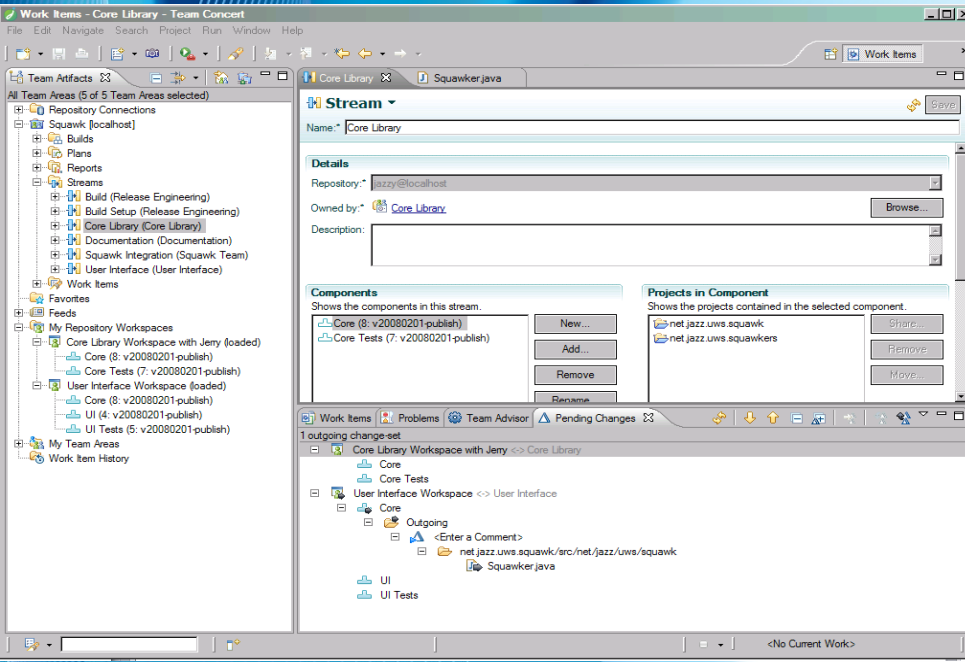
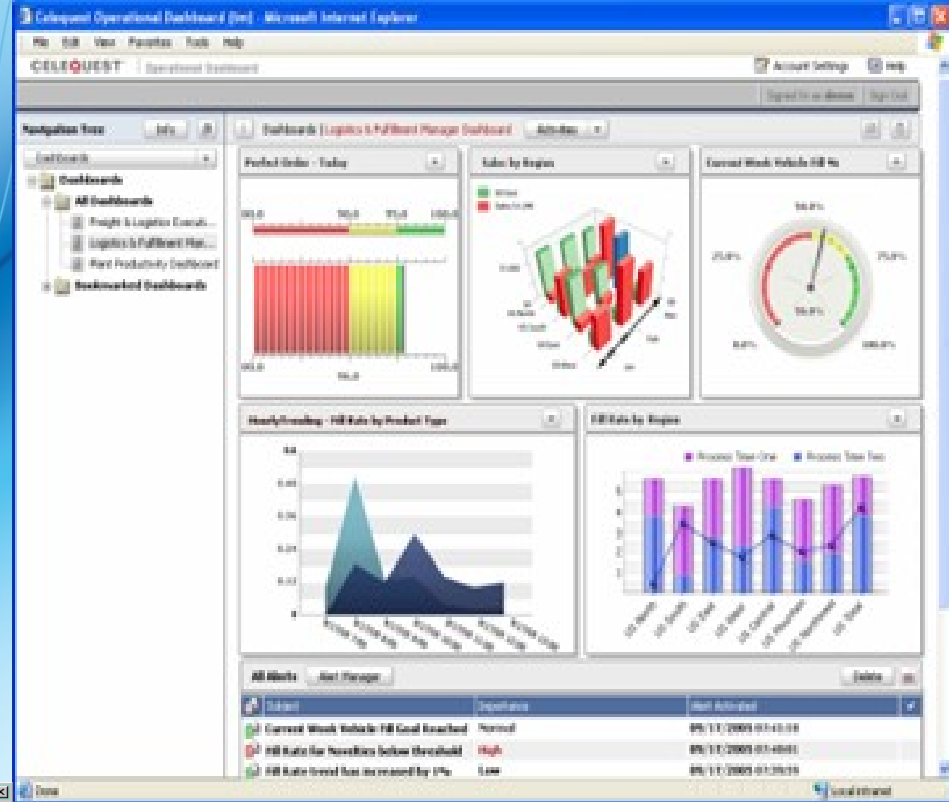


# Mastering The Mainframe

## Empowering Z Applications



C&RM Worldwide Jam

Keith Allen

Rational Brand Architect



- Empowering Z Applications with Enterprise Optimization.
- The Z-Mainframe for Applications is evolving.
- Adopting a 'Factory IT' Approach with this Strategy
  - The CxO View
  - The Developer View
- Empowering your Z Applications and linking your Business to IT Objectives

### **1. Agile for Mainframe - Agility@Scale as applied to legacy systems**

- The ability to accelerate your business is typically constrained by IT, and within IT, the constraint is the back-end system.
- Is your mainframe a bottleneck, and who is most frustrated by this?
- Help build excellent business cases to increase the throughput of application releases by removing the bottlenecks in the mainframe AD process.

### **2. Analytics for MF AD - Breaking down the Information Silo's between IT functions to provide**

- Is the mainframe seen as a black box as far as the information that management receive.
- What is Senior managements visibility into Development and Test KPI's
- What is the view around reducing issue resolution times
- Help in trending information to help understand improvement or degradation.

### 3) Business Rules Modernization

Some of the most valuable assets on the mainframe are the business rules in applications.

- To become more agile, businesses need to be able to change these rules more frequently and more efficiently.
- We help to:
  - increase governance over important rules and their implementation
  - increase the responsiveness to change - change the rules engine - not IT programming.
- - reduce the cost of maintaining core rules that change frequently due to legal/compliance or business agility reasons.

## Value Statements

Helping customers to have an end to end view of complex applications.

Longer uptime = higher productivity = \$\$.

Shorter MTTR by quicker root cause identification = \$\$.

Time To Market Reduction = \$\$.

Faster Measures in Adherence to Compliance and Audit Requirements = \$\$

## Process Improvements

Faster time from dev to prod – TOM = \$\$

Reduction in development training = \$\$

RISK mitigation = \$\$

Integrated Development action role

## Technical Improvements

Saving by reduction of TSO / CPU consumption = \$\$

Higher productivity by single Integration workbench = \$\$

Avoid functional duplication = \$\$

End to end Automation - Repeatable built in intelligence

## In The Past We Focused on Individual Product Value

- Team productivity increases of up to 50%
  - Improved project management
  - Leveraging remote staff
  - Improved team utilization
- Team collaboration performance up 25%
  - Transparent knowledge sharing
  - Improved task coordination between team members
  - Seamless transfer of work
- Quality of releases improves 12%  
Reduced customer issues
  - Reduced build issues
  - Reduced risk of project failures
- Project governance improvements of 12%
  - Automated process management
  - Enforcement of best practices
  - Alignment of quality/risk with lifecycle stages

Great data, but still only driving **point to point** product comparisons.

Today we are working with you to :

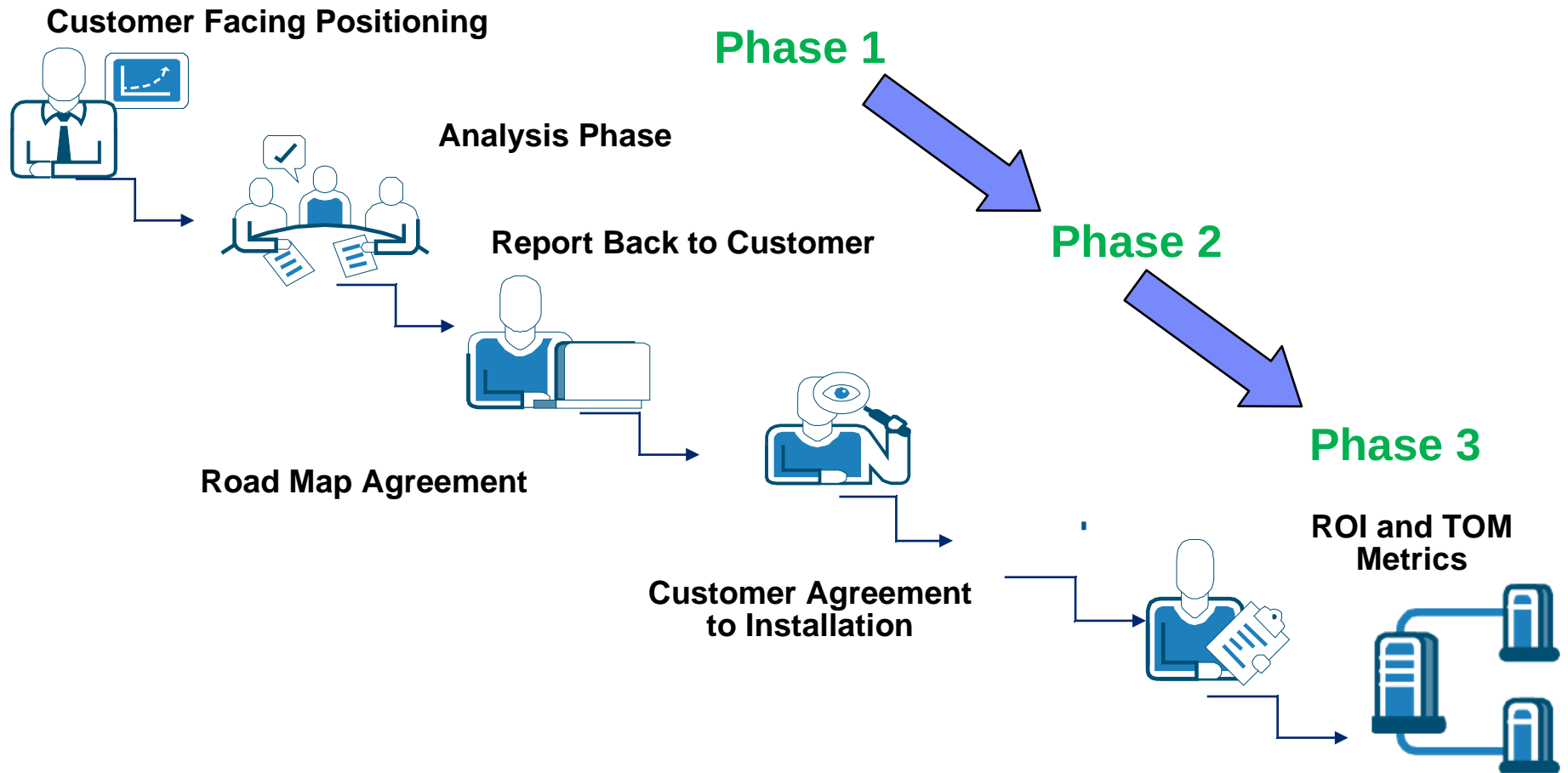
- Raise our **value proposition with you the customer**
- Create additional **differentiating value with you the customer.**

# IBM Rational already have active Customers with the EOS Solution.





## Providing a 'Practiced' approach to Automating, Extending, and Adding value from the Mainframe to an Enterprise View Across The Application Lifecycle Management





- Empowering Z Applications with Enterprise Optimization.
- **The Z-Mainframe for Applications is evolving.**
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## Business IT

Apply a new model for managing IT combining factory-style productivity to keep costs down with a more nimble, innovation-focused approach to adapt to rapid change.

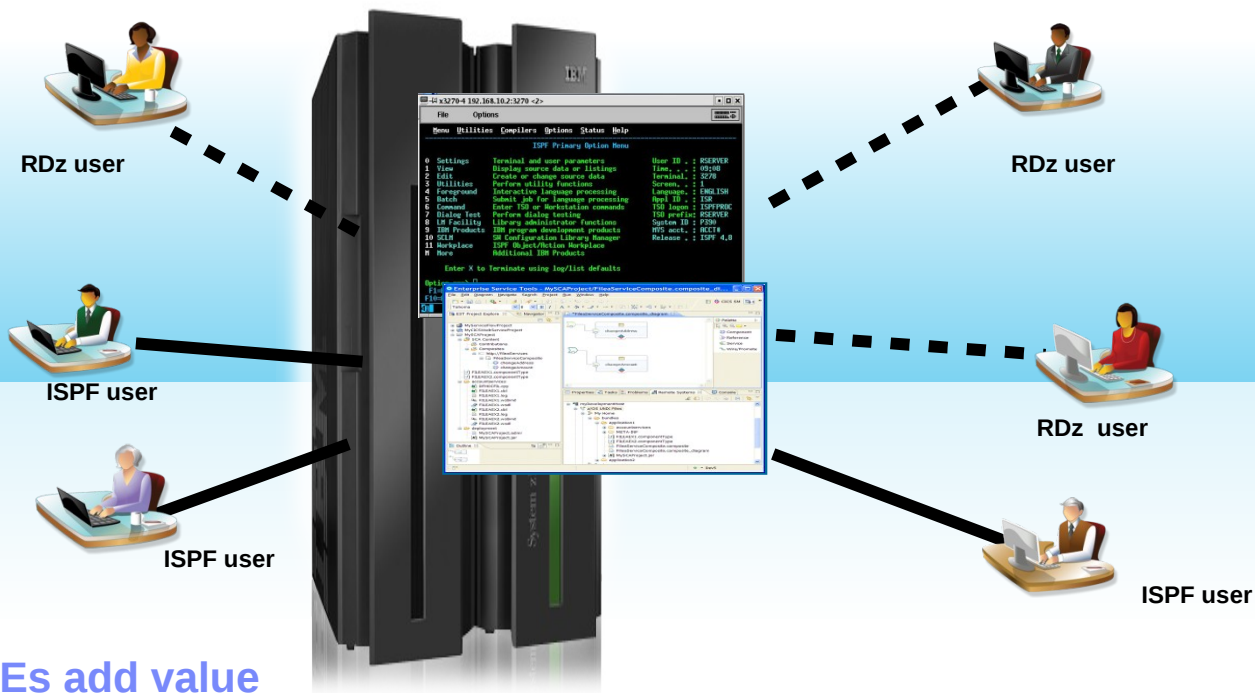


Uses the integrated Rational Collaborative Development Lifecycle Quality and Testing Solutions and practices to extend your application management from code control through to production, and ongoing project

This “Factory IT” couples lean management techniques and process improvements with advances in cloud computing and software development to simplify the operating environment and improve productivity and cost performance.

# Adding Value

Today's mainframe development environment with a modern IDE (and still some ISPF)



## Modern IDEs add value

- Higher productivity; more attractive for new developers
- Ability to offload some development MIPS
- Integration with complete application lifecycle tools

## But challenges remain

- Business pressures to reduce development MIPS further
- Test delays caused by dependencies on operations team, thus hurting productivity

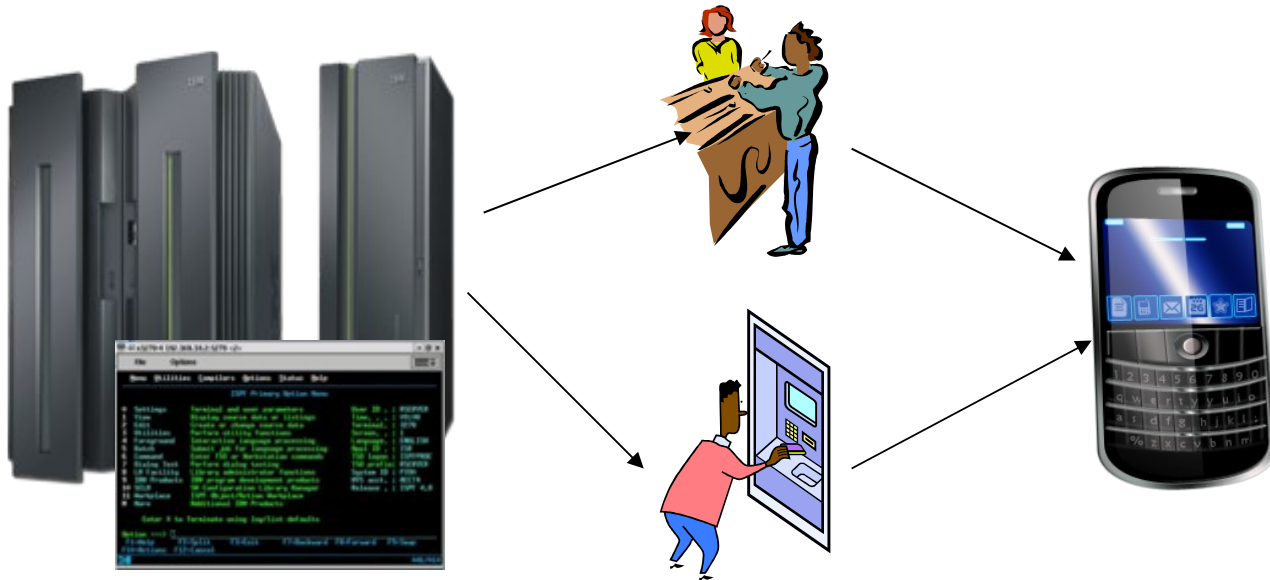
# Adding Value

How to leverage your existing mainframe-based applications in order to provide next generation business products and services to your customers

z/OS  
COBOL  
CICS  
DB2

Linux on System

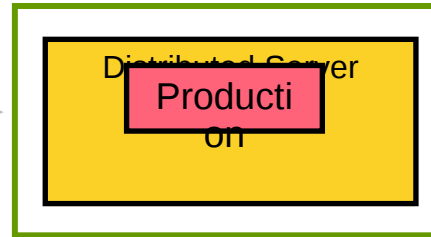
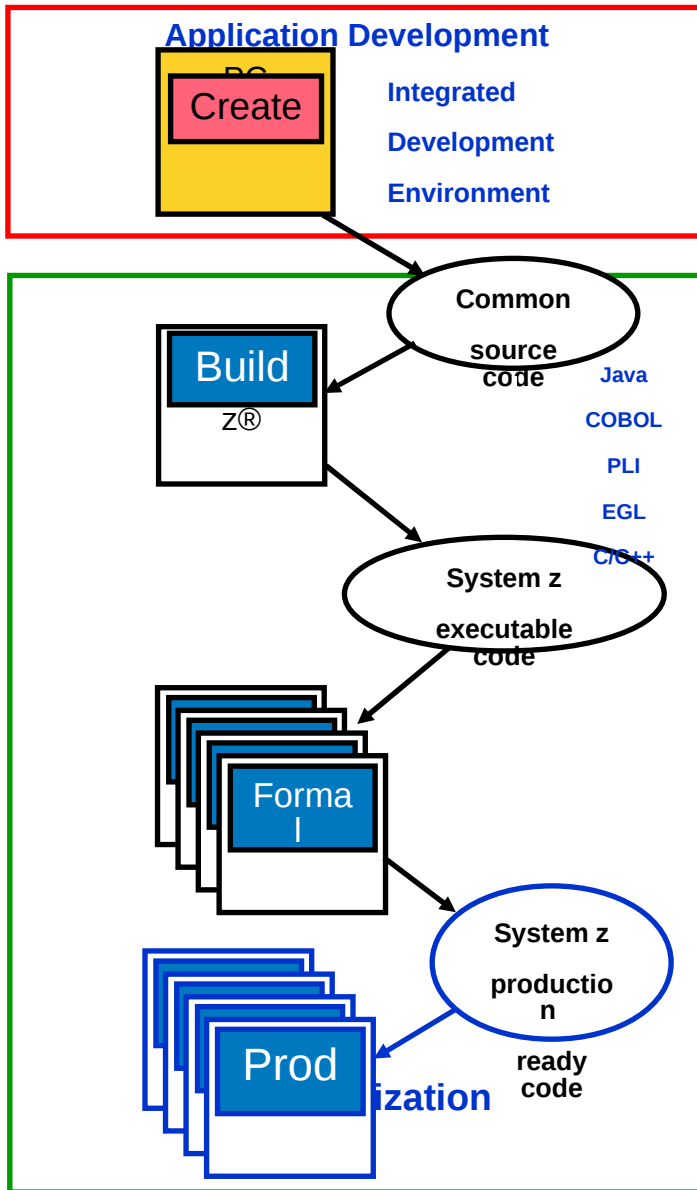
Z  
WAS  
JEE



## Challenges

- Developers use ISPF tools to maintain mainframe applications
- Different teams use different tools and languages to develop the mainframe back end and the distributed front end
  - Source code on the mainframe is managed by CA Endeavor, the distributed source code is managed with several other different tools
- Mainframe often runs at 100% capacity, reducing available testing time for development

# Challenges with Traditional Mainframe Development



- There is a chasm between the developers and IT operations staff
- Developers don't control access to Mainframe systems
  - The ability to easily configure and deploy an application to the target runtime for testing proves to be *very programmer time-consuming task*
  - This is *accentuated when considering composite applications* with software on distributed servers consisting of WAS and another platforms' runtime.
- The cost of development on System z in the past has not been differentiated from Production Workloads
  - This has led to a *rationing of mainframe development capacity*
  - For new workload development, *competing offerings were advantaged*
- **Net Result:** Distributed development has proliferated resulting in complexity for deploying new workloads on System z

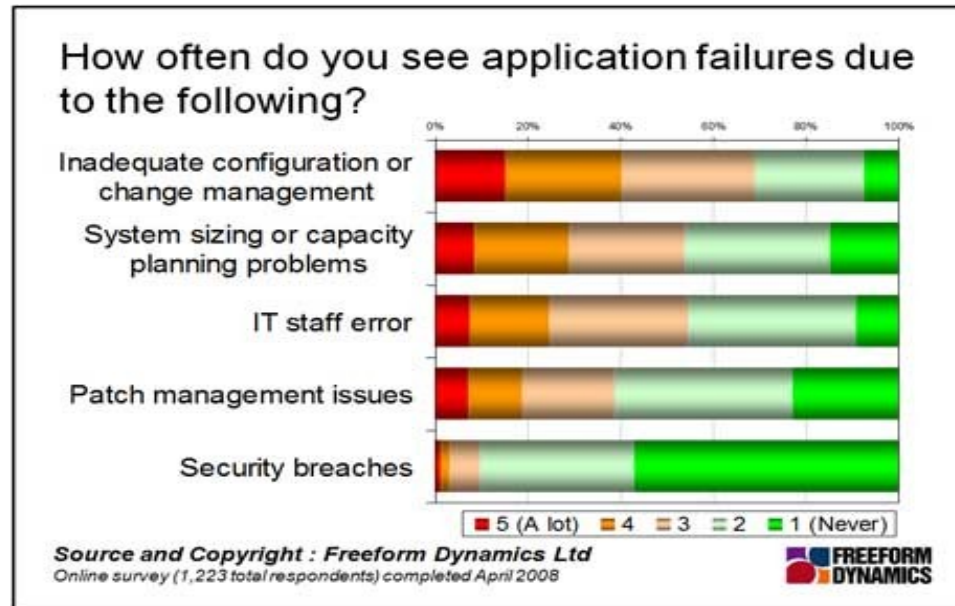
- IT applications are becoming increasingly complex
- 24x7 application availability is expected
- The number and types of application project portfolios are expanding at a rapid rate.
- Web business and transactions add more technical layers.
- Mainframe legacy applications usage of SOA
- The mainframe still remains as the enterprise IT backbone
  - Leveraged to take advantage of decades of investment
  - Billions of lines of active COBOL code exist
  - Reuse, repurpose, integrate legacy assets
  - Extended to support Web business: “What’s old is new again”

- All of this must be done while the business tries to
  - Do more with fewer resources
  - Deal with mainframe experience shortage
  - Cut costs
  - Consolidate vendors
  - Meet and exceed service level agreements
  - Satisfy customers
  - Ensure high application quality
  - Reduce risk and ongoing project costs
  - Limit/eliminate application downtime



# Challenges with Traditional Mainframe Development

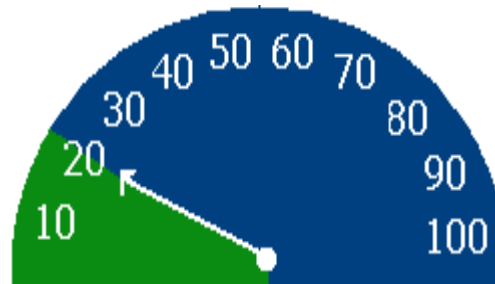
- How are customers currently managing their mainframe and distributed development application lifecycles ?
  - 4% Use a paper-based system to capture failures
  - 10% Communicate failures verbally to the development team
  - 14% Automatically enter failures into an integrated issue management solution and push them into the issue management workflow.
  - 21% Email failures to the development team
  - 51% Manually enter failures into an issue management solution



# Challenges with Traditional Mainframe Development

- Corporate expenditures for operations and "lights on" activities typically make up 80+% of the IT expense budget.\*\*
- That leaves 20% for developing new services and offering innovation to the business.

"It's like having a sports car on the highway



but never being able to drive over 20"

**SO** demand for more IT innovation means IT gets a big budget increase, right?

\*(IDC: Sallie Mae Evolves Effective Change and Service Management: Setting a Baseline First to Establish Key Benefits - July 2008, Industry Insights #ITMS559)

So how the IBM Enterprise Optimization offering helps organisations implement a structured Enterprise view.

- Reduces current mainframe Application Management silo processes and tools
- Consolidates into a Central Integrated Solution with scalable returns showing:
  - Reduction in Overlapping Resources.
  - Reduction in project Application Time To Market.
  - Improve Measures in Adherence to Compliance and Audit Requirements.

**A real saving in ongoing Application Project costs**  
**\$\$\$\$**

There are almost as many justifications and rationalisations to take Mainframe application management to the Enterprise level as there are organisations that decide to do it.

The common denominators seem to be one of more of:

- **Certification** – When it is desired to gain a certification at the organisational level in order to capture a contract or to have a product accepted by the target audience
- **Minimising Resource Load** – This includes the economies of scale for tool licensing and support infrastructure, minimising the sets of unique training required and maximising the use of personnel across the organisation due to consistent processes, tools and procedures
- **Contractual Requirement** – Sometimes a large project comes along that is worth the pain of making CLM (and other disciplines) consistent across an organisation

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# Adding real value to the IT Service Lifecycle

From Demand of the Business

To Service to the Business

Demand & Portfolio Mgt

Project Management

Resource Management

Financial Management

Time Sheet Management

Software Configuration Management

Release Mgt

Request Management Provisioning

Asset Management Cost Management

Datacenter Automation

Service Management

Security Management

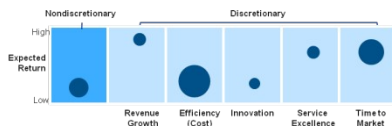
Service Assurance

Service Level Management

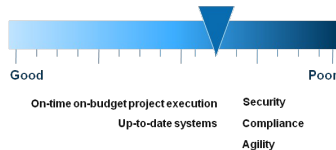
## IT Service Lifecycle

# Adding real value to the IT Service Lifecycle

## Align to the Business

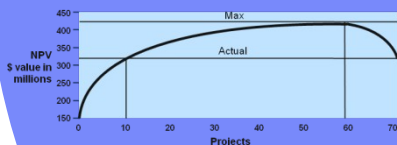


## Stay in Business

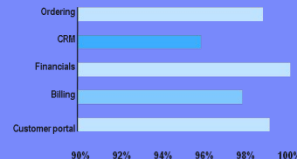


# The Five Essential Value Metrics For Managing IT

## Create Value



## Realize Value



## Remove Waste



Demand & Portfolio Mgt

Project Management

Resource Management

Financial Management

Time Sheet Management

Software Configuration Management

Service Level Management

Service Assurance

Security Management

Service Management

Datacenter Automation

Asset Management  
Cost Management

Request Management  
Provisioning

Release Mgt

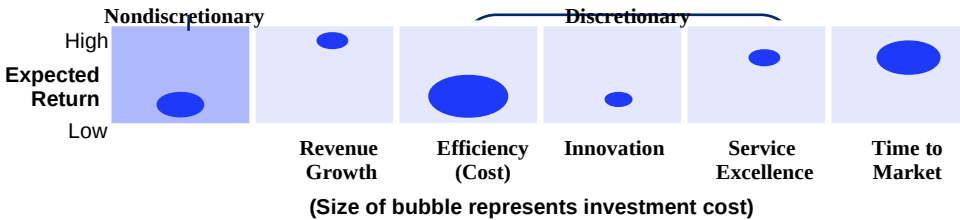
Source: Forrester 2008, The Five Essential Metrics For Managing IT



# Adding Essential Metrics For Managing IT

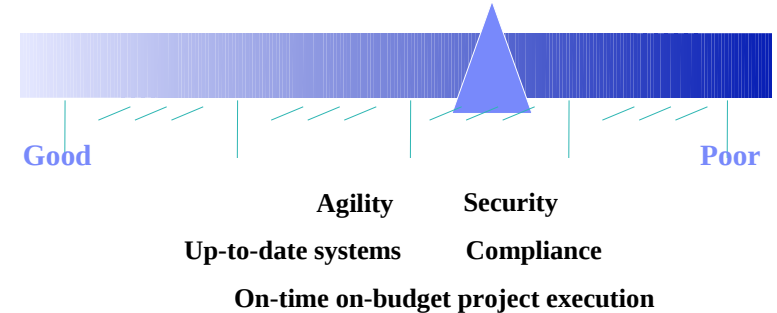
## Align to the Business

### Alignment Of IT Investments to Business Strategy



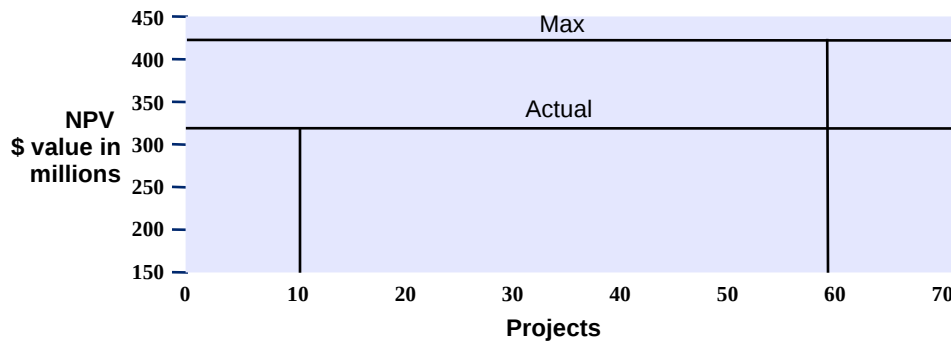
## Stay in Business

### Operational Health



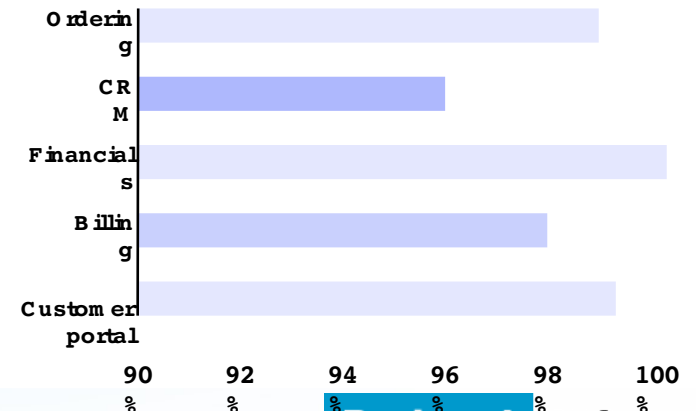
## Create Value

### Cumulative Business Value of IT Investment



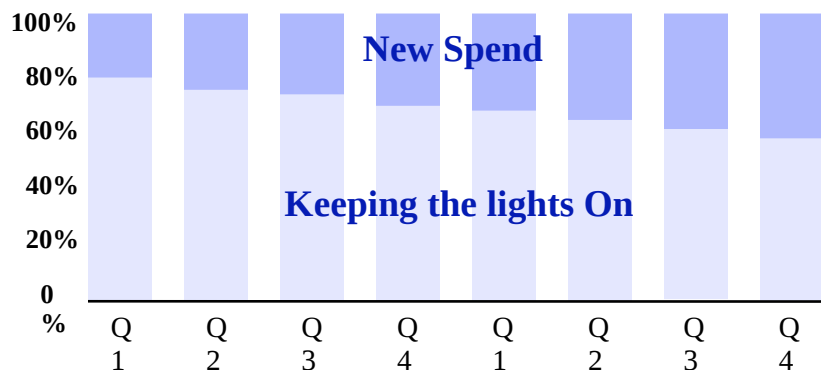
## Realize Value

### SLA Performance



## Remove Waste

### IT Spend Ratio New vs. “Keeping the Lights On”



## Examples of the Enterprise Optimization Supplement Impact

- ✓ Reduce service desk calls up to 40%
- ✓ Improve MTTR up to 50%
- ✓ Reduce downtime up to 70%
- ✓ Reduce performance delays up to 71%
- ✓ Improve staff productivity up to 25%
- ✓ Reduce number of IT tools up to 50%

## Elements of Waste

- Incidents
- False alarms
- Server sprawl
- Underutilized resources
- Duplicate licenses
- Manual activities – human error
- Redundant applications
- Slow application response times
- Electricity usage of idle systems

Sources: *An ROI Study* - direct customer data.

# Change this.....

START object  
read/write  
DE:  
A DB (dbrow)  
CE (space row)  
ess (Rw)

SAF TO ACFL  
SERVICE  
ACTER-ADD  
CONTROL-DELETE

(all)  
show sysplex  
facfz, lrfacth  
(sysplex)  
facfz, node  
(Nodeid), Active

Set control  
(950)  
show clasmaj  
show cpf  
show lds  
show sa-def

START IN  
READ AND  
- STA DB (row)  
SPACE  
(SPACE ROW)

```
MP R14 -----  
COMMAND ==>  
  
EXECUTION SPECIFICATIONS:  
EXECUTION MODE ==> ( B - Batch mode, O - Online mode )  
DB2 SSID ==> D91A  
  
BATCH PROCESSOR INPUT DATA SET:  
DATA SET NAME ==> 'PTIDEVL.VIRTUAL.DB2'  
MEMBER ==> ITS001 ( Blank or pattern for member selection list )  
VOLUME SERIAL ==> ( If not cataloged )  
EDIT DATA SET ==> N ( Y - Yes, N - No )  
  
PROCESSING OPTIONS:  
UNLOAD MODE ==> A CONTINUE IF:  
RESTART ==> N -WARNING ==> N  
TERM UTILITY ==> N -SQL ERROR ==> N  
RETRY LIMIT ==> 00 -BIND ERROR ==> Y  
WRAP/TRUNCATE ==> T -LOAD DISCARDS ==> N  
  
AUDIT OPTIONS  
AUDIT List Dest ==> D ( P - print; D -data set; N - No audit list )
```

access (row)

HOW TO  
FIND  
RESTRICTED  
OBJECTS  
DIS DB (\*)  
SPACE  
(\*)  
RESTRICT

IBM

Ext  
Architect  
Reference  
Summary

System/370



# To This.....

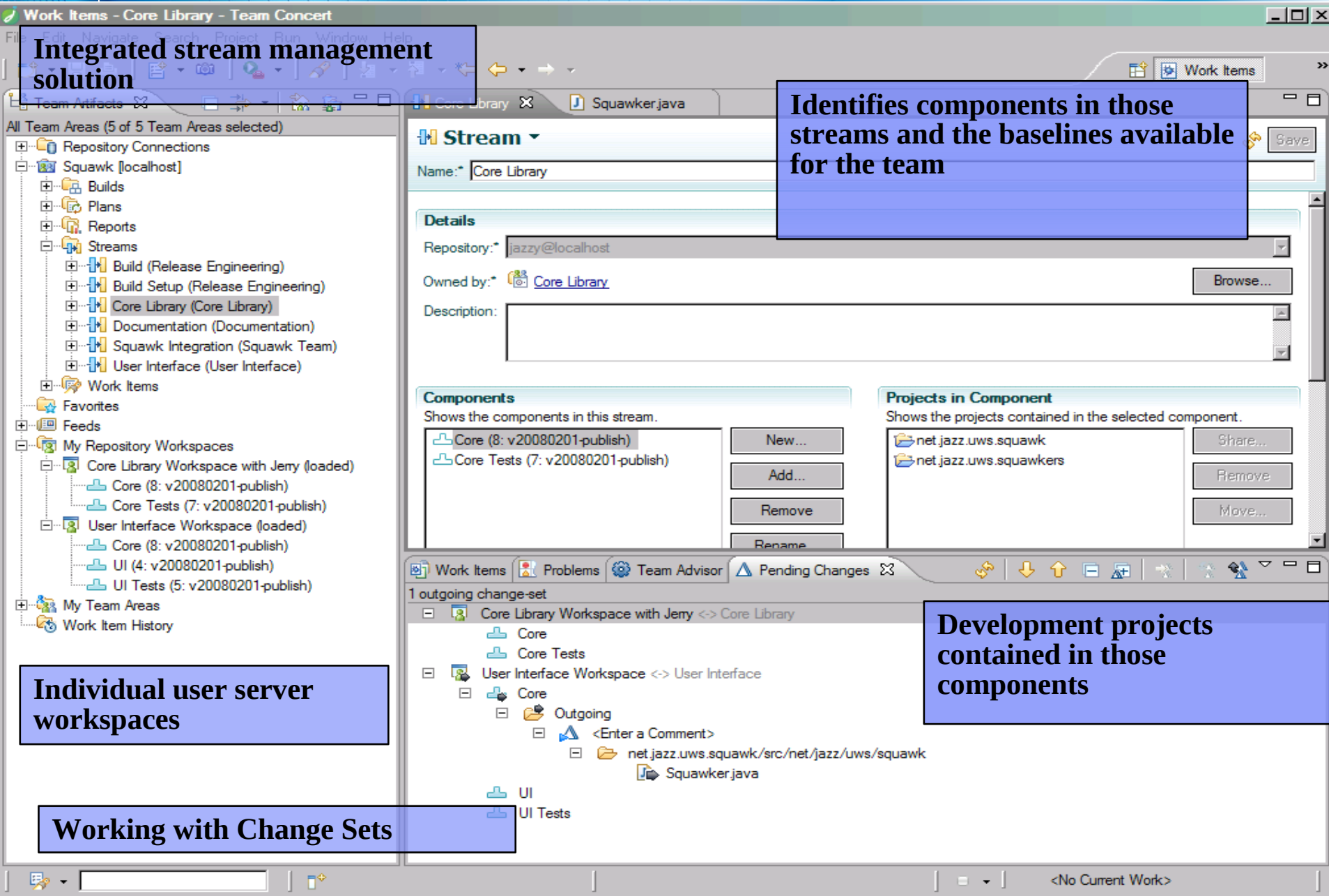
**Integrated stream management solution**

**Identifies components in those streams and the baselines available for the team**

**Individual user server workspaces**

**Working with Change Sets**

**Development projects contained in those components**

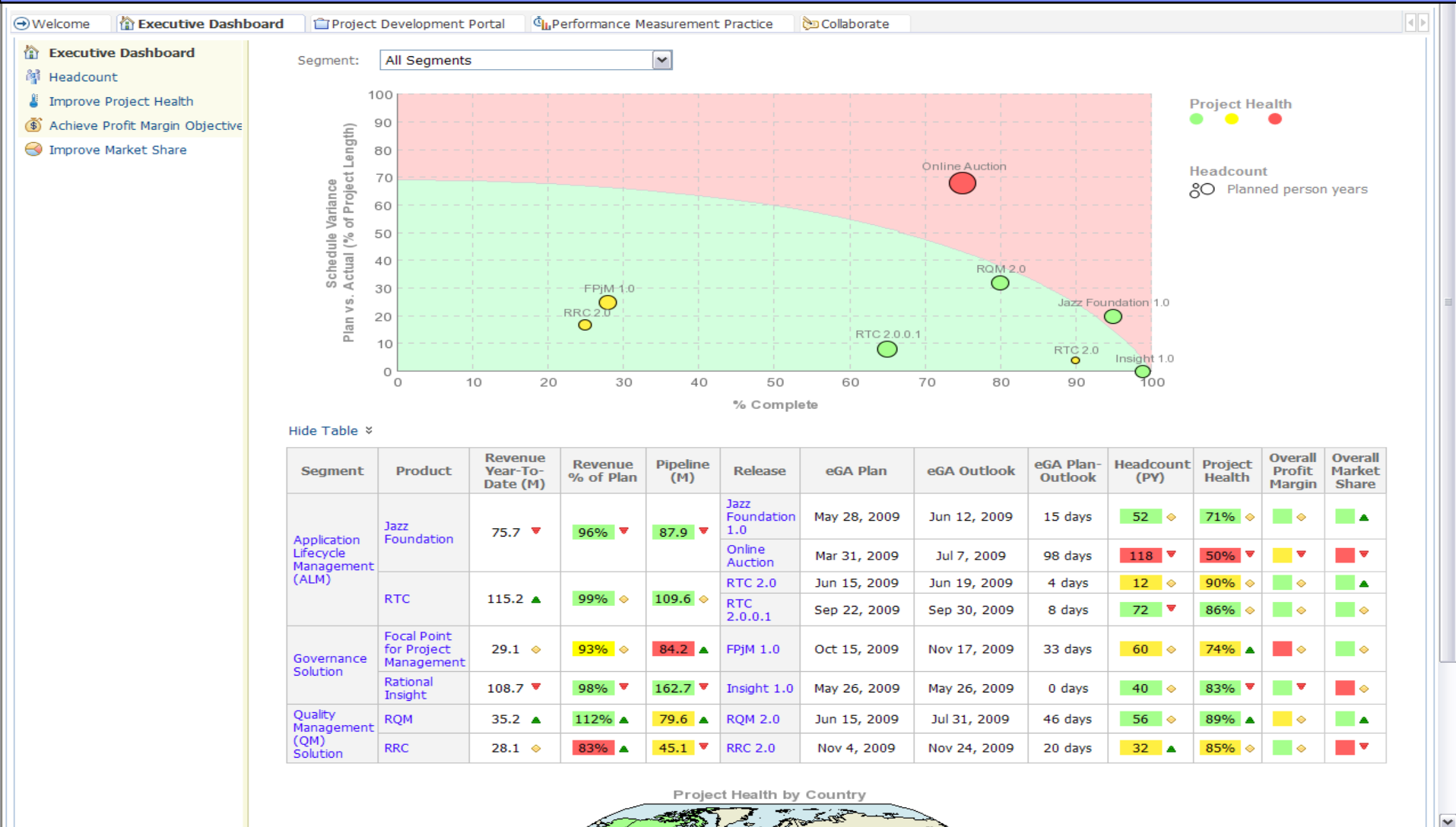




# Rational Executive Dashboard – the end game



# Rational Executive Dashboard – The end game



- Empowering Z Applications with Enterprise Optimization.
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# Technology Strategy

Enterprise Optimization Supplement adds real value to current MF SCM practices

Rational Quality management technologies adding value to current SCM tools

Rational team Management technologies adds value to current SCM tools

Create Test Data, Software Change Management, Regression Testing, Library Management, Patch and Fault Application, Quality Management, Testing and Debugging

## Enterprise Optimization Supplement

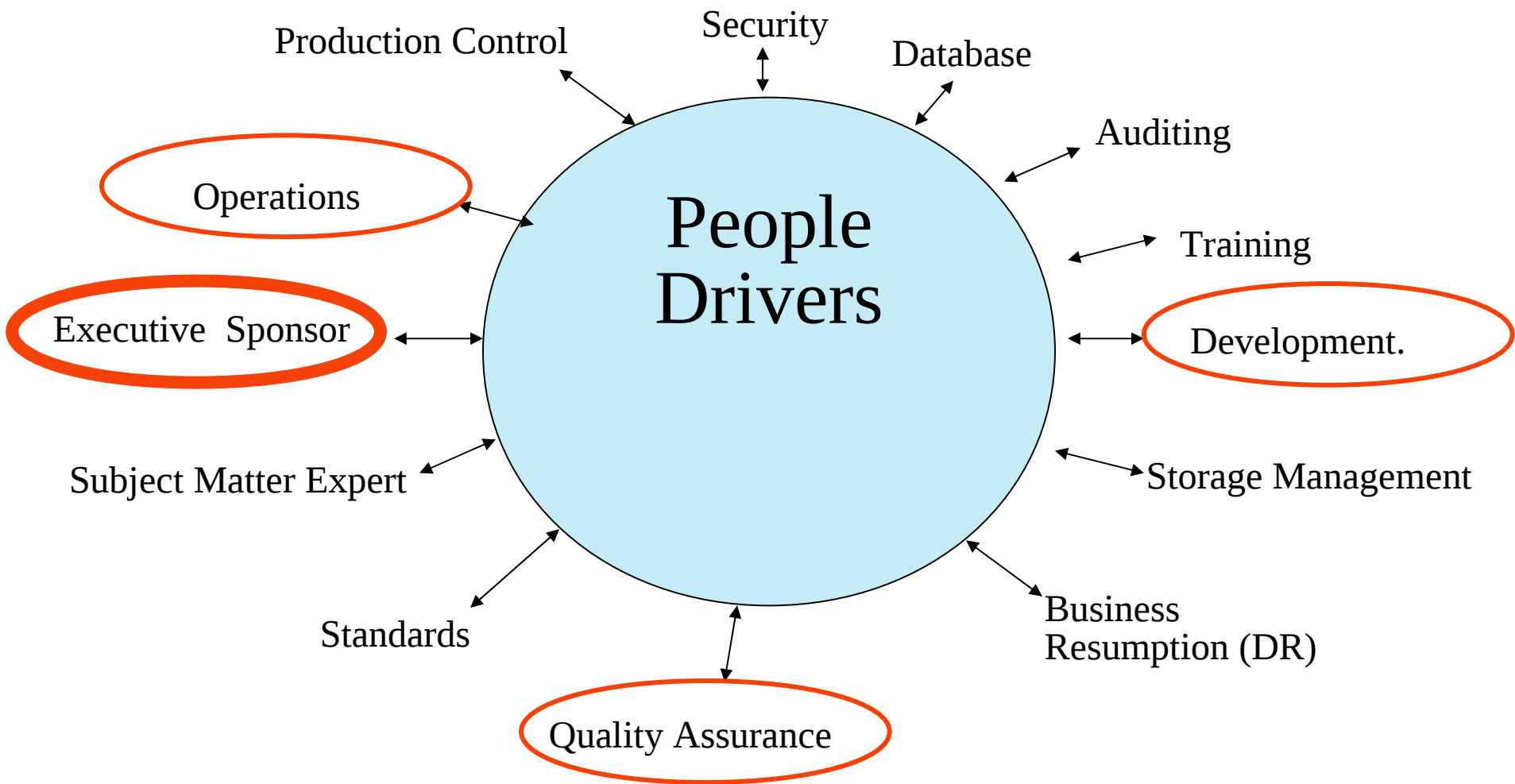
- Established Customer base Numbers
- Established User groups
- Growing New Sales independent of renewal

How to drive end to end ALM

Rational Testing technologies adds value to current SCM tools

Collaborative communications between all parties involved in Application development is **key to success**.

- Development Area:
  - Application Development
  - Development Support
  - Quality Assurance
  - Release management
- Operation Area
  - Production Control (Service Desk activity)
  - Security
  - Systems Programming
  - Database Management
- Senior management
  - Internal Audit
  - Executive Sponsor



## CxO's



**Hot buttons:** Decrease costs, deliver measurable value, reduce risk  
**Decision criteria:** Ability to demonstrate ROI, reduce TCO, reduce risk  
**Key influencers:** Technology leaders, market influences, IT Execs

## VP's (Project)



**Hot buttons:** Deliver commitments on time and budget, reduce TCO, flexible project resourcing  
**Decision criteria:** Measurable improvements in project ROI, team efficiency, automation, streamlined project and team onboarding  
**Key influencers:** IT Leaders, Project Managers, regulatory and compliance standards

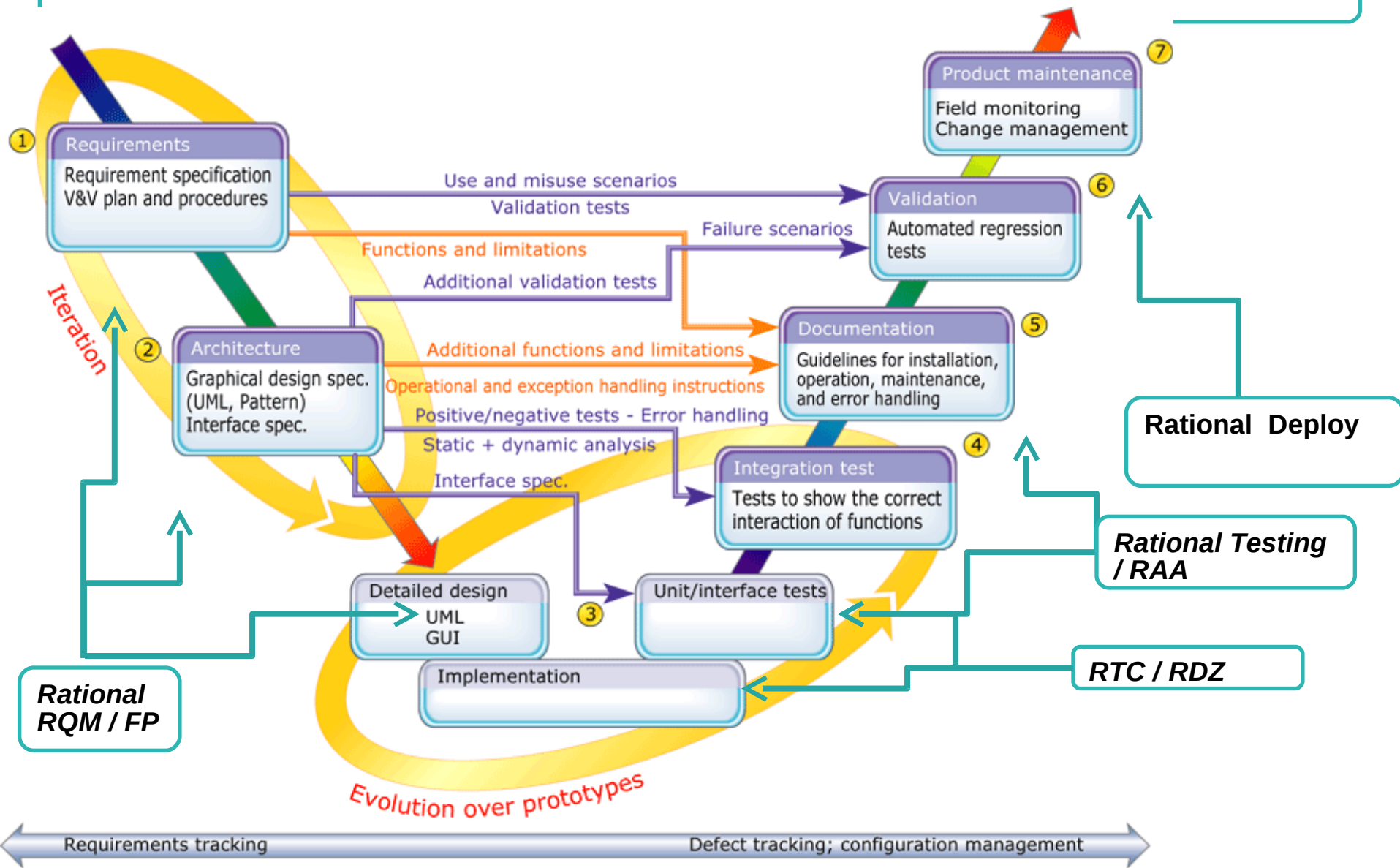
## LoB, PMOs



**Hot buttons:** Reduce time-to-market, leapfrog competition, improve customer relationships  
**Decision criteria:** Support LOB collaboration and innovation; ability to fast-track projects  
**Key influencers:** R&D Engineering, Enterprise Architects, IT project/program managers, Quality Managers, Business/System Analysts

# Helping the Alignment of IT to Business

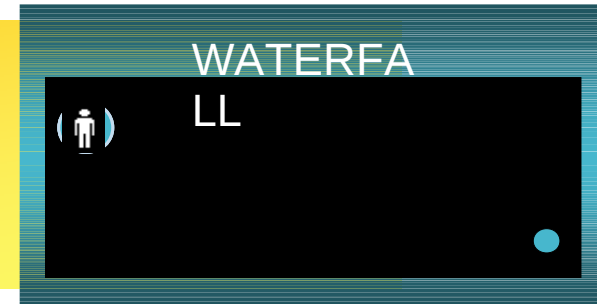
The Enterprise Optimization Supplement Strategy links directly to 'Business Methodologies'



- Waterfall development

When *stability* is the primary

Example: CA Endeavor linked to - Rational Team Concert, driver



- Iterative development

When *stability and change* are equal players

Example: CA Endeavor linked to - Rational Team Concert And RDZ,



- Agile development

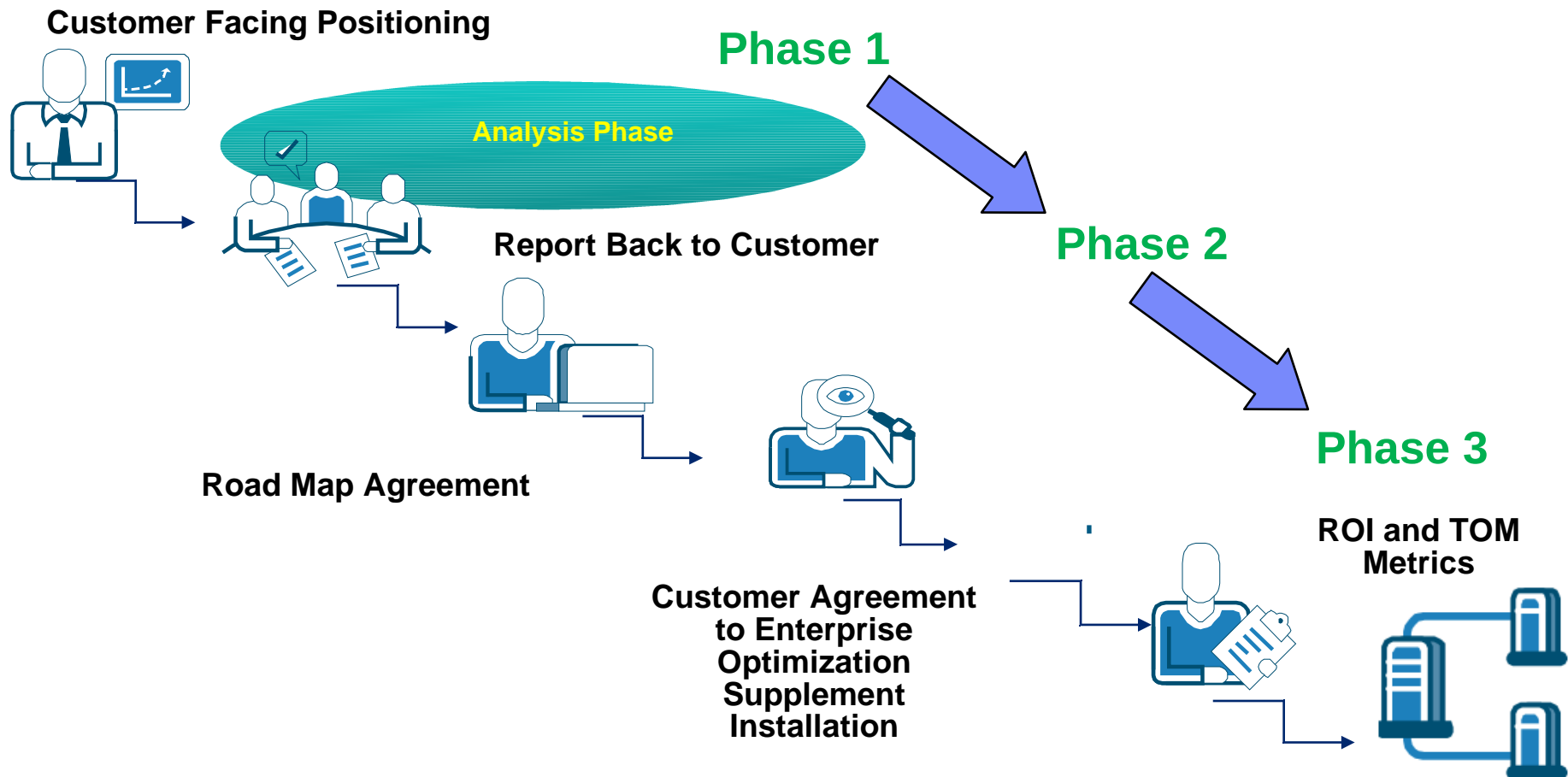
When *change* is the primary

Example: CA Endeavor linked to - Rational Team Concert driver

And RDZ with RAA,



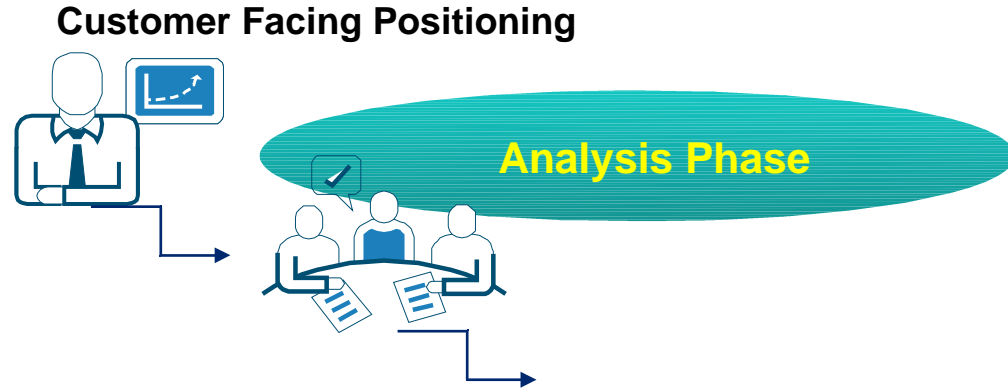
# EOS – The Way Forward



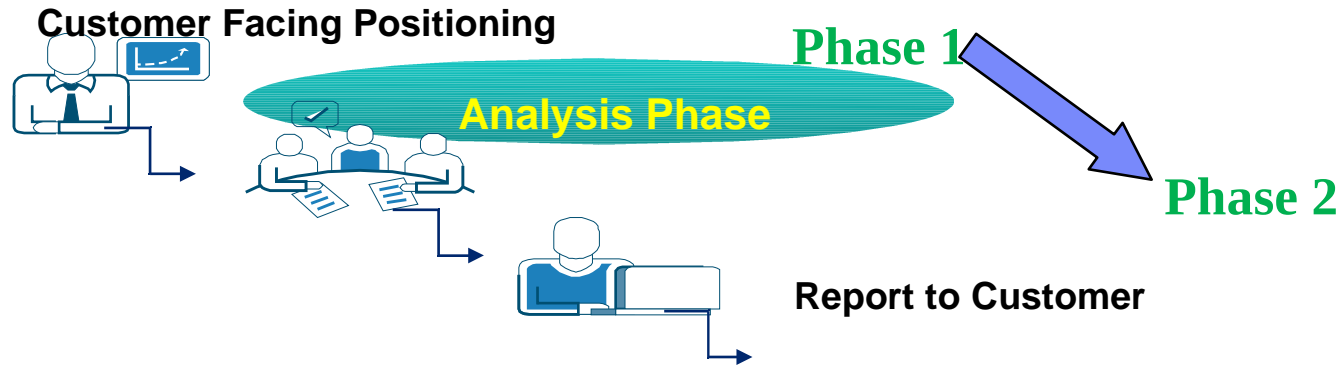


## Enterprise Optimization Supplement - Phase 1

Achieving the IT to Business Objectives



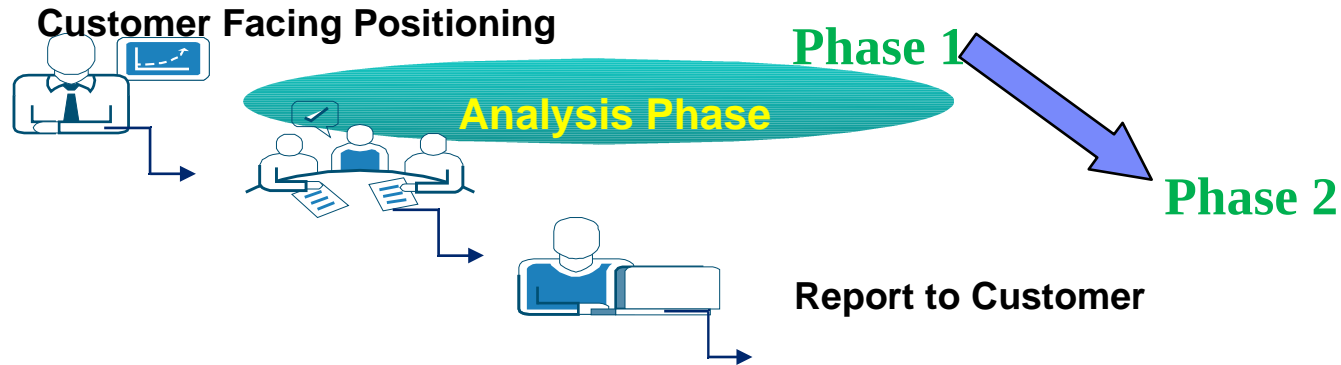
- One to one interviews with identified staff members
  - SCM Administration (Mainframe )
  - Development Areas (Project management & Design Management)
  - Release Management
  - Build Management
  - Change Management
  - Quality Control



## ➤ Results are consolidated into deliverables:

- An Assessment Report
  - Report detailing assessment activities, findings, and recommendations - a current GAP Analysis and Maturity Model around the current Lifecycle Process Management practices.
- A Readiness Plan
  - Specific set of actions to address the findings
- Findings Presentation
  - Business and technical presentation of the phase 1 analysis

# The Business and Technical Report – Key Headings



Document Overview

Executive Summary and Goals

Managing through ITIL and COBIT Best Practices

Business Model

Solution Definition

Solution Architecture Model

Detailed Physical Architecture

Solution Impact

Quality Attributes

Success Criteria and Test Plan

Phasing, Roadmap, and Implementation Plan

Appendix

# Bringing Maturity Modelling to the Development areas

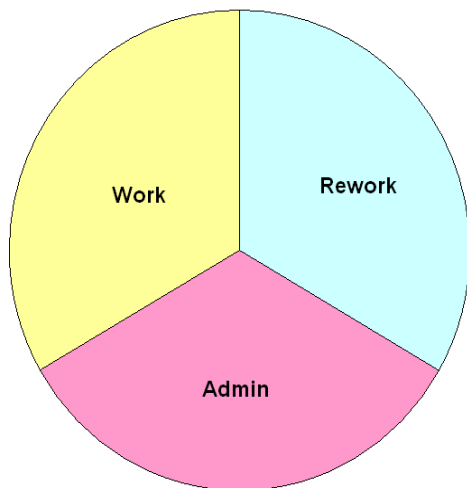
Element	Level 1 <i>Initial</i>	Level 2 <i>Managed</i>	Level 3 <i>Defined</i>	Level 4 <i>Quantitatively Managed</i>	Level 5 <i>Optimizing</i>
Method	Ad hoc	Managed	Defined	Quantitatively Managed	Optimizing
Tools	None	Standalone	Standard	Integrated	Tuned
Enablement	None	Inconsistent	Standard	Improving	Focused
Organization	Ad hoc	Silod	Standard	Improving	Tuned
Infrastructure	Ad hoc	Inconsistent	Standard	Improving	Streamlined
Adoption	Ad hoc	Inconsistent	Smooth	Improving	Performing

The diagram illustrates the maturity levels for various development areas. Each row represents an element, and each column represents a maturity level. Red circles with 'N' and green arrows indicate the current state and direction of progress for each element.

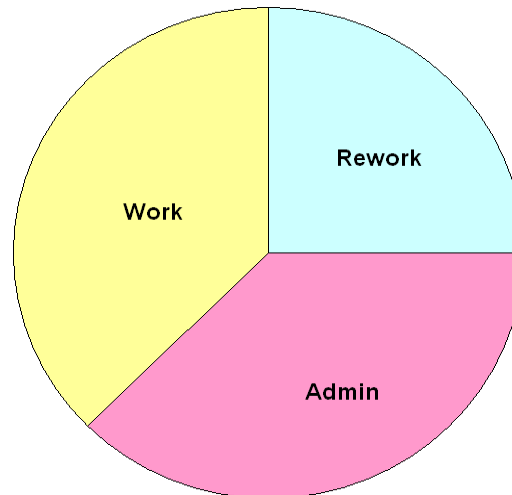
- Method:** Progression from Level 2 (Managed) to Level 3 (Defined).
- Tools:** Progression from Level 3 (Standard) to Level 4 (Integrated).
- Enablement:** Progression from Level 2 (Inconsistent) to Level 3 (Standard).
- Organization:** Progression from Level 2 (Silod) to Level 4 (Improving).
- Infrastructure:** Progression from Level 3 (Standard) to Level 4 (Improving).
- Adoption:** Progression from Level 1 (Ad hoc) to Level 3 (Smooth).

# Process Improvement – Bringing Agile to the Mainframe

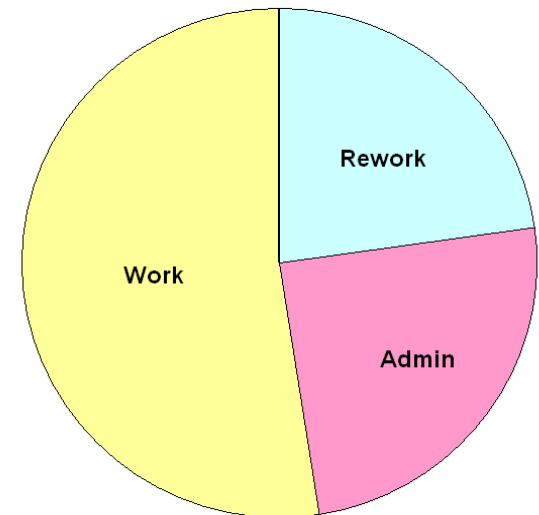
- Using Agile techniques to do iterative Process Improvement
- Using Integrated Tools and Automation to maximize the benefit
  - Enablement
  - Expert Advice and Empowerment
  - Compliance, Audit, Enforcement and Reproducibility
  - Minimize Administration



Before



No Automation

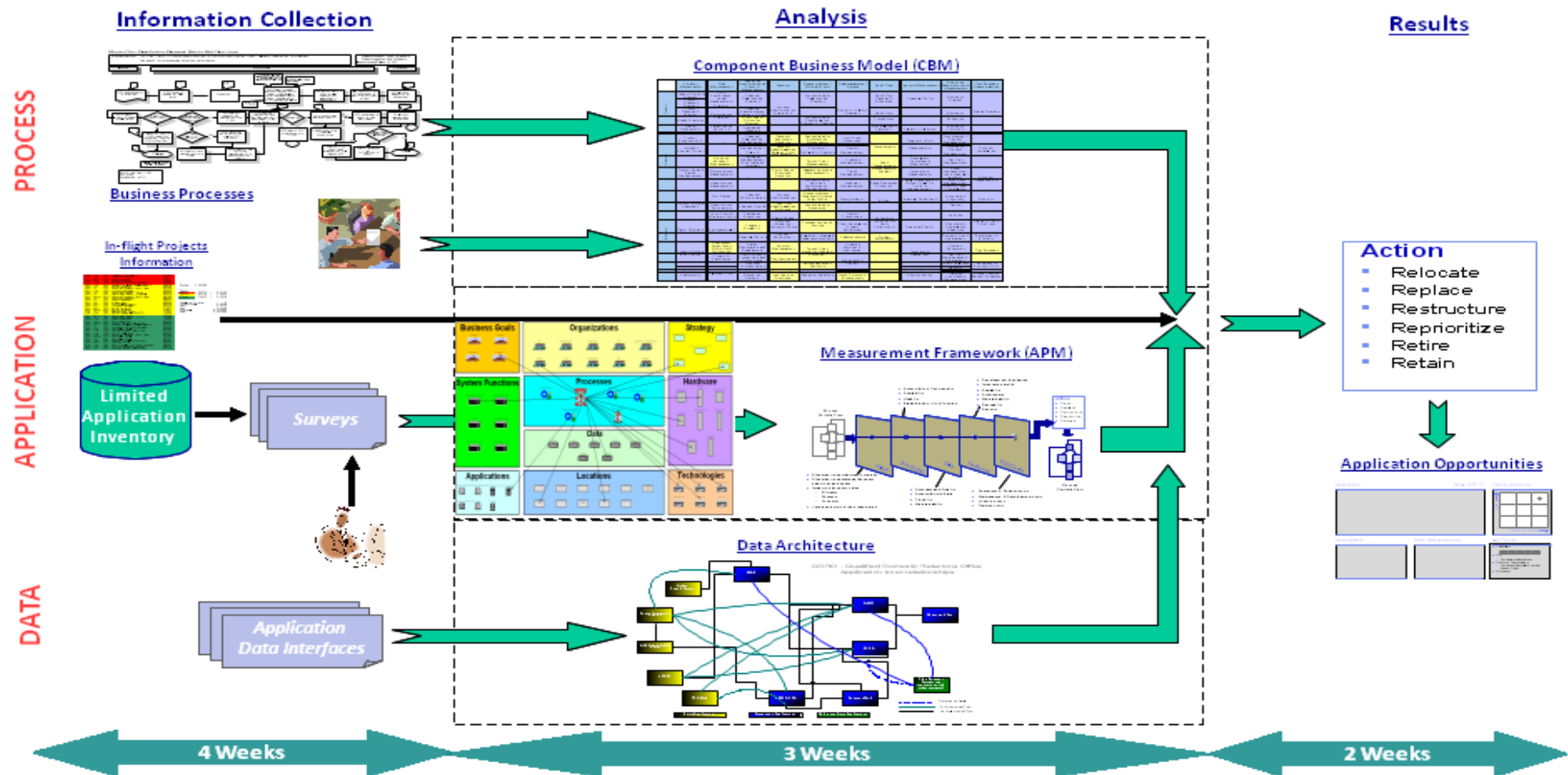


Automation

# Analysis for Enterprise Optimisation

- Base Analysis review
  - : Determine Application Strategy

## Health Assessment for Enterprise Applications Parallel & Integrated Work Streams



# Diagnostics to Improve Along Operational Objectives

*Business*

How well are we dealing with uncertainty?

Are we producing the right capabilities according to the committed schedule?

*Operational*

Are we delivering a valuable product?

*Project*

How much are we spending to deliver the project?

Are we building a high quality system?



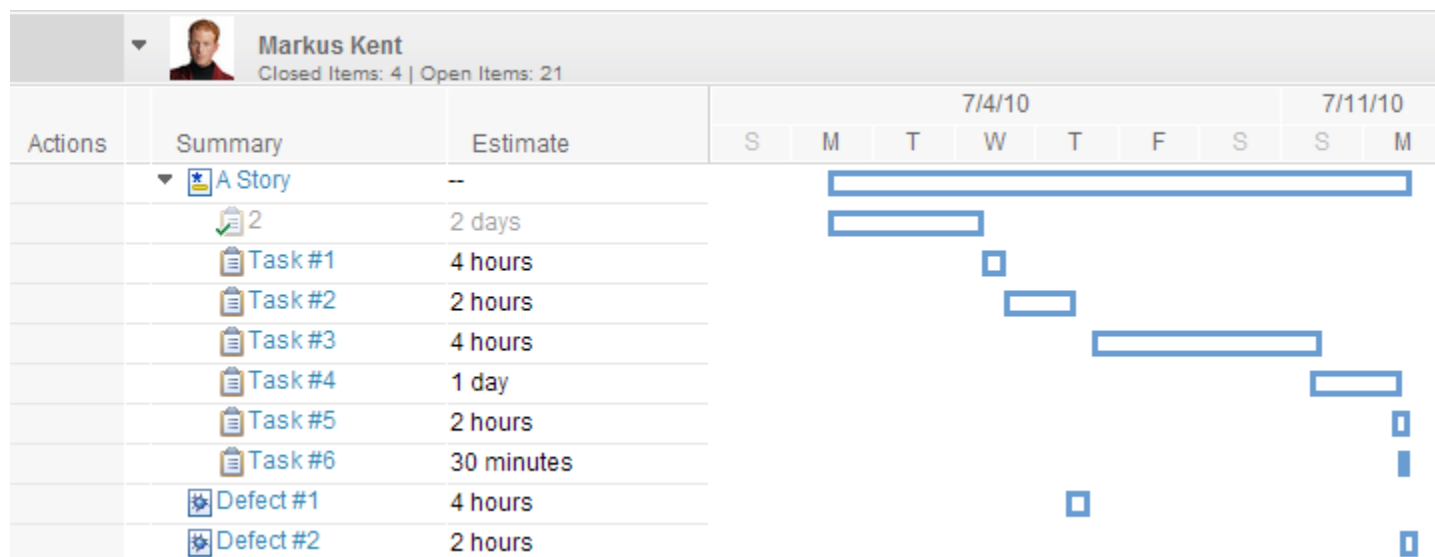
Act

Steer



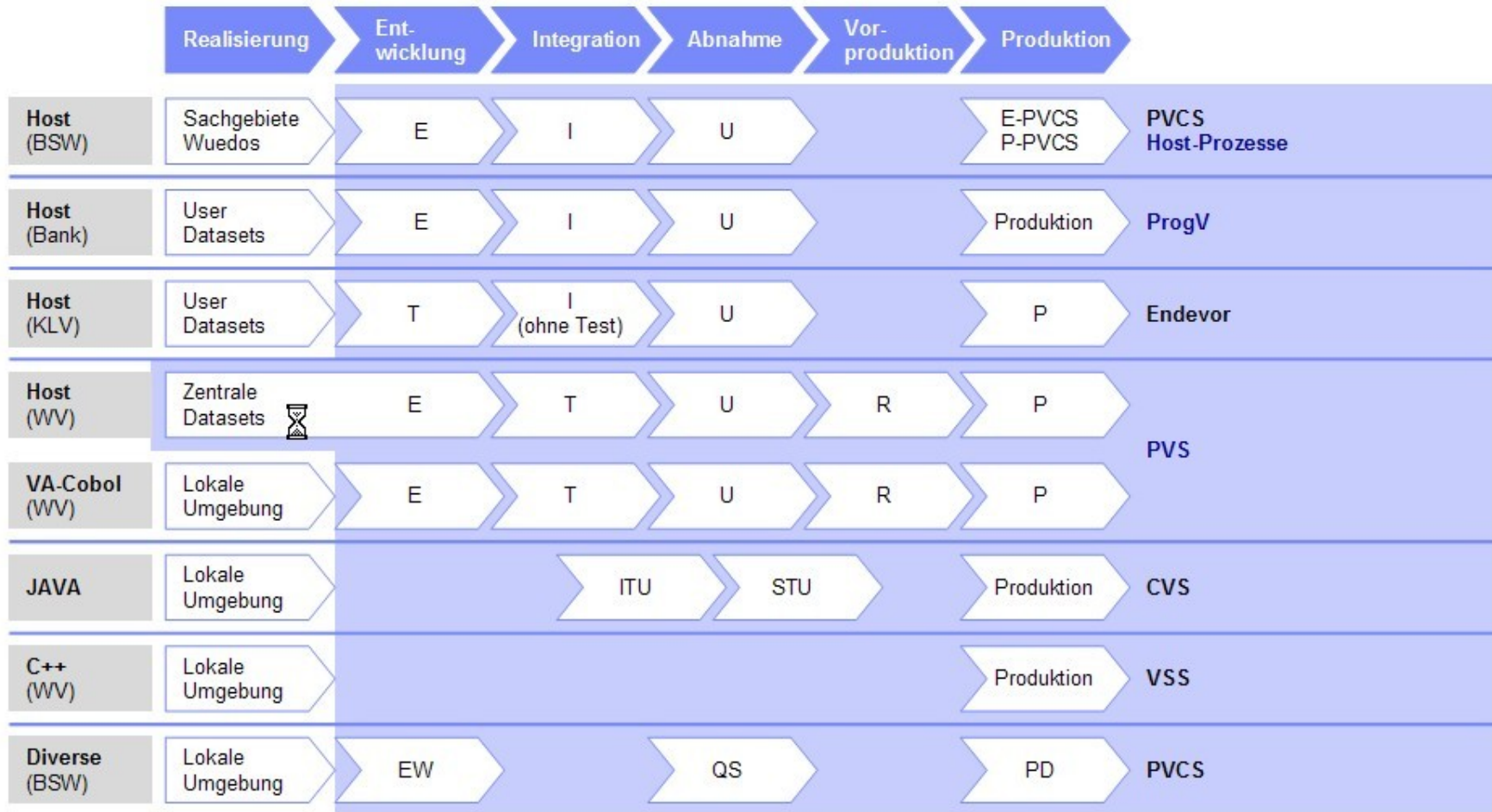
# Phase 1 Roadmap

- **Designed for Maximising a Enterprise Optimization Supplement for the EM Accelerator for Developers Solution**
  - Shows the time projection of a roadmap based on iterations
  - The scheduled time of work items are shown as a roadmap on a timeline.
  - The roadmap can also show blocking or depends on relationships between activities in the implementation



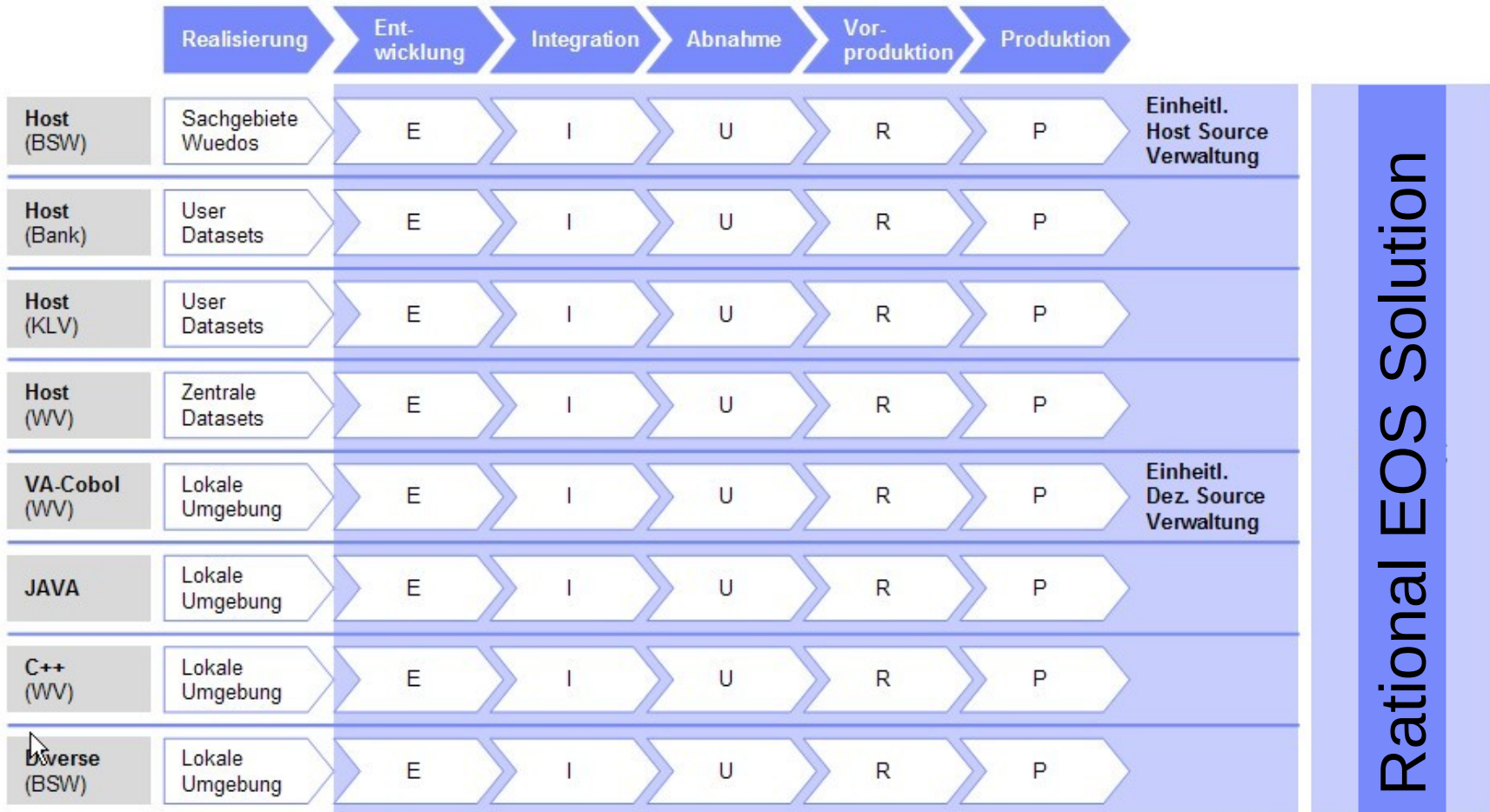
# Review of Current Existing Environment

Testumgebung



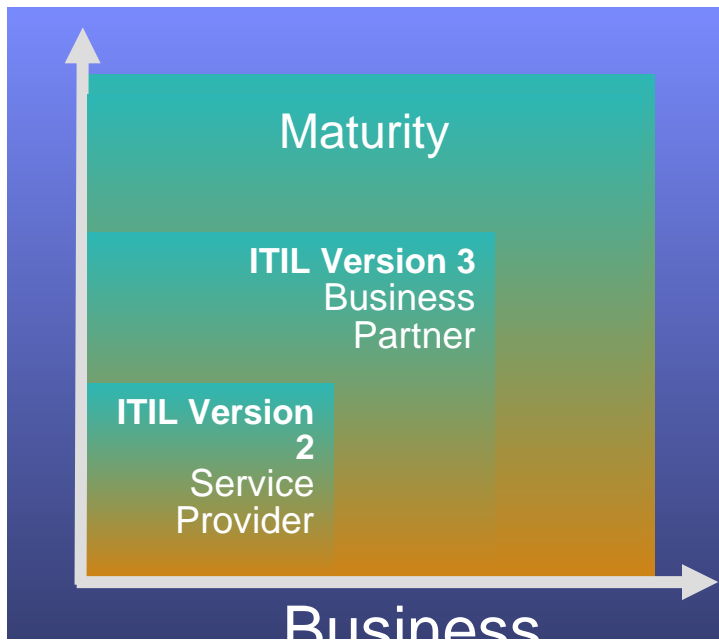
# The New Improved Environment with EOS

Testumgebung

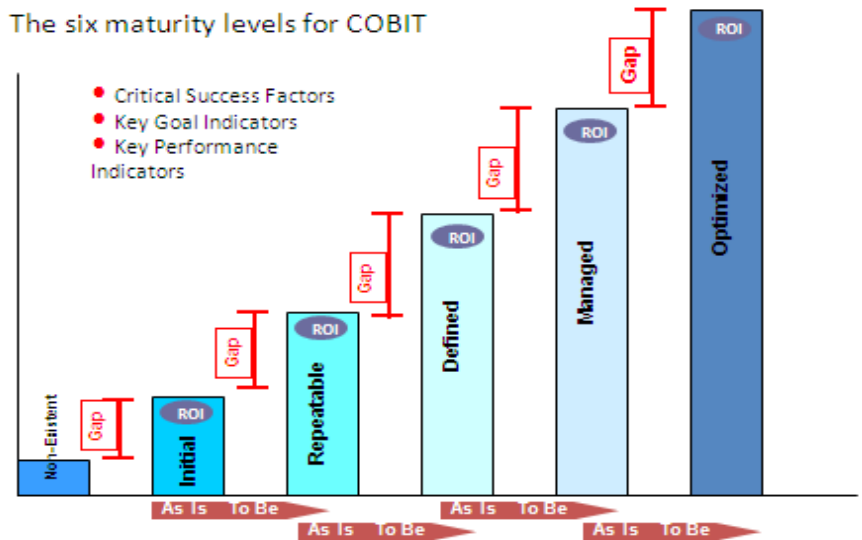


## Application IT to Business Analysis provides:

- A “health check” of the state of your project’s software development practice, compared to industry best practices
- Prioritized list of recommendations for possible improvements.
- An objective, third-party perspective by software industry experts, which can provide needed justification for change
- Readiness Plan for implementing short-term and long-term recommendations

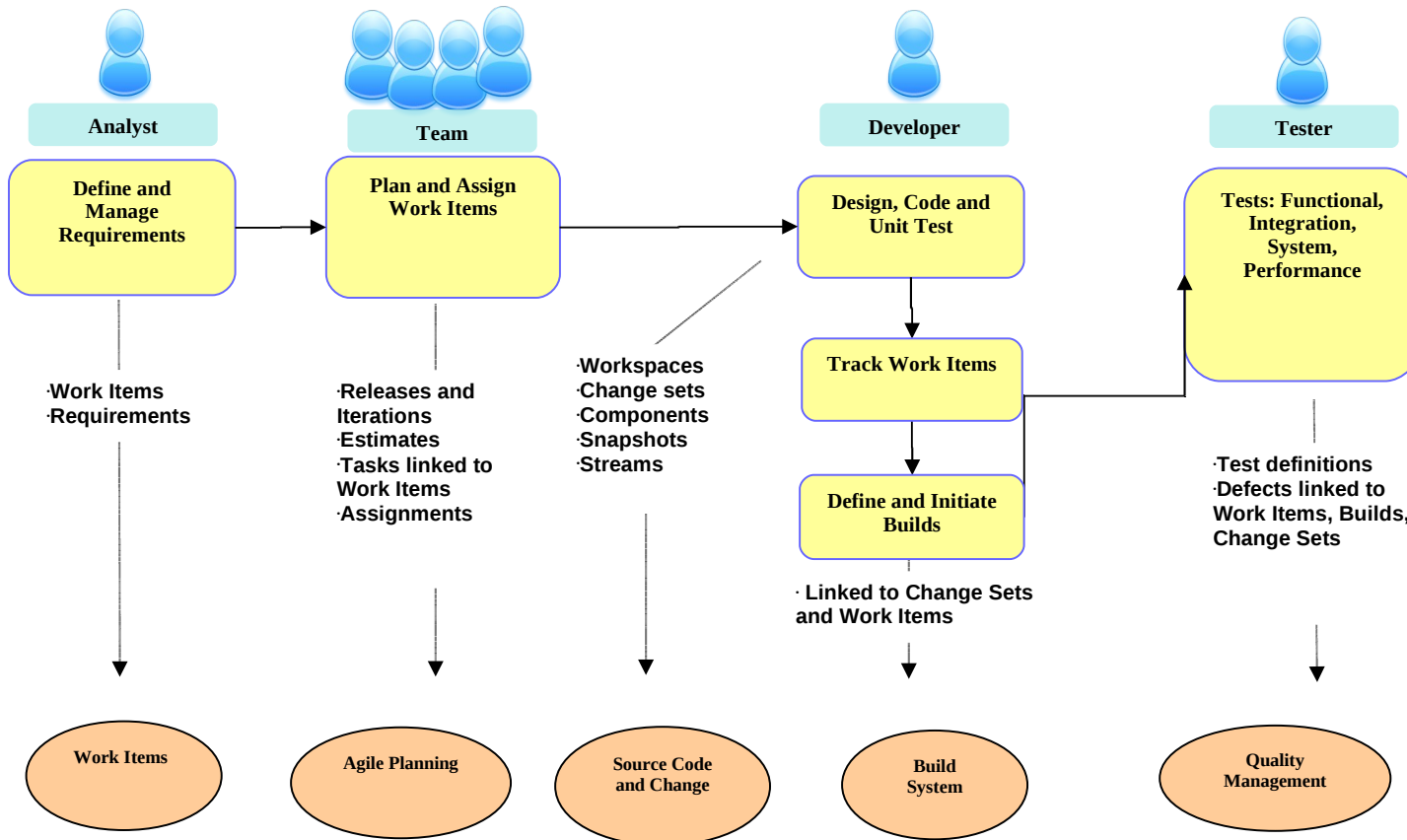
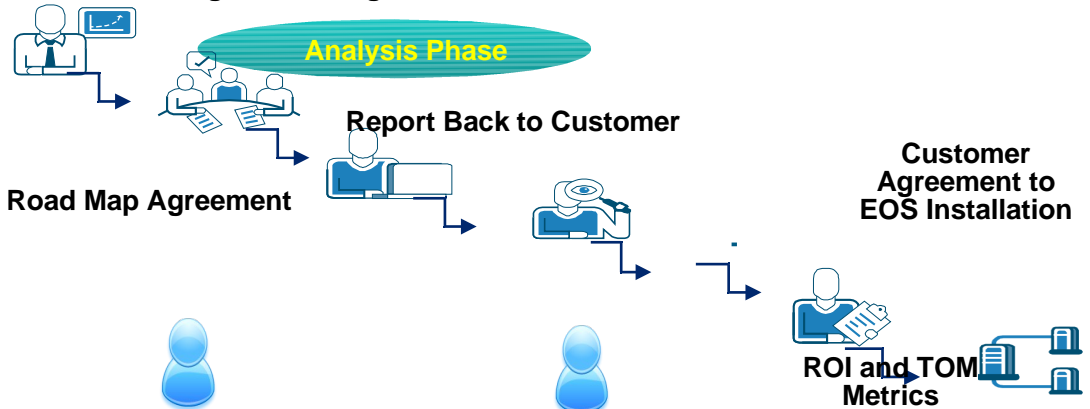


### • The six maturity levels for COBIT



# The EOS Solution

## Customer Facing Positioning



Access to typical System z sub-system functionality in z/OS, CICS, IMS, DB2, WAS

Common repository and data schemas for all environments

## Customer Facing Positioning



## The EOS technical Solution

- A tightly integrated technology suite of RTC / RDZ / RAA
- Direct link to either the CA Endeavor or Serena Changeman ZMF via the EOS plug in's.
- Maximises current mainframe ALM processors and practices
- Provides added value to an enterprise ALM case.



Access to typical System z sub-system functionality in z/OS, CICS, IMS, DB2, WAS



- Empowering Z Applications with Enterprise Optimization.
- The Z-Mainframe for Applications is evolving.
- Adopting a 'Factory IT' Approach with this Strategy
  - The CxO View
  - The Developer View
- Empowering your Z Applications and linking your Business to IT Objectives
  - **The supporting Rational technologies**



## Software innovation through collaboration

“Any Plan, Any Process, Any Platform”

- **Collaborate in-context**
  - ▶ Integrated release planning and reporting, source control, document collaboration, work item, build management, dependency analysis, deployment, chat and process guidance
- **Streamline development**
  - ▶ Out-of-the-box agile, formal and hybrid process configurations
- **Automate governance**
  - ▶ Assess project status and trends in real-time with web-based dashboards, metrics and reporting
- **Scale to the enterprise**
  - ▶ Supports teams ranging from a few to thousands of developers and stakeholders across platforms
- **Unify diverse teams**
  - ▶ Supports Cobol, PL/1, J2EE, .NET ...
  - ▶ Co-existence with popular toolsets
  - ▶ Full zEnterprise support

Open and extensible on

*Jazz*

- ✓ Collaborate
- ✓ Automate
- ✓ Report



IBM Rational Team Concert

transparent *integrated presence*  
wikis OPEN real-time reporting  
chat documents Web 2.0 *custom*  
*dashboards* automated data gathering  
**EXTENSIBILITY** Eclipse plug-ins services  
architecture **FREEDOM TO CREATE**

JAZZ TEAM SERVER



Join in on  
[jazz.net](http://jazz.net)

- **Advanced Planning for Formal and Agile Teams**

- *Formal Project Management Process Template*
- *New Risk types with Risk Actions*
- *Visualize Plans Based on a Timeline*
- *Resource Allocation and Scheduling*
- *Plan Snapshots*
- *Redesigned Scrum Task Board*

- **Flexible Configuration**

- *Work item and process customization*
- *Legacy SCM Co-existence*
- *Eclipse, IDE, ISPF, Web*
- *Cross-platform and multi-platform*



**Driving Business Differentiation**

## What is Rational Asset Analyzer?

An application understanding tool

- Improved project effectiveness, with reduced risk and improved productivity
  - Gather complexity metrics across multi-platform applications
  - Determine the application structure and key relationships
  - Identify scope and impact of pending application or database changes
- Role Oriented User Interface
  - Developer-oriented Eclipse user interface integrated with RDz
  - Easy-to-use browser interface for search, exploration, dashboard and construction of complex queries
- Comprehensive repository built on DB2
  - Accessible via RESTful interfaces
  - Data schema is documented
  - Enabled for Rational Insight dashboard integration
- Fundamental to business decision making solutions
  - Provides business rule identification in source code inventory
  - Enables business rule capture and management with WebSphere ILOG BRMS
- Platform-specific editions available
  - Rational Asset Analyzer – Windows server-based with z/OS access
  - Rational Asset Analyzer for System z – z/OS server-based with Windows and AIX access

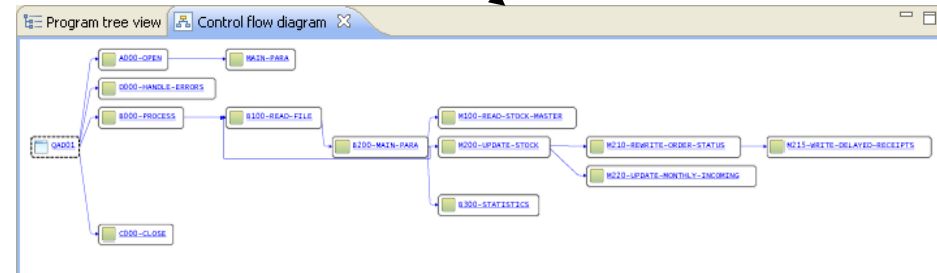
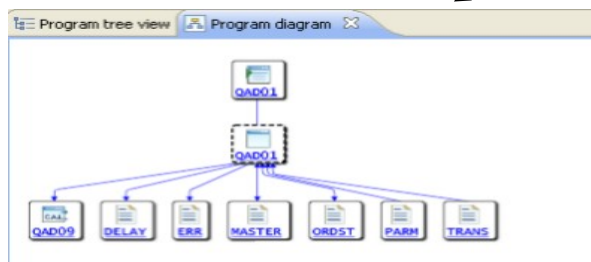
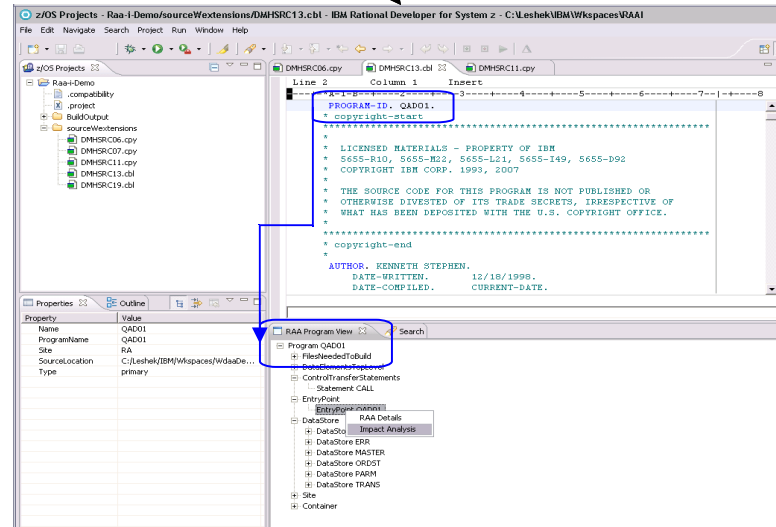
The image displays several screenshots of the Rational Asset Analyzer web interface. The top screenshot shows the 'Welcome to Rational Asset Analyzer' page with a search bar and navigation tabs. Below it, a 'Common assets' table lists metrics for Application, Container, File, Impact analysis, and Site. Two pie charts show 'Lines in file' and 'File size (ByTns)' for COBOL MAIN. The middle screenshot shows 'Business rule details' for a rule named 'Provide discount for seniors'. The bottom screenshot shows a 'Health Assessment of COBOL code' dashboard with four charts: Maintainability, Testability, Individual File Maintainability Score, and Testability and Maintainability. A code editor window is also visible, showing COBOL code with annotations. The bottom right shows two hierarchical diagrams of program structures.

## RAAi – Eclipse/RDz based integration

Combine productivity gains of RDz with the enterprise-level insight in RAA

### Benefits

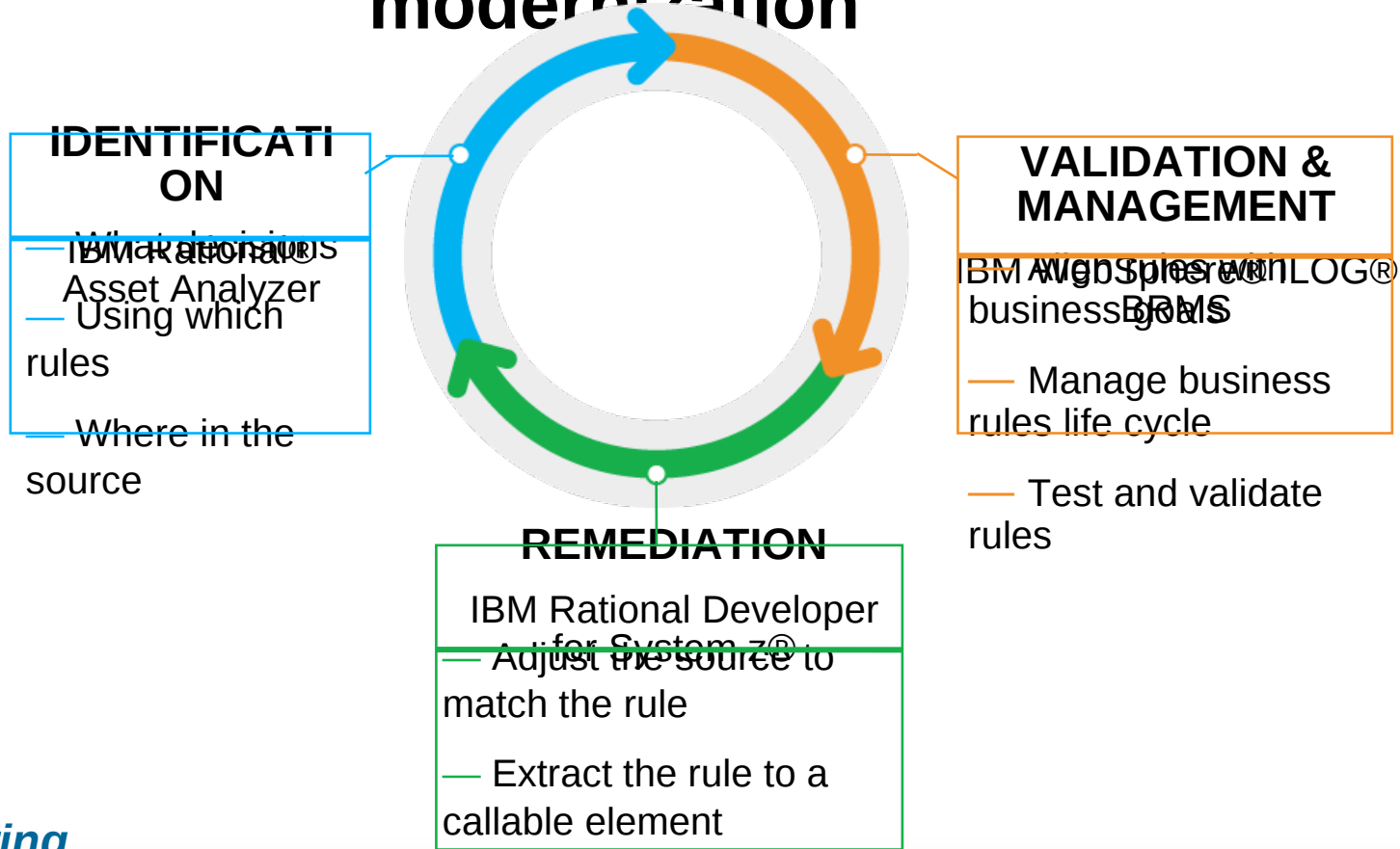
- Provide software artifact analysis of local workspaces to the developer
- Reduce developer's time needed to understand impact and make the changes in complex applications
- Allow developers to see their work in context of heterogeneous artifacts across the whole enterprise
- Bring enterprise analysis directly into developer workspace





Now integrates with WebSphere ILOG Business Rule Management System

## Business rule modernization



### Delivering...

The essentials for business rule mining of existing software assets enhancing the ability to capture, maintain and take advantage of application knowledge that can provide insight into an application's structure and its interactions with business data.

# Rational Developer for Z

Complete set of System z Development and Test capabilities from an integrated development environment

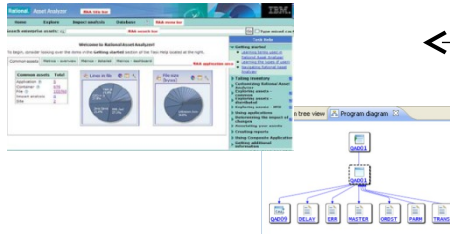
Integration with Team Concert for Lifecycle and Source Management



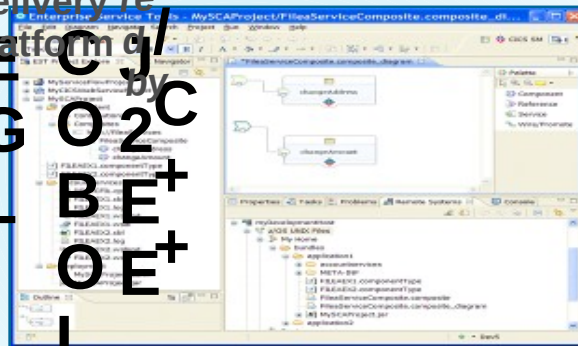
Access to typical System z sub-system functionality in z/OS, CICS, IMS, DB2, WAS



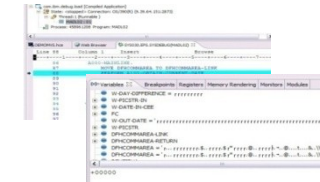
Integration with Asset Analyzer for Application Understanding and Impact Analysis



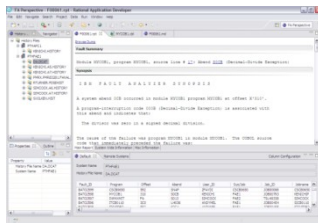
Rational Developer for System z  
 Platform of  
 C/++  
 COBOL  
 PL/I  
 ASM  
 Java  
 EGL



Integration with Debug Tool for Development and Test

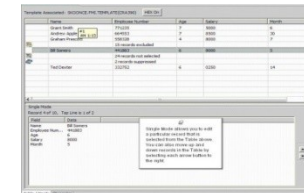


Integration with Fault Analyzer for Dump Analysis



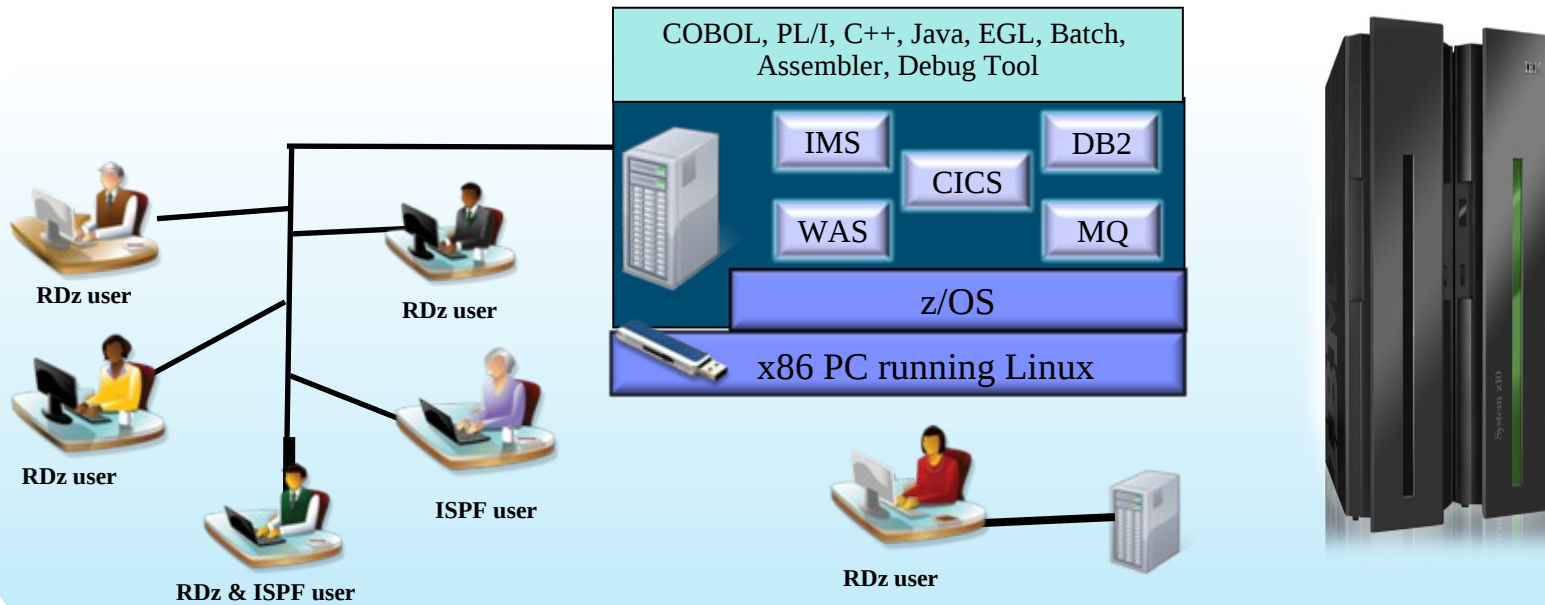
A modern IDE for productive development of cross-platform applications written in COBOL, PL/I, ASM, Java, EGL or C/C++ in System z CICS, IMS, DB2, Batch applications

Integration with File Manager for file and test data handling



Integration with RDz UT for flexible access to System z environment

## *The ultimate in modern application development for System z*



- Liberate developers to rapidly prototype new applications
- Develop and test System z applications anywhere, anytime!
- Free up mainframe development MIPS for production capacity
- Eliminate costly delays by reducing dependencies on operations staff

Note: This Program is licensed only for development and test of applications that run on IBM z/OS. The Program may not be used to run production workloads of any kind, nor more robust development workloads including without limitation production module builds, pre-production testing, stress testing, or performance testing.



# Customers are adopting Rational solutions for Enterprise Optimisation

**Gained**  
**15% in productivity**

**UniCredit** modernizes mainframe development and testing with IBM Rational Developer for System z software

*More than 200 developers at HVB IS began using IBM Rational Developer for System z software to develop mainframe applications for IBM System z servers.*

**Increased**  
**developer productivity by 15%**

**Wipro** and its customer chose IBM Rational Business Developer and EGL technology to modernize the application

*The new system accesses the customer's existing IBM DB2 information management system running on an IBM System i platform, and now includes IBM WebSphere Application Server software to support a modern, three-tier architecture.*

**Reduced**  
**development time by 15-20%**

**SoforTe** improves productivity for developers and customers with IBM Rational software on System z and Rational Team Concert for System z

*SoforTe chose to implement RDz and RTCz on an IBM System z10 Business Class server running z/OS and clients running Microsoft® Windows® clients to provide a modern powerful development environment for its customers.*

# Thank You

## Learn more at:

- IBM Rational software
- Rational launch announcements
- Rational Software Delivery Platform
- Accelerate change & delivery
- Deliver enduring quality
- Enable enterprise modernization
- Ensure Web security & compliance
- Improve project success
- Manage architecture
- Manage evolving requirements
- Small & midsize business
- Targeted solutions
- Rational trial downloads
- developerWorks Rational
- Leading Innovation
- IBM Rational TV
- IBM Business Partners
- IBM Rational Case Studies

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