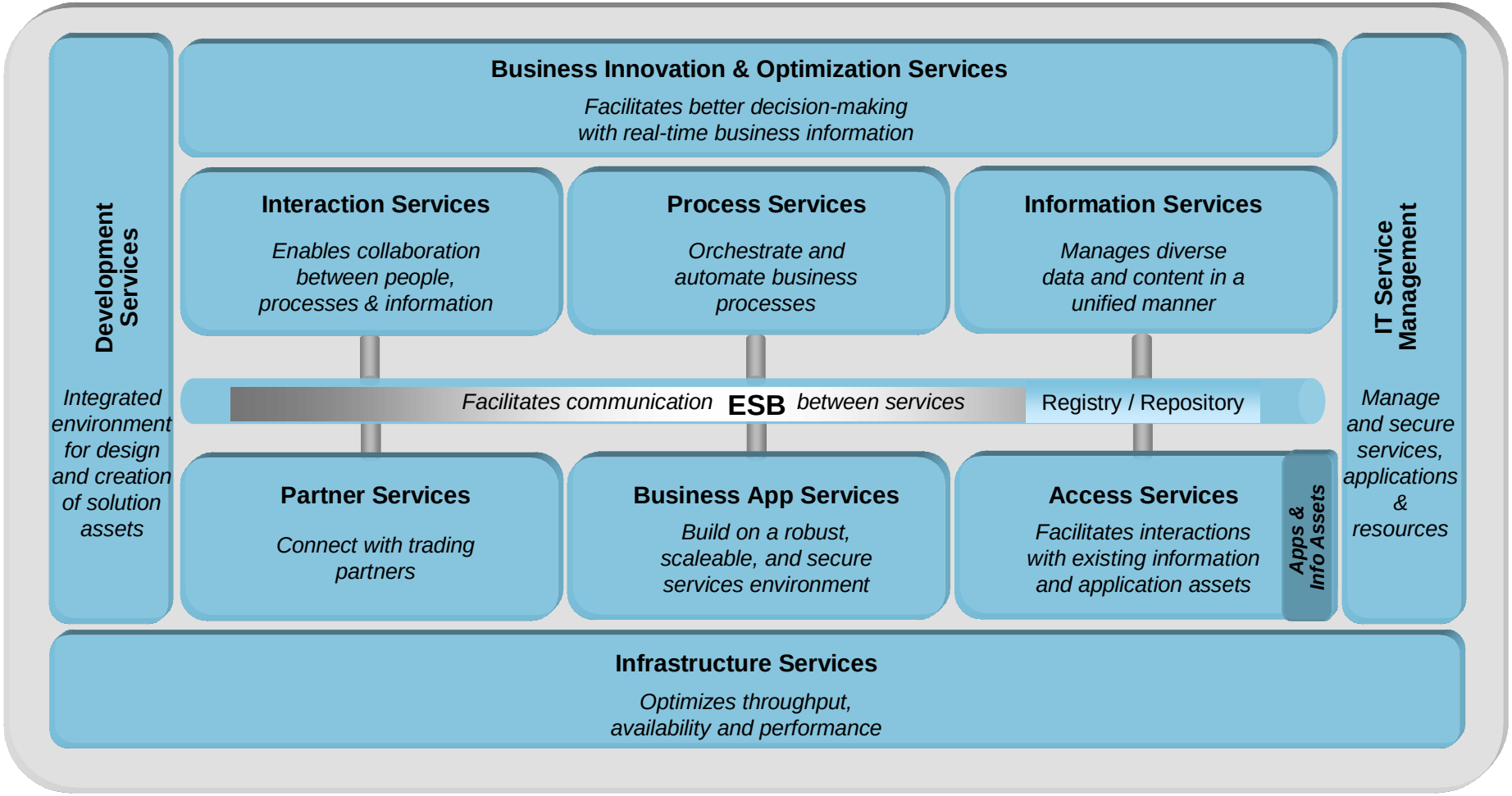
SOA Suite on zSeries

WebSphere Process Server	BPM : Business Process Management BPEL Engine
WebSphere ESB Message Broker	Enterprise Service Bus
WebSphere Adapters Flat file, e-mail, FTP Oracle, SAP	Adapters Connectors
Websphere Application Server CICS - IMS	RUNTIME ENVIRONMENT

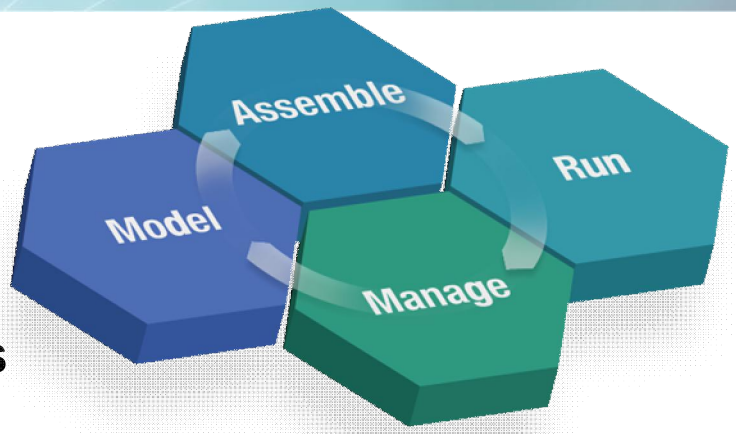



The SOA Reference Architecture



Leverage z/Middleware for maximum business flexibility.

Why SOA on "z" ?



High availability for critical components

- Application Server
- Enterprise Services Bus
- Process Server

Highest security capabilities

Centralized management

Easier integration of core business assets

Agenda…

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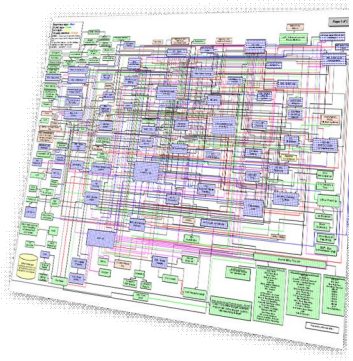
SOA: the next step on the evolution of enterprise integration

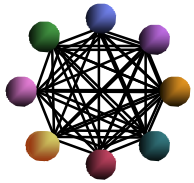


Direct Connectivity

Connectivity, mediation & additional logic

Application

Point-to-Point connection between applications



Message Queuing

Connectivity logic

Mediation & additional logic

Application

Applications via a centralized hub

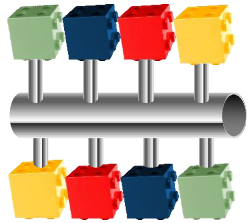
Message Brokering

Connectivity and mediation logic

Additional logic

Application

Integration and choreography of services through an Enterprise Service Bus



Service Orientation

Connectivity, mediation & additional logic

Application Services

Enterprise Transformation : tools

WebSphere Studio Asset Analyzer (WSAA)

- Application Understanding
- Impact Analysis

Enterprise-wide app discovery and insight; find dependencies across applications and lines of business

Architects, project leaders, DBAs, developers, system programmers

Asset Transformation Workbench (ATW)

- Application Analysis
- Business Rule Management
- Components for reuse

Project-level workbench for deep application analysis and transformation

Architects, project leaders, analysts, developers

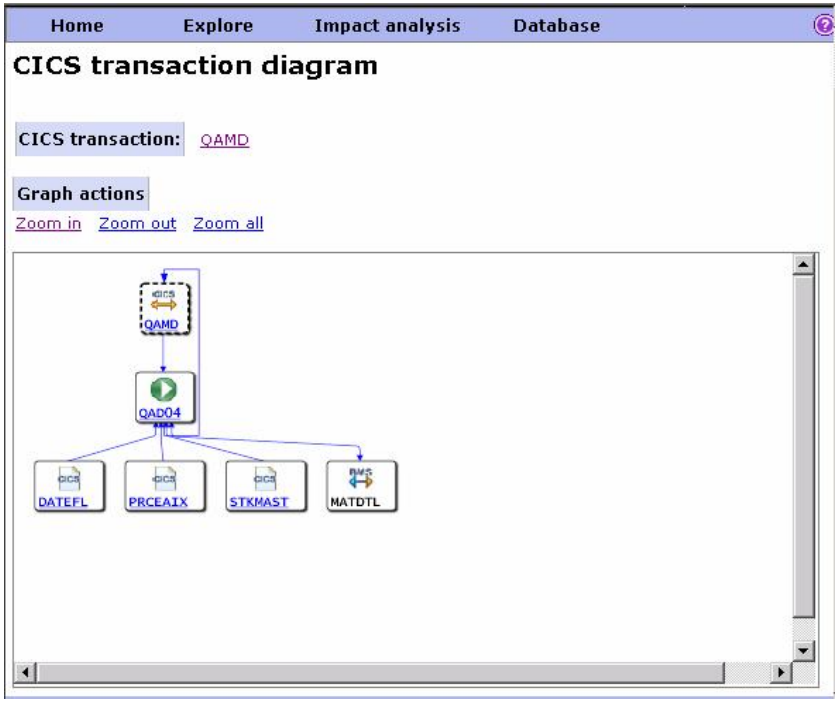
WebSphere Developer for zSeries (WDz)

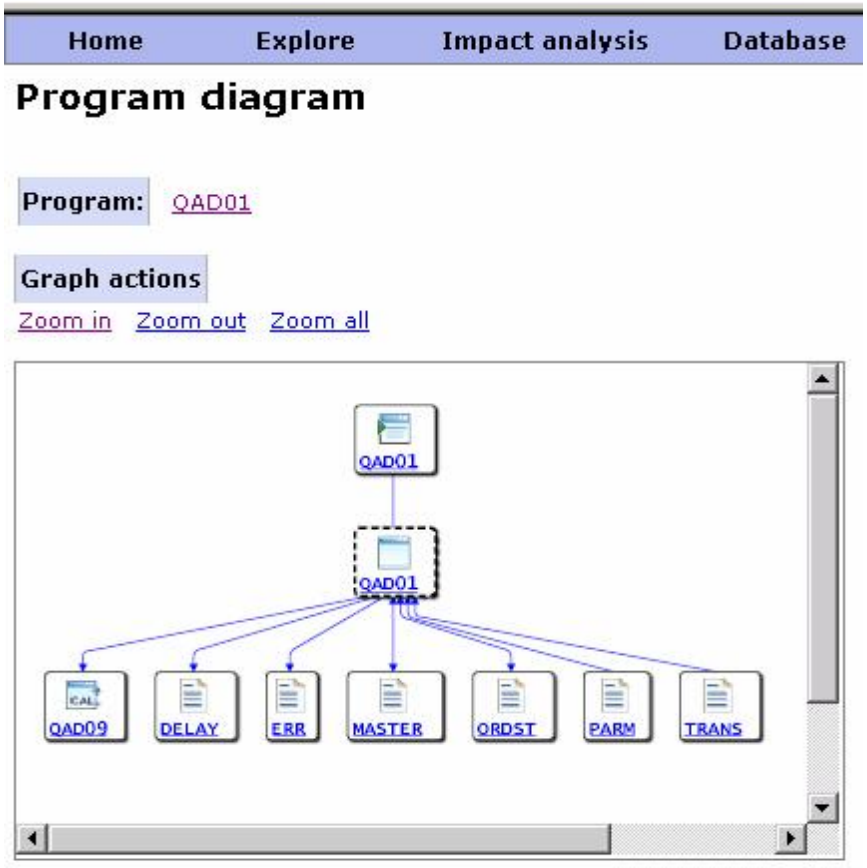
- Traditional Development
- Web Development
- Services Development

Common IDE for COBOL, PL/I, J2EE and Web services development

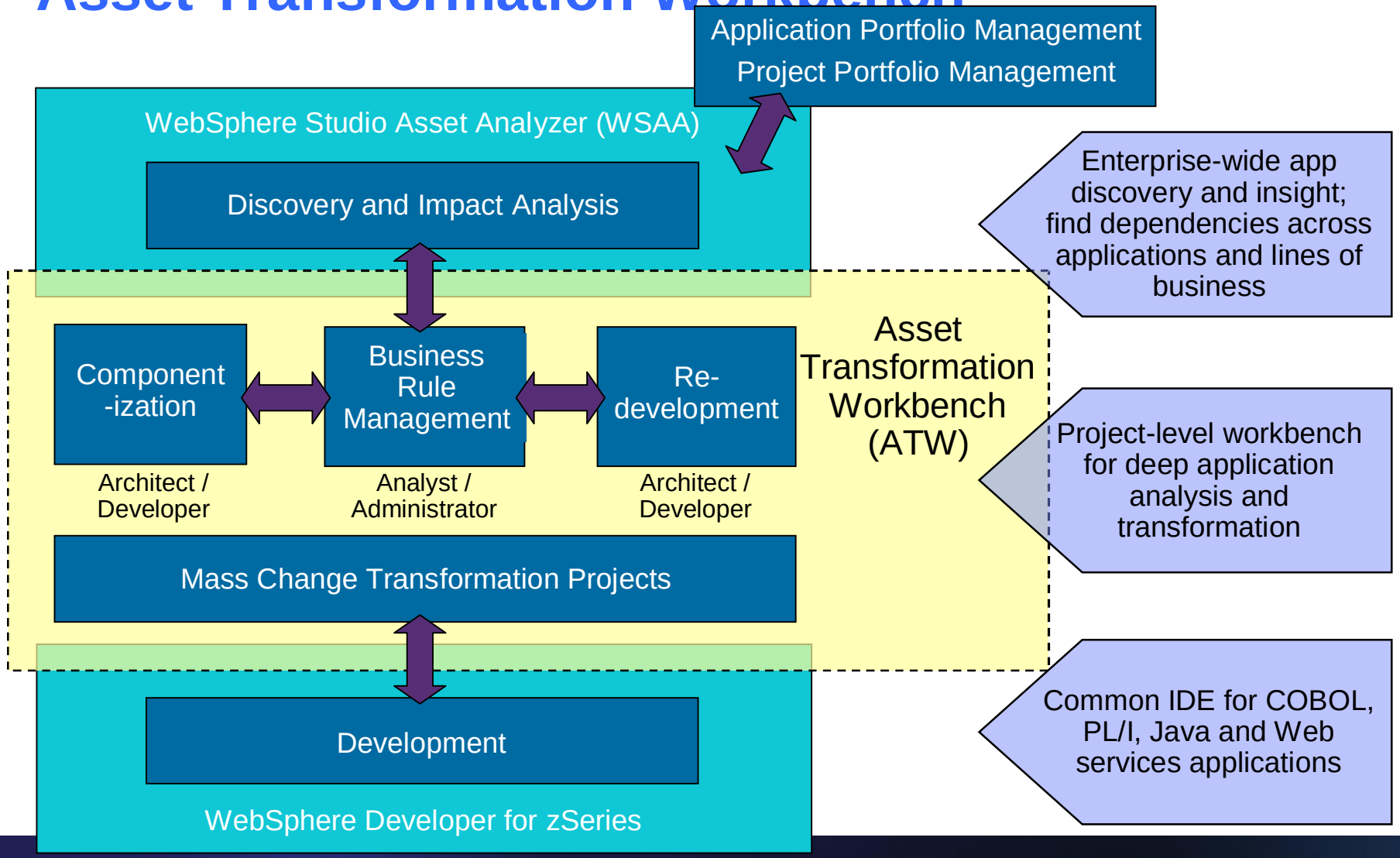
Architects, Developers

WebSphere Studio Asset Analyzer
Understand *z/OS* Application Structure



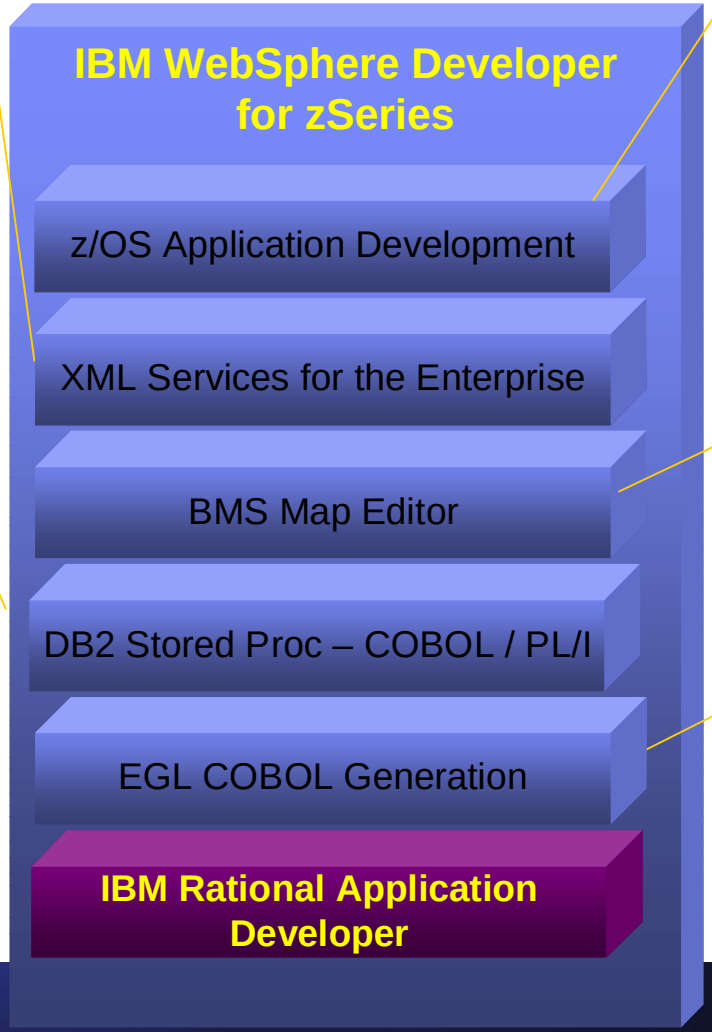


Asset Transformation Workbench



IBM WebSphere Developer for zSeries

Follow on to WebSphere Studio Enterprise Developer



XML Services for the Enterprise
- SOA access to CICS V3.1 and IMS V9 COBOL applications
- Bottom-up or meet-in-the-middle COBOL to XML mapping support
- Integrated COBOL XML converters, XML schemas, and WSDL generation

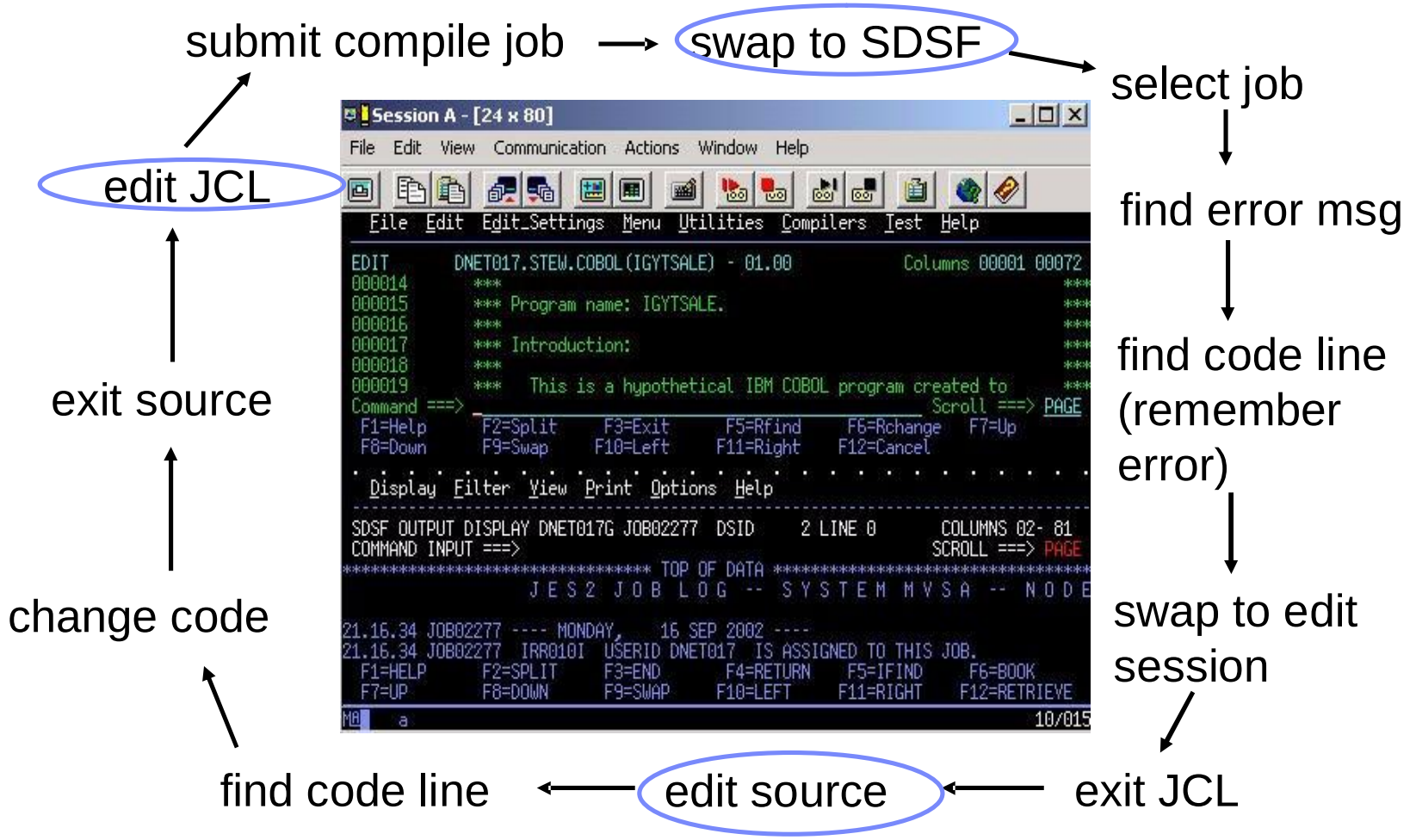
DB2 Stored Procedure for COBOL and PL/I
- Create DB2 stored procedures on z/OS in either COBOL or PL/I
- Build and catalog support for the DB2 stored procedure
- Debug z/OS based stored procedures from workstation

z/OS Application Development
- Connect to z/OS systems
- Work with z/OS resources like COBOL programs, JCL, etc.
- Interact with the Job Entry Subsystem (JES) to submit jobs, monitor jobs, and review job output
- Perform dataset management actions like allocating datasets and migrating datasets
- Perform typical edit, compile, and debug tasks on remote z/OS resources from the workstation

BMS Map Editor
- Visually create and modify BMS Map sets
- Work with local or remote maps

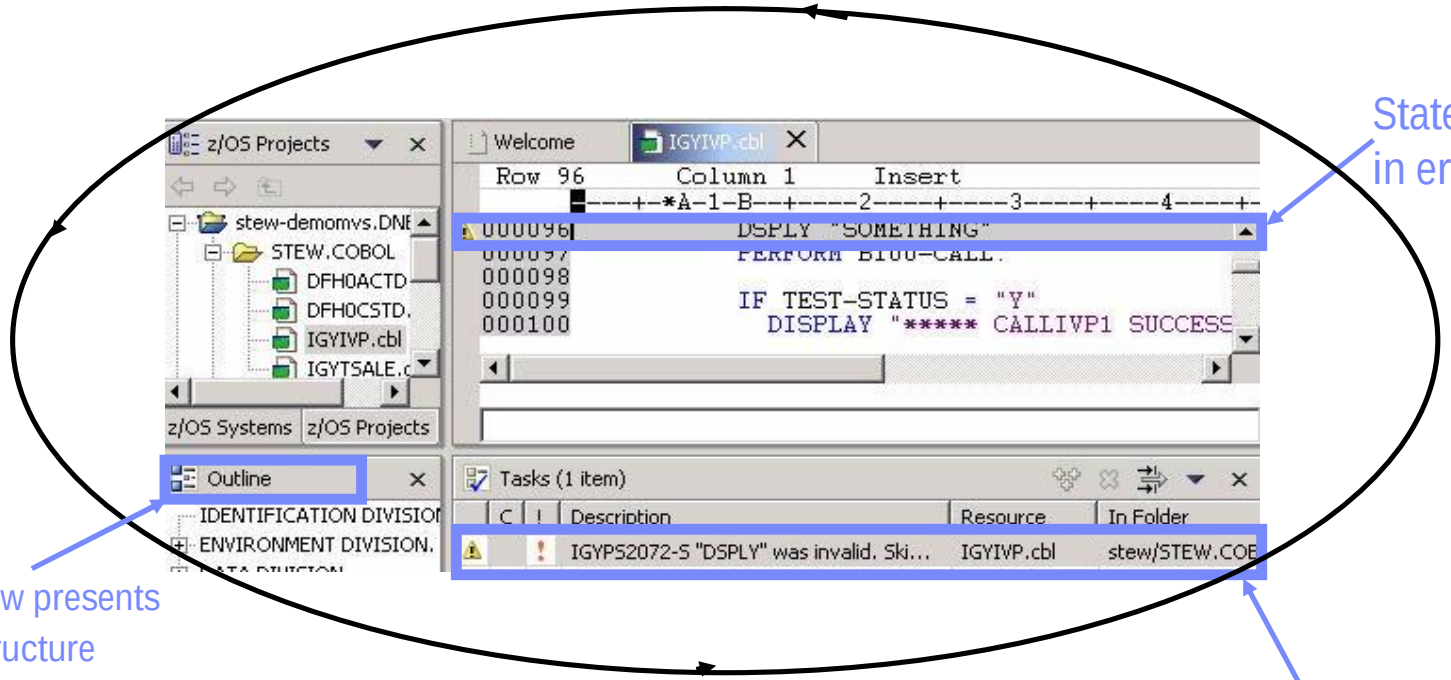
EGL COBOL Generation
- Deploy EGL applications to zSeries CICS or batch environments
- Connectivity to CICS through JCA
- JSF UI components integrated with CICS services

ISPF based Development



WebSphere Development

edit source



Statement in error

Syntax Check

Outline view presents COBOL structure

double click on the error

Error list in Tasks view

Benefit: Simplified development for COBOL and PL/I on a common development environment

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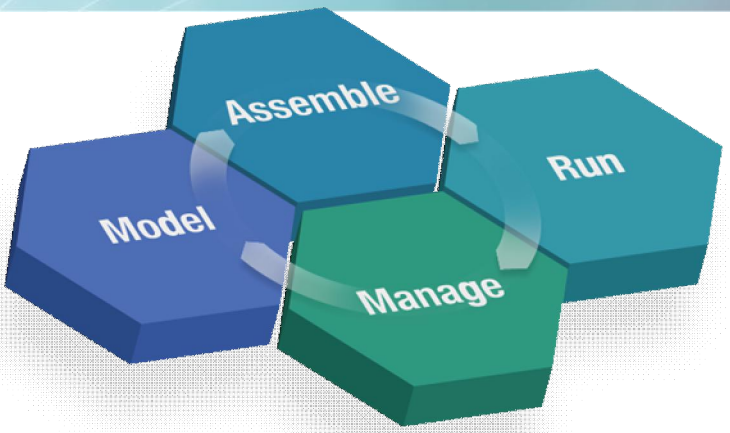
zSeries : tools strategy



An important offering

Improve Mainframe QOS

Help customer to manage application problem

Help system programmer to manage operation problems

Help to reduce TCO

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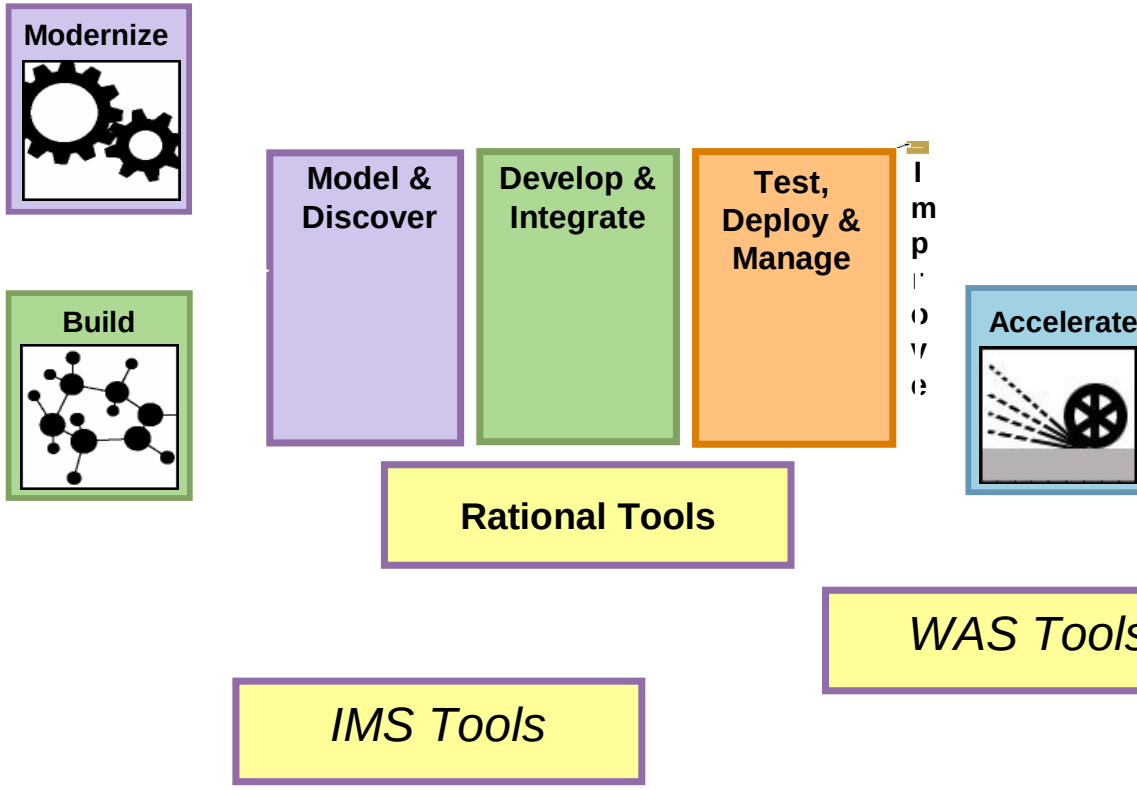
zSeries tools strategy

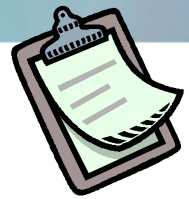
Problem Determination Tools

- File Manager
- Fault Analyzer
- Debug Tool
- Debug Tool Utilities
- IBM Application Performance Analyzer
- IBM Workload Simulator

CICS Tools

- CICS Interdependency Analyzer
- CICS Performance Analyzer
- CICS Business Event Publisher
- CICS VSAM Transparency
- CICS Batch Application Control
- IBM Session Manager
- CICS VSAM Recovery
- CICS VSAM Copy
- CICS OTTO
- CICS Configuration Manager





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IBM System z and DB2
Where You Put Your Data Matters

Integrity

High availability

Security

Systems and database management

DB2 for Z in:

- 25 of the top 25 worldwide banks*
- 23 of the top 25 US retailers**
- 9 of the top 10 global life / health insurance providers***

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DB2 V9 Technology Themes

- **Enable high-volume transaction processing for next wave of Web applications**
- **Extend the lead in transaction processing availability, scalability and performance**
- **Reduce cost of ownership and zSeries-specific skill needs**
- **Improve data warehousing and OLTP reporting**

DB2 for z/OS v9
Addressing corporate data goals

Improved IT Infrastructure In Support of Compliance Efforts

- Trusted security context
- Database roles
- Auditing capabilities
- Encryption improved

Simplify development and porting

- Many SQL improvements that simplify porting
- **Native SQL stored procedures**
- Default databases and table spaces
- Automatic unique indexes to support primary keys

Decrease Complexity and Cost

- Fast table replacement
- Partition by growth
- Table append
- **Volume-based COPY/RECOVER**
- Optimization Service Center

Evolve Your Environment & SOA

- **Integrated XML**
- WebSphere® integration

DB2 V8 and V9 exploitation of zIIP

New Specialty Engine (zIIP)

ERP or CRM application serving*

Data warehousing applications*

Some DB2 for z/OS V8 utilities*

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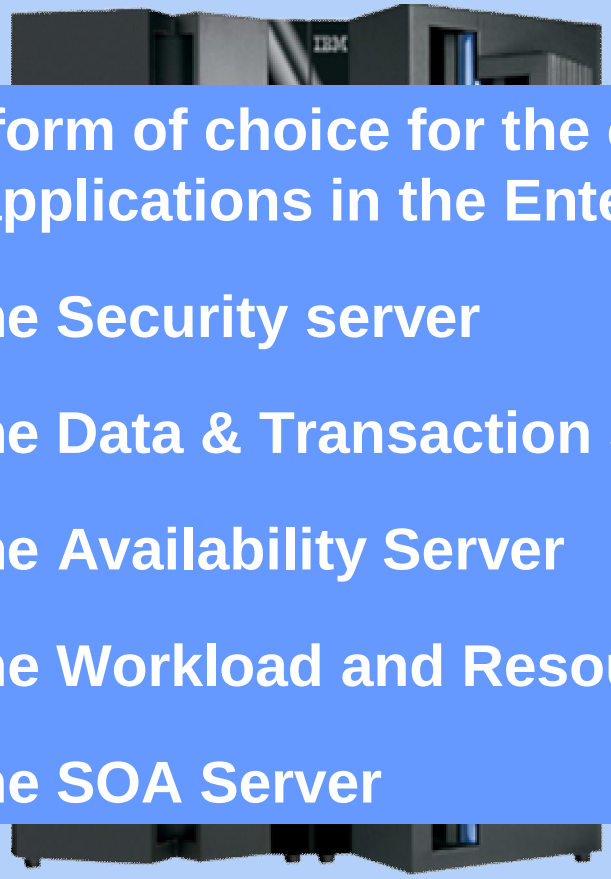
Conclusion



The platform of choice for the core business applications in the Enterprise

- The Security server
- The Data & Transaction Server
- The Availability Server
- The Workload and Resources Manager
- The SOA Server

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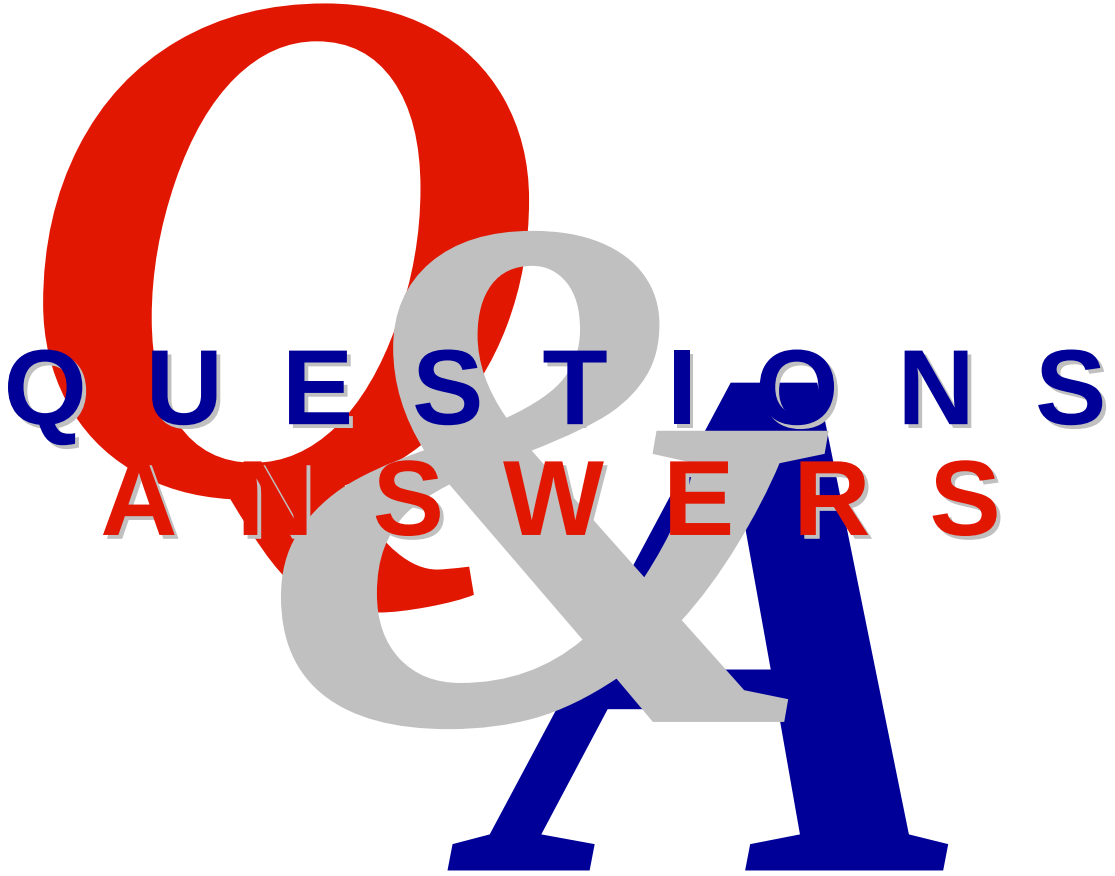

Thanks for listening