Enterprise Modernization on zEnterprise
Current Realities

- 75% of business data is processed in COBOL (Source: Gartner)
- There are 180 billion to 200 billion lines of COBOL in use worldwide (Gartner)
- 15% of new applications are written in COBOL (Gartner)
- Replacement costs for legacy application estimated at $25 to $100 per line are in the hundreds of billions of dollars
- Rewriting involves formidable costs and risks: broken business logic and protracted delays often go hand in hand with ground-floor development
- Existing CICS, IMS applications are sources of significant new value for your company
- In the mainframe environment we are currently using the same development tools and techniques, for 30 years
Why Enterprise Modernization?

Cost-effective strategy to develop new capabilities

- Is my current legacy systems capable of **business agility** and game changing business models?
- Rip and replacement of core business applications are not feasible due to **high risk**
- Needs to **drive down cost** and operating expenses, eliminate duplicate systems, build once and leverage, improve time to market
- **Stagnant technologies** lack modern integration and delivery capabilities
- **Integrate** across the enterprise historically separate systems, facilitate mergers and acquisitions of enterprises
- Reduce risk and exposure, **improve visibility** into business operations, comply with regulatory mandates
Enterprise Modernization - Transform, Modernize and Extend

Transform your IT assets to preserve your investments

Protect your investments in core business applications leveraging tools and services to modernize your enterprise

Modernize your enterprise to maximize agility

Reuse and extend existing investments through SOA enablement to increase business agility

Extend your applications to gain new business value

Deploy solutions to empower LOB and IT teaming to gain real-time insight of the business and enable dynamic management of the business processes
Enterprise Modernization on zEnterprise - Delivers Business Value

Legacy Applications

Enterprise Modernization Roadmap
- Rational Health Check Services
- TCO analysis: Eagle & Race Study
- z Integration Architecture Workshop, zClinic, CICS Seminar

Enterprise Modernization Implementation
- Legacy SOA Enablement
- Application Transformation
- BPM Implementation
- New Application Development

IBM zEnterprise™ System

Business Benefits
- Aligned with Business Value and strategy
- Agile, flexible and responsive
- Real-time insight of the business
- Dynamic business process management

The entry point and progression will vary to meet client objectives and needs
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Transform - User Interface Modernization

Rapidly deploy modern interfaces on existing applications

- Rational EGL Community Edition
- Rational Host Access Transformation Services
- Rational Developer for System z

- Greater customer satisfaction
- Lower employee training costs
- Fewer errors from more modern and compelling UIs

“HVB IS adopted IBM Rational® Developer for System z software to accelerate mainframe development, improve the efficiency of its COBOL development teams, and move to a similar environment for mainframe and Web development.” - Almut Geiger, Product Specialist at HVB IS
Marsh cuts costs and boosts flexibility with IBM Rational solution running on Linux on IBM System z
Integrated solution enables greater agility and faster development

Business challenge:
Leading global insurer Marsh wanted to simplify access to its green-screen back-office processing application by creating a Web-based user interface. The IT team decided to deploy IBM Rational HATS, and looked for the most cost-effective platform to run the new solution.

Solution:
Deployed an IBM Enterprise Linux Server solution, creating virtual Red Hat Enterprise Linux servers under IBM z/VM on an IBM Integrated Facility for Linux engine on its existing IBM System z9 BC mainframe.

Benefits:
- Linux-based solution on IBM System z is more cost-effective and energy-efficient than the equivalent 10-core x86-architecture solution
- Using mature IBM z/VM virtualization technology, Marsh can create new Linux test and development environments in minutes
- Non-disruptive implementation kept business users productive and minimized risk; new Web-based interface cuts training costs

“Running an IBM Enterprise Linux Server solution provides a reliable, secure and flexible platform at significantly lower cost than a comparable x86-based infrastructure.”
— Tim Bennett, Project Manager, Marsh

Solution components:
- IBM System z, IBM Rational HATS, IBM z/VM, IBM IFL

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Transform – Legacy IT Assets
*Migrating Customers To Modern Languages And Technology*

- Establish a Modern, Flexible Application Development Platform
- Reuse of Existing, Mission-critical, Production Tested Software Assets
- Maximize the Existing In-house IT Skills & Domain Expertise
zEnterprise – Java Storefront WebSphere Example

New Capabilities – Integrate COBOL and Java Transaction processing for Web 2.0 Storefront

- High performance Java data access for secure shopping and data servicing, highest levels of QOS, and industry leading data governance and security

- Scalable and Java storefront application hosted on Linux for system z virtualization

- Lower I/O demanding web serving and http load balancing on scale out components.

- Integrated analytics for real time and computationally intensive cross-selling recommendations and customer analytics
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Enterprise Modernization - Modernize
Modernization to Leverage Your Investments
Leveraging Existing Assets through Service Oriented Architecture

- Existing applications are among the most valuable assets a company owns:
  - Key part of the functional DNA of organizations
  - Support core processes and process majority of customer, product, supply chain and channel information
- Reusing proven, time-tested applications can significantly lower development and maintenance costs and risks
  - Take new requirements to market faster
- Continue to leverage existing IT staff and skills
- **SOA isn’t just about re-using the assets you create tomorrow… It’s also about re-using the assets you have today and increasing business flexibility**

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“ A study of 35 SOA projects across 11 industries worldwide revealed improved flexibility (100%), decreased costs (97%), reduced risk (71%), and increased revenue (51%).”
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IBM Institute for Business Value
Modernization to Leverage Your Investments

SOA Enabled Integrated Application, Transaction, and Data Environment

- IBM WebSphere Application Server for z/OS
- IMS Transaction and Database Manager
- IBM CICS Transaction Server

Performance, Security and Innovation

Understanding, Optimization and Control

IBM DB2 for z/OS
St. George Bank
Saves $15M USD through re-use of key business functions with SOA

Business challenge:
- Growth by acquisition of several regional banks
- Integrate multiple applications with disparate back-end systems

Solution:
- Service oriented architecture than re-uses business functions and loosely couples them to back-end systems with IBM messaging middleware

What Makes it Smarter:
- Significant improvement in customer satisfaction
- Ability to present customized bundled offerings to cross-sell and drive more revenue

“In our messaging layer, we have 200 services, which have completely opened up the core systems that the bank runs. And within those 200 services, we get 47% re-use. Some of them are used two or three times and some of them are being re-used up to 10 or 12 times.”

— Greg Booker, Head of Group Architecture
zEnterprise – Batch Modernization Example

New Capabilities – Integrate COBOL and Java Batch in a Fit for Purpose Deployment Model

- Leverage MF investments in COBOL and Java across HW and Middleware
- Deploy WebSphere Compute Grid (WCG) for parallel processing of Java Batch across heterogeneous resources
- TWS integration with WLM allows policy based execution of Java in best fit container:
- Transactions and Java batch can call DB2 to Integrate Analytics into framework.
- All developed using Rational Developer for System z integrating COBOL and Java development and debugging under a single modern IDE
Rational Tools for Multiplatform Development for zEnterprise

Rational Developer for System z
- Improved developer productivity
- One IDE for COBAL, JAVA, PL/I, Assembler, JCL, C++

Rational Asset Analyzer
- Lower maintenance costs
- Automated Application understanding and impact analysis

IBM Compilers for System z
- Up to 60% Increase in application performance over prior generations

NEW! Rational Developer for System z Unit Test
- Fully compatible workstation solution for developing System z applications
- Frees up Host MIPS for production usage

Rational Team Concert for System z
- Fully integrated team collaboration uniting System z, Power, and x86 development teams
- Open API’s for integration with established source code management (SCM) solutions

Up to 20% improvement in development productivity

Collaborative and Integrated development and lifecycle management for System z
Multi-platform Development and Deployment on zEnterprise Systems

**System z Host**
- Asset Analyzer
- Build Agent
- System Explorer
- z/OS Compilers
- WAS
- DB2
- CICS
- IMS

**IBM Blades**
- Build Agent
- System Explorer
- Linux Compilers
- RTC Server¹
- WAS
- DB2

**Accelerators**
- Smart Analytics Optimizer

**HMC**
- System z PR/SM
- Z HW Resources
- Service Element

**zBX**
- Blade HW Resources
- TOR SW
- Private Data Network

**Customer Network**
- Ensemble Management Firmware
- Private Management Network
- Private High Speed Data Network

**Build Agent**
- System Explorer
- Linux and AIX Compilers
- WAS
- DB2

**RDz Unit Test**
- x86 Linux

**Rational® Collaborative and Integrated development and lifecycle management for zEnterprise System**

**Workstation**

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¹ RTC server can run under z/OS, zLinux or AIX environments

* Currently open source or third party compilers

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Improves developer productivity and testing efficiency for mainframe development

The challenge
- Modernize its development platform for core financial business software
- Development and testing efficiency for new and existing applications
- Make COBOL development more attractive to younger programmers

Business value
- Similar development environment for COBOL and Web applications — attractive to younger developers
- Estimated 15% increase in development and 10% increase in testing productivity

Solution
- More than 200 developers began using IBM Rational Developer for System z software to develop applications for IBM System z servers with IBM DB2 and IBM Information Management Systems software

“Our team now develops, debugs and tests with more confidence, and it is clear that more and more people here will be using Rational Developer for System z.”

Almut Geiger, Product Specialist, HVB

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Enterprise Modernization - Extend

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**Extend your applications to gain new business value**
Extend To Gain New Business Value

Deploying Business Process Automation

Gain faster insight from pattern detection and alerts on KPIs/KAIs in WebSphere Business Monitor and WebSphere Business Events
IBM WebSphere Portal for System z

- Helping Organizations to Rapidly Respond to Change
  - Integrate applications, transactions & data to deliver business value faster
  - Transform Legacy Applications providing modern user experience

- System z – Complement to the Portal environment
  - Portal on z Platform provides a high Quality of Service for mission critical applications
  - Proximity to data improves performance

- Tight integration with CICS, IMS, DB2, MQ, Websphere Application Server, and HATS

The characteristics that a mission critical PORTAL require are the same characteristics that z Platform was designed for…
zEnterprise – WebSphere Portal Example

New Capabilities – Extend Legacy Applications with WebSphere Portal Server

- Leverage existing capabilities of CICS, DB2, etc.
- Deploy WebSphere Portal for an Exceptional User Experience and Extend Legacy Applications
- Tight integration with CICS and DB2 for improved performance as well as faster deployment
- zEnterprise allows you to move HTTP outside the firewall and maintain system control in the same frame
- Multiple deployment choices inside one frame allow for flexibility and improved TCO
NYS Dept Of Taxation And Finance – Case Study

Modernizing applications to enable real-time insight with System z

What’s Smart:
- Deployed an SOA solution that leveraged existing assets
- Delivers faster execution
- Easily adaptable and fast to implement
- Open to new technologies

Business Value:
- A single view of constituent data
- Cross-agency integration
- High Quality of Service
- New revenue generating opportunities

The new SOA infrastructure provides the needed structure to meet public sector demands of servicing the constituent needs along with the needs of the business.
Dynamic Business Process Management

*ILOG Business Rule Management Solutions On System z*

- **Option 1:** ILOG Rules for COBOL
  - COBOL App
  - Rules for COBOL program
- **Option 2:** JRules Rule Execution Server on z/OS or Linux on System z
  - JRules Rule Server on WAS for z/OS
  - Decision Services for SOA

**Development**
- Application Developer, Architect

**Rule Management**
- Business Analyst, Business Manager
zEnterprise – Business Rules and Fraud Analytics Example

High performance COBOL Rules deployed in CICS for improved performance in processing mission critical rules for fraud detection

Fraud triggers in rules initiate fraud analytics in DB2/SAO for real time and computationally intensive fraud detection

Cognos deployed on Linux for Management of Analytics on DB2 for z/OS

JRules for Java deployed on z/OS for real time marketing Upsell and cross-selling opportunities

Lower I/O and CPU intensive business rules for marketing and operations deployed on blades
WebSphere ILOG – Dynamic Management Case Study

Large Financial Service Provider

The challenge:
- The company was missing revenue by not being able to present the right offer at the right time when a customer was on-line
- Decision logics were scattered and inconsistent across channels
- Poor customer experience: branch staff attempts to cross-sell to clients who did not qualify for the additional credit resulted in negative client experience

Solution:
- Create an ILOG BRMS based cross-sell/up-sell solution
- Decision support throughout generation of personalized & qualified offers
- Cross-channel (branches, call centers, etc.), cross-product & customer centric

What Makes it Smarter:
- Improved client relationship – acquisition, retention & wallet-share
- Accelerated ROI
  - Increased revenues - $14M in approved bookings in 2.5 months
  - Significantly increased cross-sell offers: from 13% to 40%
  - Significantly increased acceptance from 3% to 20%-30%
- Instant updates of rules fully managed by business users

One of the Largest Financial Service Providers in the World Dramatically Increases Revenue through Cross-sell/UpSell
zEnterprise - A New Dimension in Computing

System z - The premier platform for creating an agile, dynamic, and cost effective enterprise architecture

Transform your IT assets to preserve your investments

Modernize your enterprise to maximize agility

Extend your applications to gain new business value
A few thoughts about a way forward

- Learn more about zEnterprise and what it can do for your business

- Ask your IBM team for a customized proposal including how it can deliver value in your context

- Explore one of our Workload Optimization, Fit for Purpose or Architectural Design workshops at no cost

... thanks for joining us today
Questions?
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