IBM DevOps solution:
Continuous Business Planning
to get cost out - and agility in

Rick Slade, Rational Tiger Team, Enterprise Modernization & IT Solution Architect
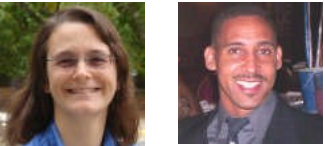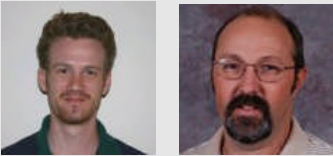
Richard Szulewski, WebSphere Product Manager - Business Process, Rules & Events for System z

IBM

IBM DevOps Solution Series
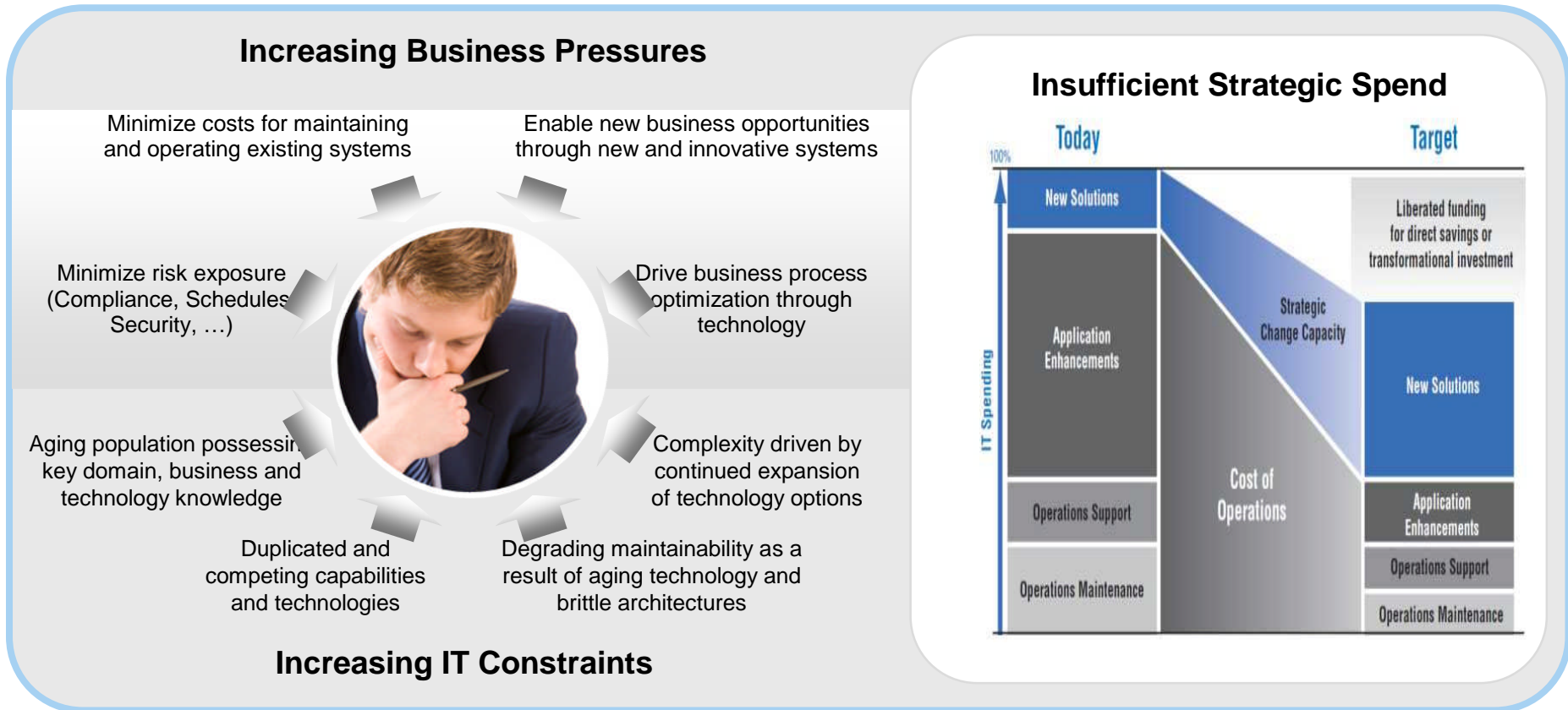*5-part webcast series with IBM DevOps experts*

IBM Systems MAGAZINE

Presenters	Topics	Live On
	IBM DevOps solution: Accelerating the Delivery of Multiplatform Applications *Presenters: Carmen DeArdo, Hayden Lindsey, and Mike Perera*	**August 7, 2013**
	IBM DevOps solution : Continuous Business Planning to get cost out and agility in *Presenters: Rick Slade and Richard Szulewski*	**August 14, 2013**
	IBM DevOps solution : Collaborative Development to Spark Innovation and Integration among Teams *Presenters: Tim Hahn and Danny Mace*	**Sept 4, 2013**
	IBM DevOps solution : Continuous Testing to save costs and improve application quality *Presenters: Rosalind Radcliffe and Marty Shelton*	**Sept 11, 2013**
	IBM DevOps solution : Continuous Release and Deployment to compress delivery cycles *Presenters: David Myers and Mike Baskey*	**Sept 18, 2013**

Register here now: ibmsystemsmag.com/devops

Organizational IT ~~wants~~ has to…

Align their application portfolio to the organizations' overall strategy

Increasing Business Pressures

Minimize costs for maintaining and operating existing systems

Enable new business opportunities through new and innovative systems

Minimize risk exposure (Compliance, Schedules, Security, …)

Drive business process optimization through technology

Aging population possessing key domain, business and technology knowledge

Complexity driven by continued expansion of technology options

Duplicated and competing capabilities and technologies

Degrading maintainability as a result of aging technology and brittle architectures

Increasing IT Constraints

Insufficient Strategic Spend

Today | Target
100%

New Solutions
Application Enhancements
Operations Support
Operations Maintenance

IT Spending

Strategic Change Capacity

Cost of Operations

Liberated funding for direct savings or transformational investment

New Solutions
Application Enhancements
Operations Support
Operations Maintenance

But…

Lack of business and IT information makes decision making ad-hoc, error prone and politically driven versus analytical and fact-based. Limited awareness of applications (usage, design, relationship to business requirements, etc.) increases cost, slows development delivery and reduces quality.

Industry norm

Target attainment

DevOps Maturity Model: Where are customers today?

	Level 1	Level 2	Level 3	Level 4	Level 5
Continuous Business Planning	• Business plans, requirements in word, excel, and power point	• Some requirements management and business metrics in spreadsheets	• Fully implemented requirements management, resource management	• Dashboard of business metrics • Portfolio Management, trace delivery to business objectives	• Continuous planning, impact Analysis, shift resources to higher growth initiatives
Collaborative Development	• Ad-hoc build scripts • Siloed developers • Bare-bone SCM (e.g. non-atomic commits)	• Nightly builds • Usage of methodologies (Agile, Scrum…) • Basic SCM (basic tagging, merging)	• Build on commit • Publish to asset repository • Real-time work item planning	• Build verification tests on production-like environments • Advanced SCM (efficient personal branch/merge) • Lifecycle traceability	• Development intelligence • Continuous process improvement
Continuous Testing	• Some test automation	• Use quality management tools	• Continuous integration testing w/service virtualization • Static code analysis • Security testing	• Coverage analysis • Risk-based testing	• Continuous automated testing, acceptance/promotion
Continuous Release and Deployment	• Ad-hoc deployment scripts	• Self-service deploy to test environments • Mostly standardized deployments	• Self-service deployment to test and production environments • Fully standardardized deployments	• Quality-gated automatic promotions • Deployment of all application artifacts (e.g. database updates) • Coordinated SOA/multi-tier deployments	• Continuous releases to production
Continuous Monitoring	• Reactive performance resolution (e.g. outage alerts)	• Performance instrumentation and monitoring	• Real-time performance dashboards	• Automated performance tests as part of quality gates	• Continuous performance optimization
Continuous Customer Feedback and Optimization	• Automatic crash reporting	• User session recording and reporting • In-app customer feedback • Log analysis	• Measuring customer experience KPIs • A/B, Split and Multivariate testing	• Advanced business impact analysis • Big-data analysis	• Continuous automated customer feedback loops

4

What is DevOps and the Practices that support it?

DevOps Lifecycle

Customers   Business Owners   Development/Test   Operations/Production

Continuous Innovation, Feedback and Improvements

Ecosystem

| Plan and Measure | Develop and Test | Release and Deploy |

Monitor and Optimize

Services

DevOps Foundation

Continuous Delivery

Open Lifecycle and Service Management Integration Platform

Jazz.

Practices that enable a DevOps approach

DevOps Lifecycle

Customers · Business Owners · Development/Test · Operations/Production

Continuous Innovation, Feedback and Improvements

Ecosystem

Plan and Measure

Continuous Business Planning

Develop and Test

Collaborative Development

Continuous Testing

Release and Deploy

Continuous Release and Deployment

Best Practices

Monitor and Optimize
Continuous Monitoring
Continuous Feedback and Optimization

DevOps Foundation

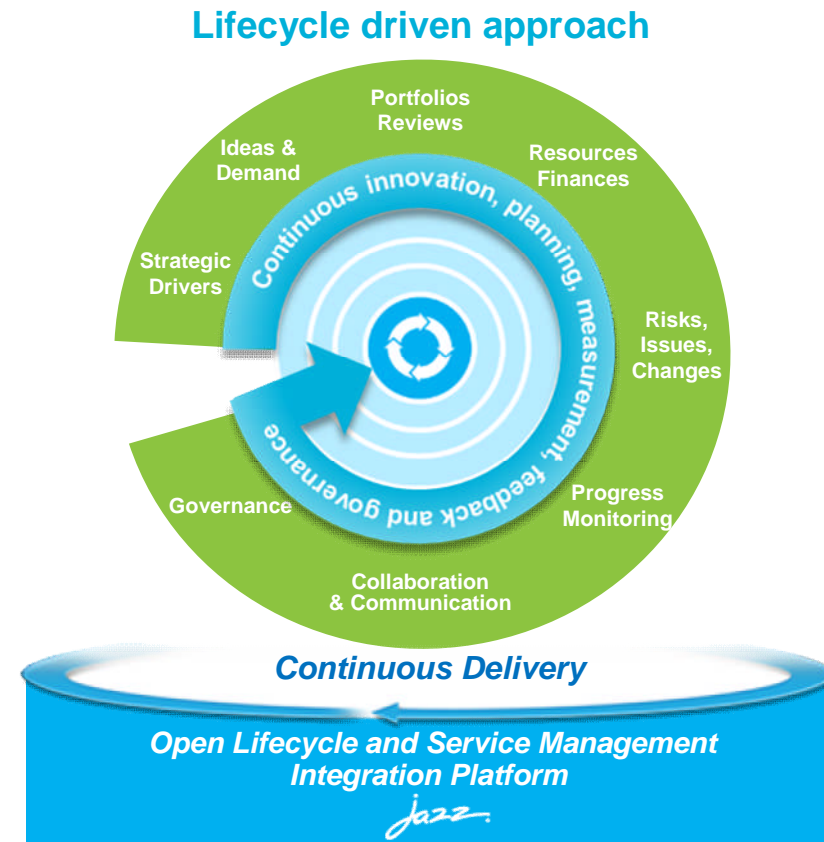*Open Lifecycle and Service Management Integration Platform*

OSLC · Jazz · OASIS

Plan and Measure: Overview

Continuously plan, measure and bring business strategy and customer feedback into development lifecycle

Highlights:

- Better align investment decisions with value and organizational strategies and priorities

- Gain control of development initiatives by improving visibility and transparency

- Provide a governance model adapted to multi-supplier sourcing structure

- Plan releases predictably driven by the needs of the business

Lifecycle driven approach

Continuous Delivery

Open Lifecycle and Service Management Integration Platform

Jazz

7

Continuous Business Planning: Market Trends

Market volatility, increasing competition and decreasing product life cycles are forcing organizations to move to a much more rapid, continuous planning cycle

- Organizations are facing increasing pressure to deliver high-quality software and meet continuously evolving business objectives.

- Collaboration - Business and software delivery teams work in silos and lack a collaborative platform to prioritize, share and govern demand and delivery.

- Organizations face unprecedented challenges in trying to align their software development team with business team to meet the rapidly changing customer needs.

- Organizations face reduced development time and increased competition; thus bringing high quality products to the market at shortened time frame becomes the major success factor

Continuous Business Planning: Differentiators

Tagline **"Doing the right things" and "Doing things right"**

- Reduce costs and improve business agility by supporting governance and more collaborative decision making

- Prioritize business needs, ideas and project proposals to create optimized portfolios

- Reduce rework and accelerate time to market by collaborating with stakeholders in individual projects

- Improve business results and manage change in delivery with improved transparency, collaboration and communication

✓ Simplicity - Unique way to prioritize and focus on value

✓ Aligning business and software delivery in a way no other organization does today keeping organizational focus on value, combined with market leading CLM/ALM tools.

   – Shorter release cycles through collaborative and rapid decision making across disparate stakeholders when doing multi-level business release planning

   – Improved business agility through lifecycle traceability enabling rapid re-planning with downstream impact analysis

   – Improved transparency through status tracking of each business capability across business releases, application releases, and development iterations

   – Demonstrate compliance by ensuring full traceability of requirements

Summary: What solutions do we provide?

Demand & Delivery Management
- Business/IT request prioritization and planning
- Release roadmapping
- Investment and capacity management
- Project portfolio tracking
- Project request management
- Key integrations: RRC, RTC, RQM

**IT, Application
Enterprise Modernization**

Governance
- Demand and contract management
- Vendor scoping and performance measurement
- Acceptance and performance management
- Accelerator that includes RRC, RTC, and RQM

**Outsourcing
Software Delivery**

Application Portfolio Management
- Business/IT request Prioritization and Planning
- Investment management
- Application strategy (Decommission, Modernize, replace, Outsource, Cloud, ..)
- Application roadmapping
- Key integrations: System Architect and RTC

**IT, Application
Enterprise Modernization**

Continuous Business Planning

Continuous innovation, planning, measurement, feedback and governance
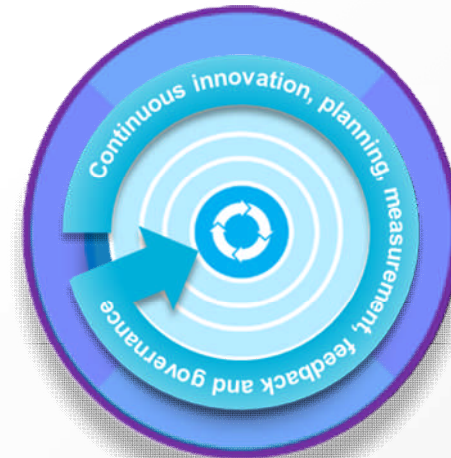
A definition of Application Portfolio Management

Application portfolio management (APM) is a repeating process using information and analytics that produces objective and transparent decisions around investing, consolidating, modernizing, or replacing applications.
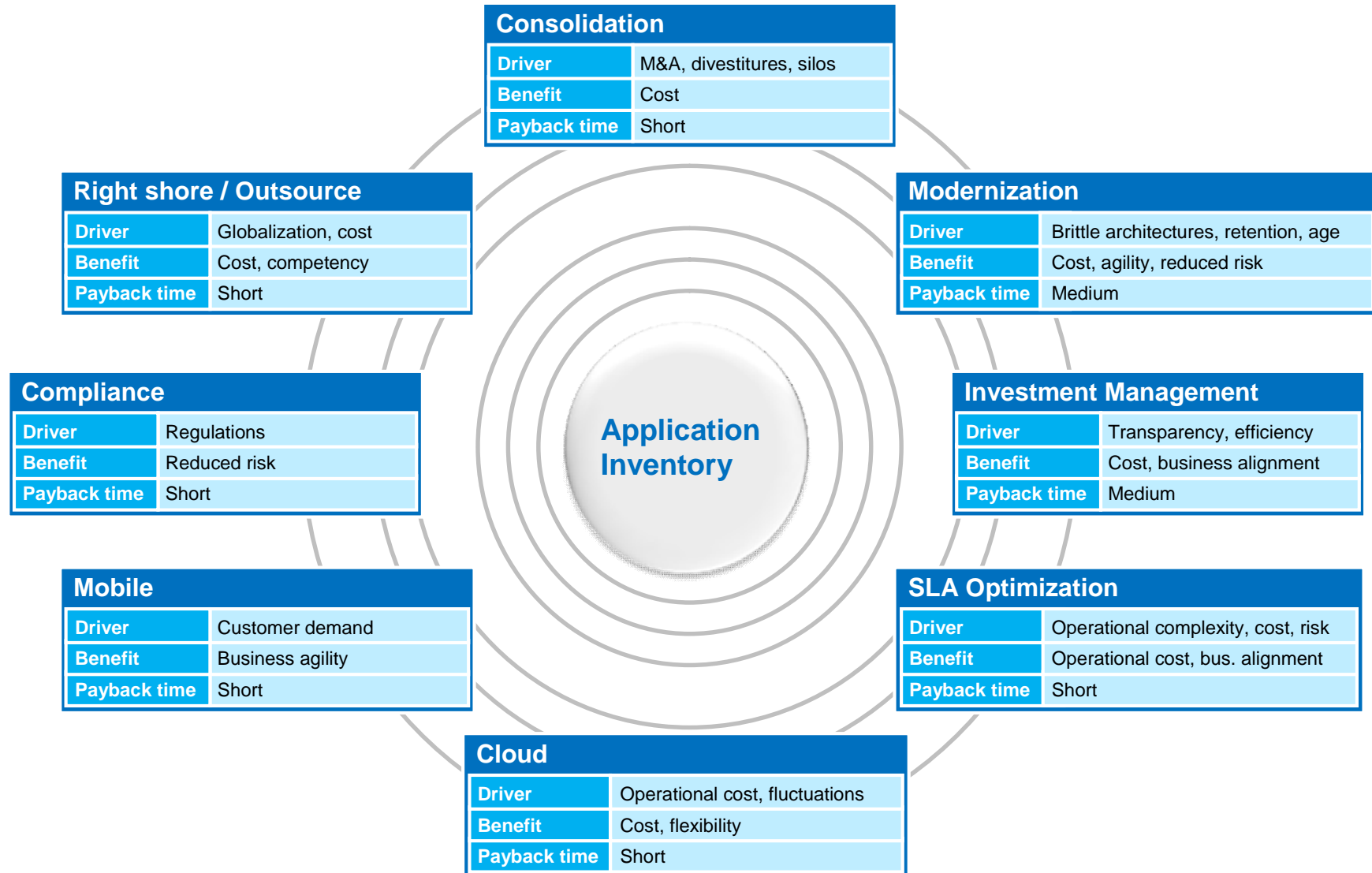
Benefits:

- Align the application portfolio with business strategies

- Reduce costs and optimize value

- Increase speed-to-deployment and speed-to-market

- Reduce risk associated with technology or resources

- Implement shared services

Analyst Report: *Read a commissioned study conducted by Forrester Consulting, Measuring the Total Economic Impact of IBM Rational Integrated Solution for Application Portfolio Management*
https://www14.software.ibm.com/webapp/iwm/web/signup.do?source=swg-rtl-sd-ar&S_PKG=500020251

IT optimization business outcomes
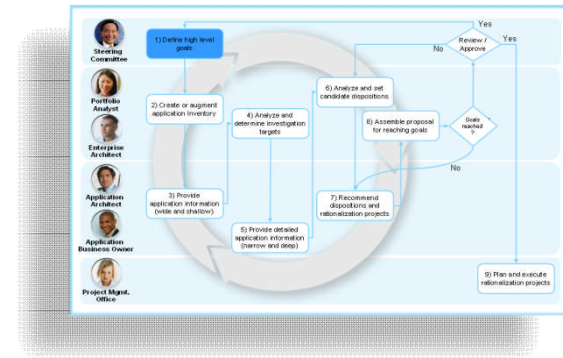## *APM-driven scenarios*

Consolidation

Driver	M&A, divestitures, silos
Benefit	Cost
Payback time	Short

Right shore / Outsource

Driver	Globalization, cost
Benefit	Cost, competency
Payback time	Short

Modernization

Driver	Brittle architectures, retention, age
Benefit	Cost, agility, reduced risk
Payback time	Medium

Compliance

Driver	Regulations
Benefit	Reduced risk
Payback time	Short

Application Inventory

Investment Management

Driver	Transparency, efficiency
Benefit	Cost, business alignment
Payback time	Medium

Mobile

Driver	Customer demand
Benefit	Business agility
Payback time	Short

SLA Optimization

Driver	Operational complexity, cost, risk
Benefit	Operational cost, bus. alignment
Payback time	Short

Cloud

Driver	Operational cost, fluctuations
Benefit	Cost, flexibility
Payback time	Short

1) Define high level goals

Steering Committee

- High level goals established

  - Example: Reduce application costs by 20% by end of 2013

- Explicit targets for accomplishing goals are established

  - Example 1: Reduce maintenance spend by 15% by end of next quarter

  - Example 2: Establish Goals for Decommissioning Applications, with the ability to track Plans and Actuals to those goals

Display > Decommissioning Plan

Planning

Modules
Add
Display
- My Applications
- Application Roadmap
- Projects
- Project Roadmap
- Portfolio Investment
- Decommissioning Plan
- Weights
- Business Units
- My Applications - Per
- Change Roles

Year	Quarter	Retirement Goal	Savings Goal	Retirement Plan	Planned Savings	Actual Retired	Actual Savings
2012	③ Q3	5	$700,000	0	$0	0	$0
2012	④ Q4	5	$700,000	0	$0	0	$0
2012	① Q1	4	$600,000	3	$78,500	1	$38,000
2012	② Q2	6	$800,000	0	$0	0	$0
2013	① Q1	5	$650,000	0	$0	0	$0
2013	② Q2	7	$450,000	0	$0	0	$0

2) Create or augment application inventory

Portfolio Analyst

Enterprise Architect

- Rapidly import inventory from existing spreadsheets

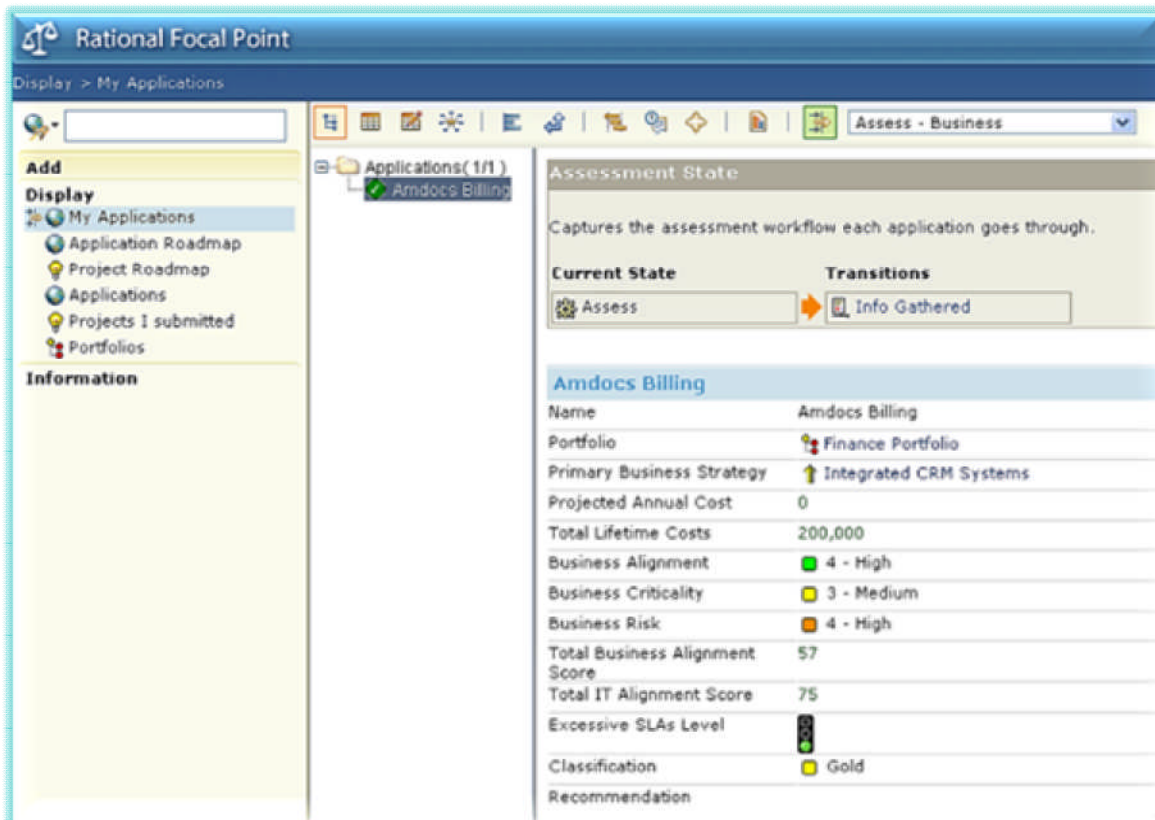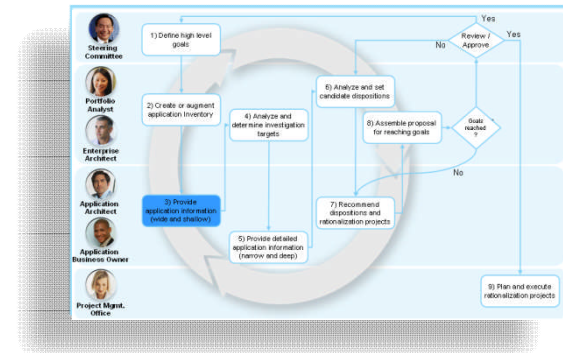- Optionally leverage role-based Web interface for additional information entry

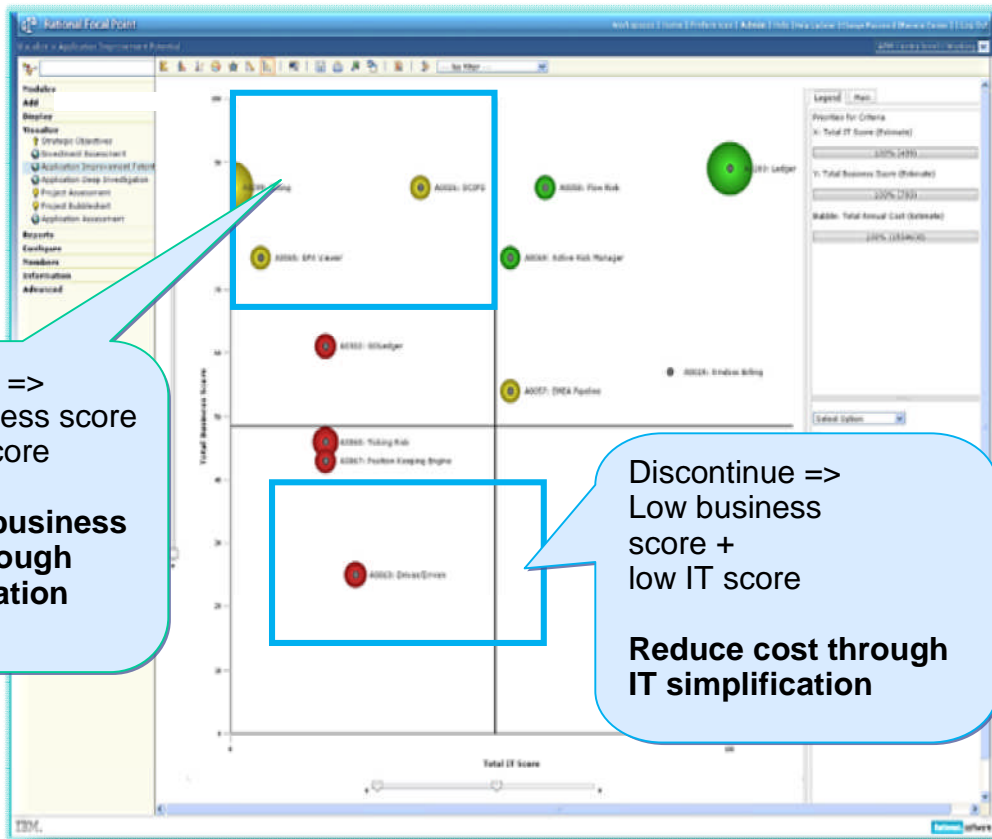# 3) Provide application information (wide and shallow)

Application Architect

Application Business Owner

Rational Focal Point

Display > My Applications

Add
Display
- My Applications
- Application Roadmap
- Project Roadmap
- Applications
- Projects I submitted
- Portfolios

Information

Assess - Business

Applications(1/1)
- Amdocs Billing

Assessment State

Captures the assessment workflow each application goes through.

Current State	Transitions
Assess	Info Gathered

Amdocs Billing

|	
Name	Amdocs Billing
Portfolio	Finance Portfolio
Primary Business Strategy	Integrated CRM Systems
Projected Annual Cost	0
Total Lifetime Costs	200,000
Business Alignment	4 - High
Business Criticality	3 - Medium
Business Risk	4 - High
Total Business Alignment Score	57
Total IT Alignment Score	75
Excessive SLAs Level	
Classification	Gold
Recommendation	

- Web-based entry through role-based views

- Provide filters to make data entry trivial

- Increase data quality through choice selections and built in quality assurance steps

15

4) Analyze and determine investigation targets
Identify applications to be further investigated

Portfolio Analyst
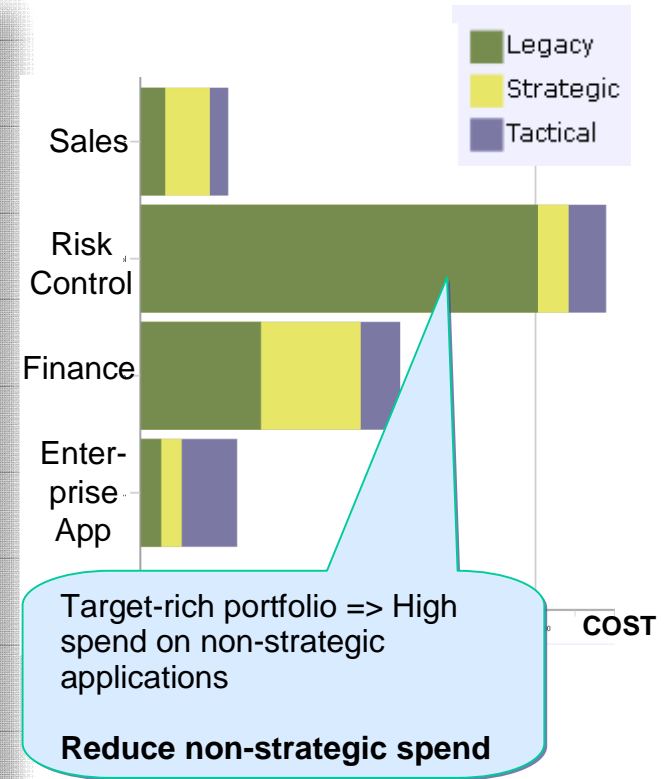
Enterprise Architect
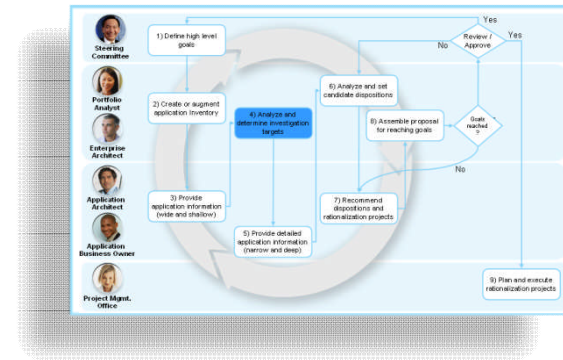
Modernize =>
High business score
+ low IT score

Increase business agility through modernization

Discontinue =>
Low business score +
low IT score

Reduce cost through IT simplification

Target-rich portfolio => High spend on non-strategic applications

Reduce non-strategic spend

Legacy
Strategic
Tactical

Sales

Risk Control

Finance

Enter-prise App

COST

5) Provide detailed application information
Focus on four dimensions

Application Architect

Application Business Owner

Business Value
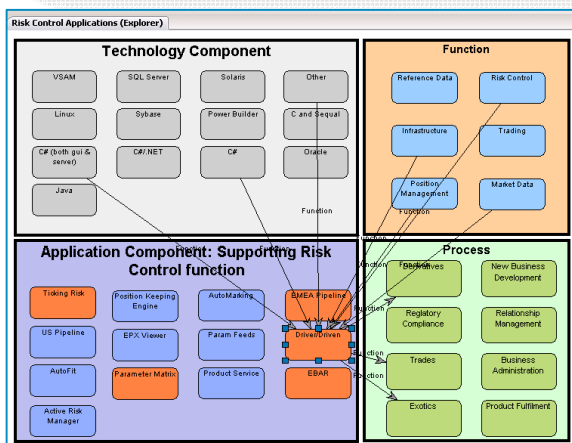Functional Quality
Strategic Value
**Technical Quality**
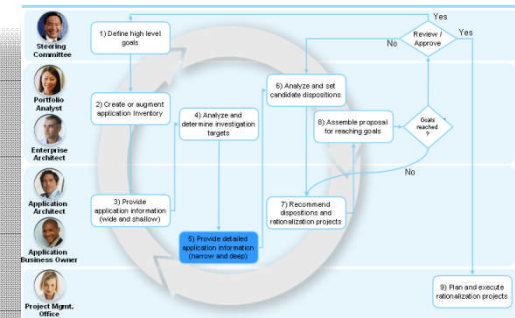
Rational Focal Point

Display > My Applications

APM - entry

Investigate - Technical

Add
Display
- My Applications
- Application Roadmap
- Project Roadmap
- Applications
- Projects I submitted
- Portfolios
Information

Size	Defect Rate	Defect Density	Dependency Factor	Meet SLAs	Skills Risk	Code Complexity	Maintainability Score
182,000	184	1.011	3 - Medium	2 - Almost	3 - Medium	3	2.8
32,000	188	5.875	4 - High	5 - Critical bre	5 - Very high	1.9	1.8
44,000	19	0.432	1 - None	3 - Partially	4 - High	1.4	2.2

Sample feed
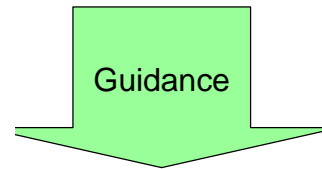
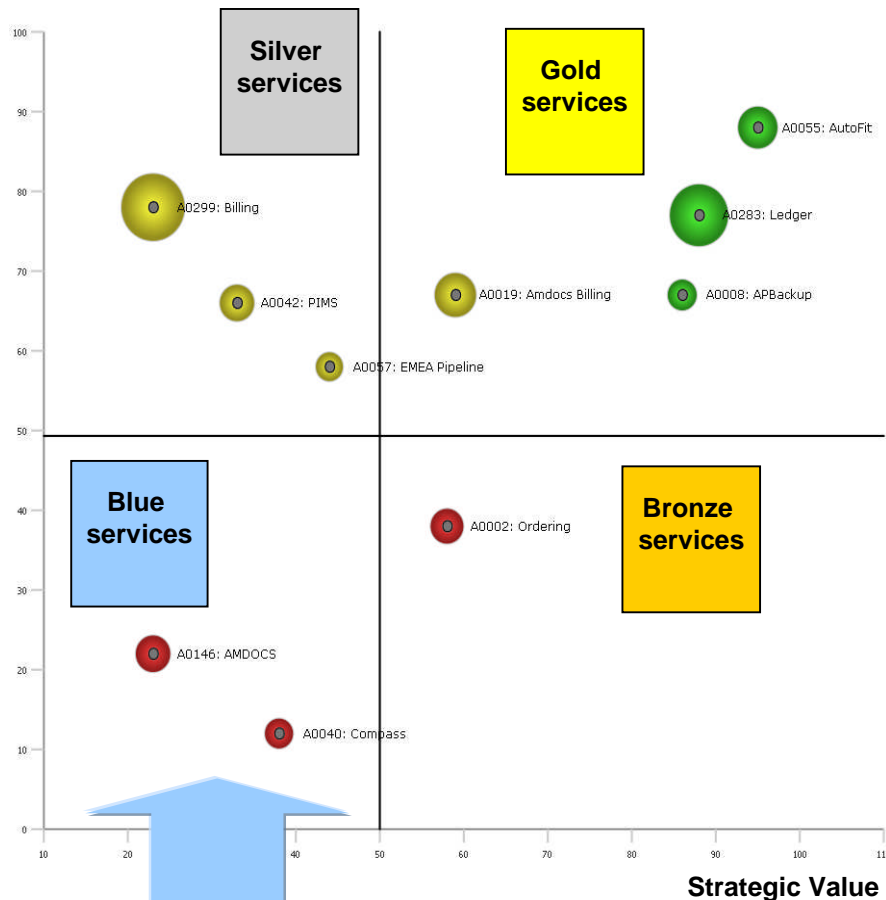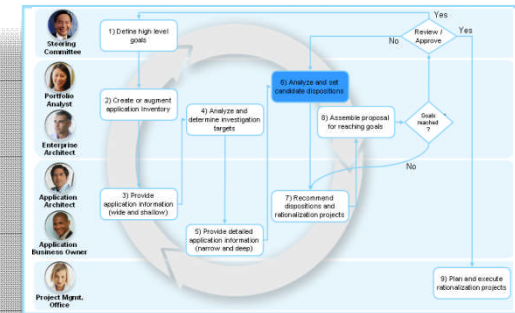**Sample feed**

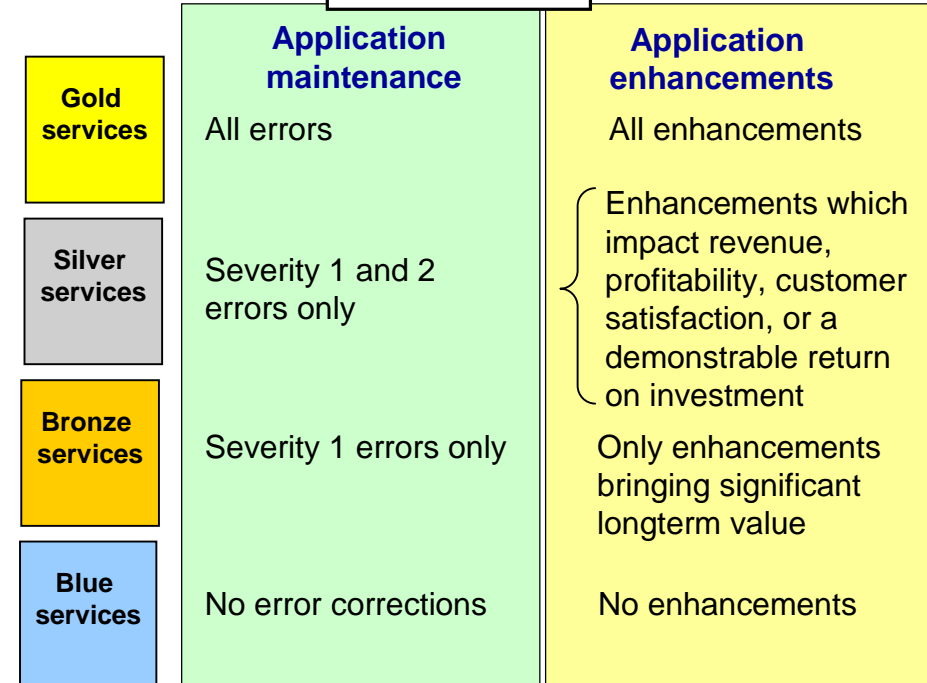**Rational System Architect**
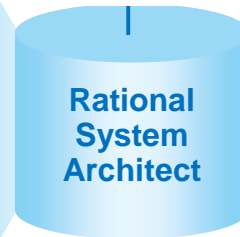
Rational Asset Analyzer
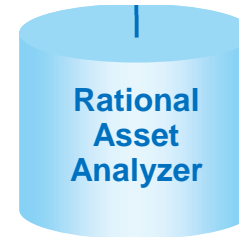
- Web-based and role based information gathering

- May optionally be informed by application analysis tools, such as IBM Rational Asset Analyzer or CAST Application Intelligence Platform

- May optionally be informed by an Enterprise Architecture tool, such as IBM Rational System Architect

Risk Control Applications (Explorer)

Technology Component

Function

Application Component: Supporting Risk Control function

Process

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6) Analyze and set candidate dispositions

Assess Business Value vs. Strategic Value to guide maintenance spend and dispositions

Guidance

IBM Example

	Application maintenance	Application enhancements
Gold services	All errors	All enhancements
Silver services	Severity 1 and 2 errors only	Enhancements which impact revenue, profitability, customer satisfaction, or a demonstrable return on investment
Bronze services	Severity 1 errors only	Only enhancements bringing significant longterm value
Blue services	No error corrections	No enhancements

Apply Portfolio Value Management approach

Apply affordability driven demand management

Chart (Business Value vs Strategic Value):

- Silver services
- Gold services
- Blue services
- Bronze services
- A0055: AutoFit
- A0299: Billing
- A0283: Ledger
- A0042: PIMS
- A0019: Amdocs Billing
- A0008: APBackup
- A0057: EMEA Pipeline
- A0002: Ordering
- A0146: AMDOCS
- A0040: Compass

Strategic Value

Decommission?

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6) Analyze and set candidate dispositions
Propose disposition and understand savings potential

| Disposition	Description	Potential % Savings based on industry benchmarks
Decommission (a.k.a. Retire)	**Discontinue the application.**	**70% of maintenance and production infrastructure cost**
Relocate	**Evaluate and select alternate sourcing for application hosting, maintenance and/or development.**	**40% of labor (enhancement and maintenance) + 3% of production infrastructure cost**
Reprioritize	**Reduce spend on maintenance or operations costs.**	**15% of maintenance labor**
Replace	**Replace current application(s) with new application / packaged application.**	**25% of total cost**
Reduce (a.k.a. Consolidate)	**Rationalize multiple applications with similar function into a single application.**	**60% of total cost**
Enhance	**Add additional functionality. Improve flexibility by using new principles, e.g. SOA, Web Services.**	**No change -????**
Modernize (a.k.a. Rustproof)	**Modernize application by upgrading technology and improving architecture.**	**15% of labor (enhancement and maintenance)**
Retain	**Keep as-is.**	**No change**

7) Recommend dispositions and rationalization projects
Define Future State architecture(s)
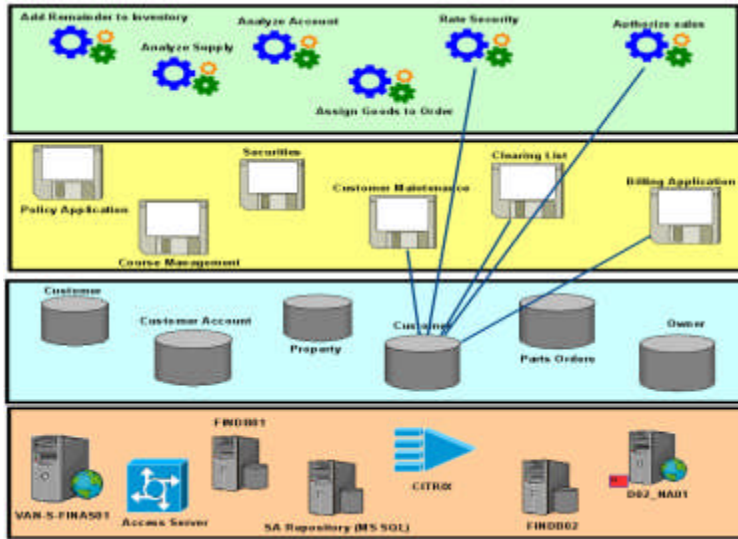
Current   **Proposed**
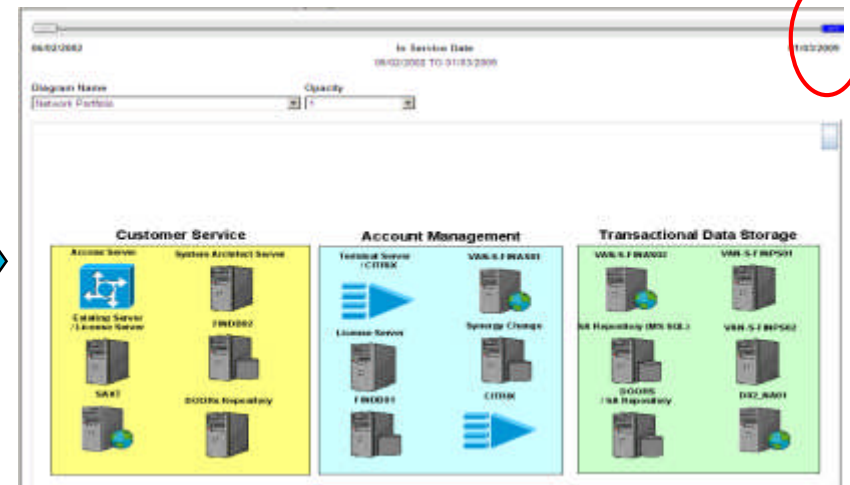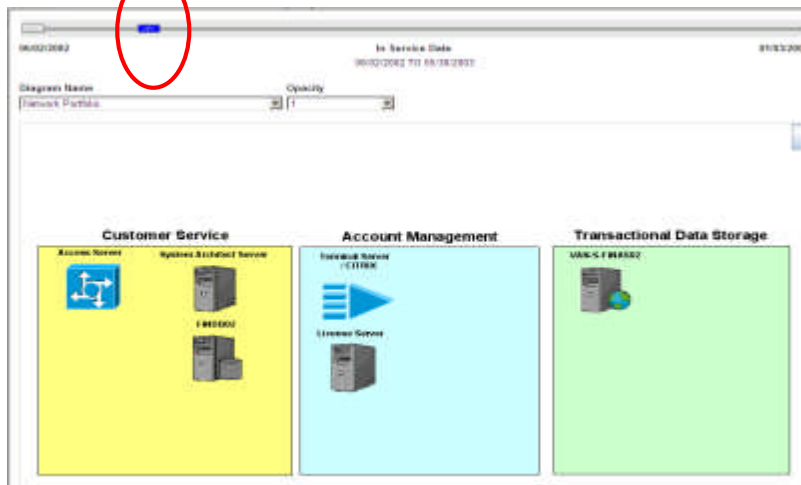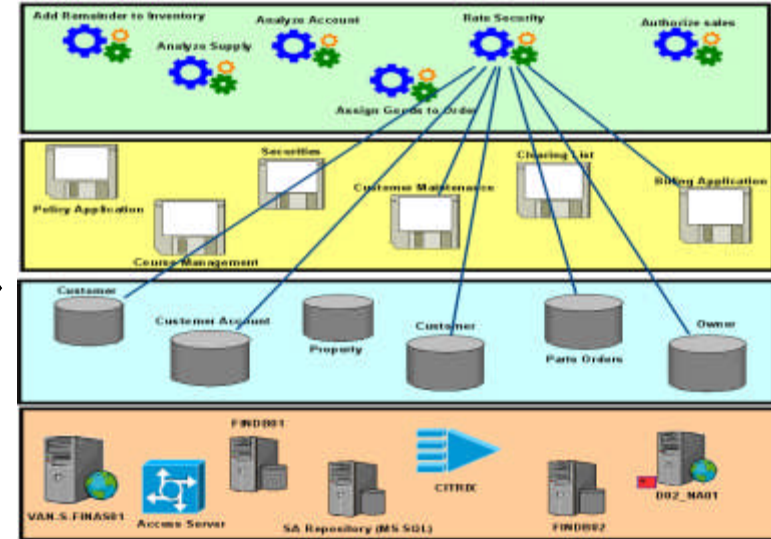
7) Recommend dispositions and rationalization projects
Produce project proposals for rationalization projects

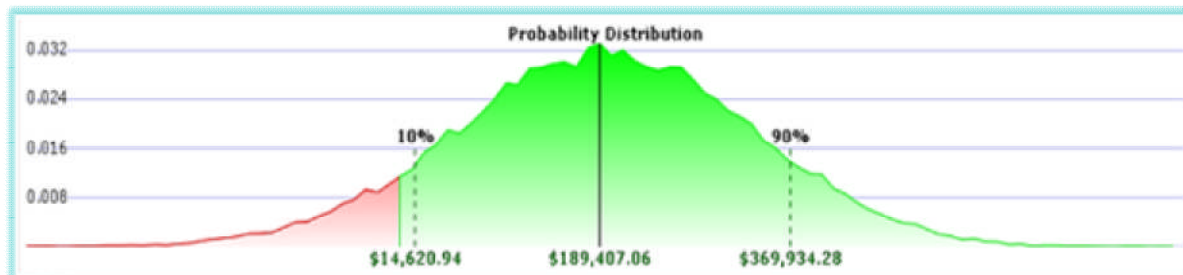**Application Architect**

Application Business Owner

Planning Data

Start Date	6/1/11
End Date	8/30/12
Benefits End Date	10/1/13
Primary Business Objective	↑ Reduce Costs by 10% over the next 2 years
Supported Business Objectives	↑ Gain 5% organic growth by Dec 2011
Related Applications	✓ A0299:Billing
	✓ A0302:GOLedger

Scorecard

Architectural Fit	🟩	5 - Very High
Strategic Alignment	🟨	4 - High
Business Value	🟩	5 - Very High
Competitive Advantage	🟨	4 - High
Total Business Value Score		1,129
Total Risks Score		71

- Link Future State architectures to project proposals

Expected Cost: $1.4 M
Expected Benefits (accrued over 13 months after project completion: $1.9 M
Net Present Value (28 months)

- Propose and establish business case for projects

Probability Distribution

0.032	
0.024	
0.016	10% 90%
0.008	

$14,620.94 $189,407.06 $369,934.28

21

8) Assemble proposal for reaching goals
Evaluate and prioritize rationalization projects

Steering Committee

Project Mgmt. Office

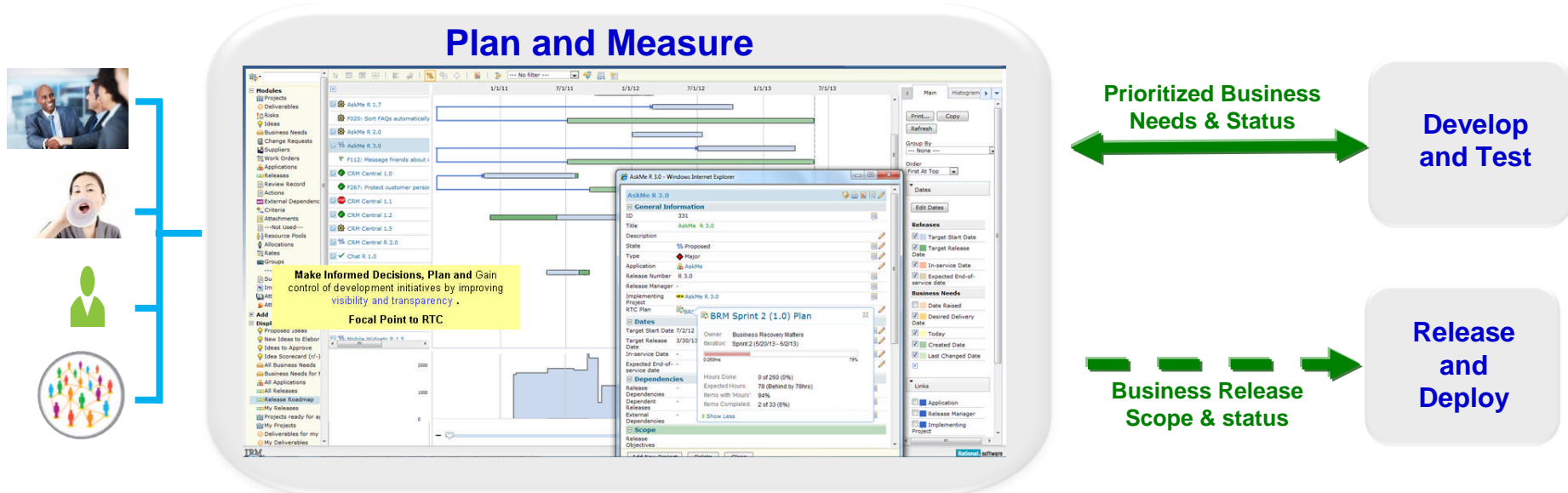- Compare projects side by side using pair-wise comparison
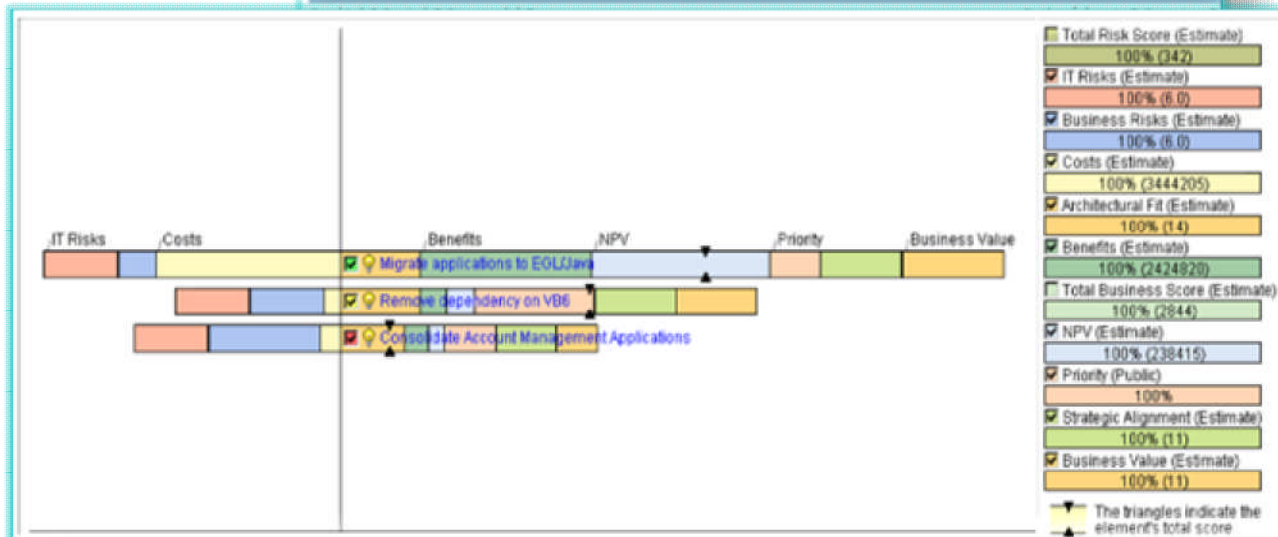
- Visualize project priority base on defined project criteria
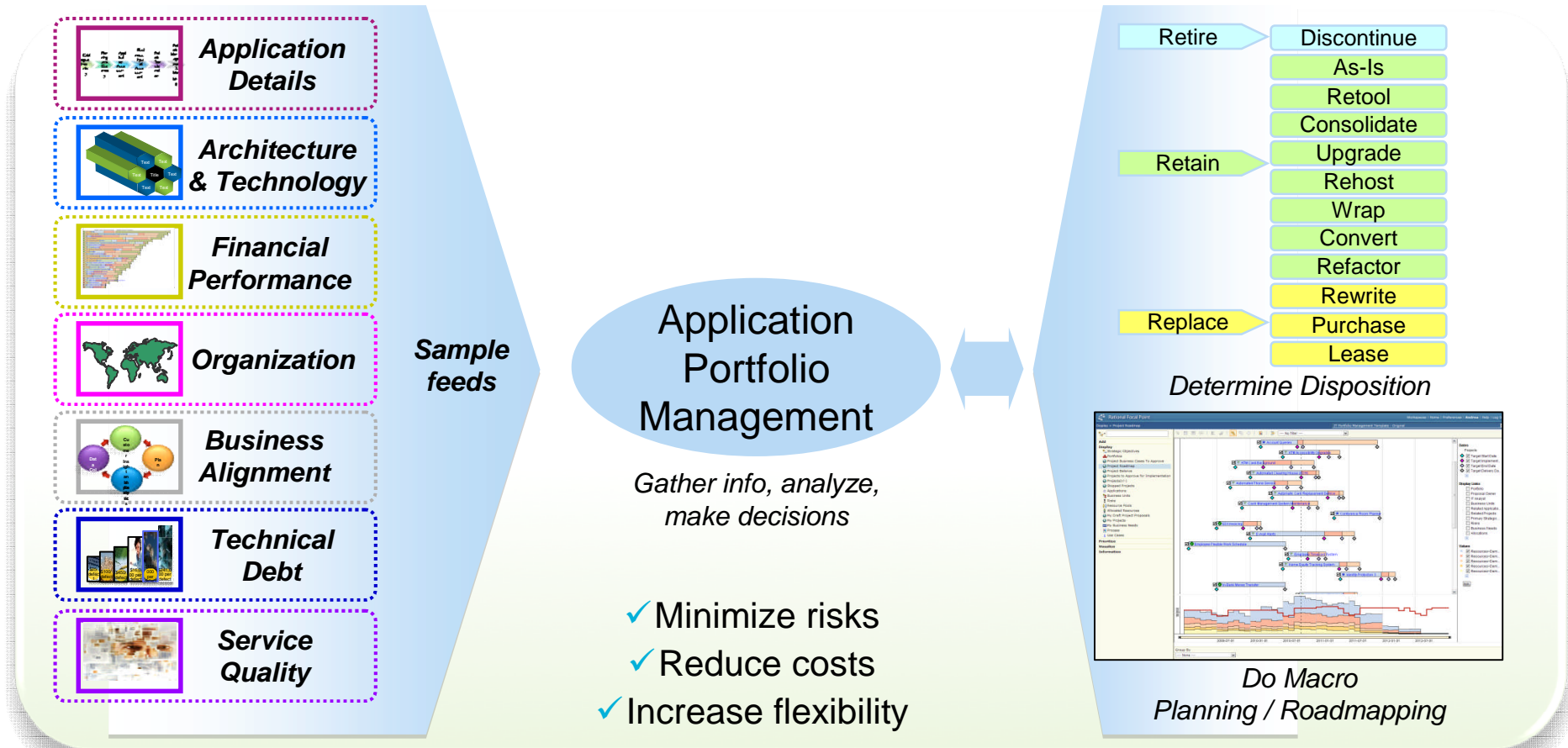
Continuous Business Planning

Maximize business outcomes and value through an open collaborative, standards-based platform and strong governance framework

- **Rational® Focal Point™**
  - Empower LOB, Product Managers, Portfolio Team and CIO team to (a) **manage business concepts** like business requests and plan business releases, (b) **make informed decisions** to better align products and portfolio investments and (c) **gain control of development initiatives** by improving visibility and transparency.
- **Rational® Requirements Composer**
  - Requirements management and definition using a collaborative approach, that enables stakeholders and IT teams anywhere in the world to provide input, gain clarity, better achieve consensus, and **adapt to changes more quickly**
- **Rational® Insight**
  - Measurement and management **improves project and process performance**

Continuous Business Planning
Application Portfolio Management

Application Details

Architecture & Technology

Financial Performance

Organization

Business Alignment

Technical Debt

Service Quality

Sample feeds

Application Portfolio Management

Gather info, analyze, make decisions

✓ Minimize risks
✓ Reduce costs
✓ Increase flexibility

Retire	Discontinue
	As-Is
	Retool
	Consolidate
Retain	Upgrade
	Rehost
	Wrap
	Convert
	Refactor
	Rewrite
Replace	Purchase
	Lease

Determine Disposition

Do Macro Planning / Roadmapping

"Smarter APM and associated application revitalization has enabled IBM's IT to cut maintenance costs by 20% and defects by 58%."
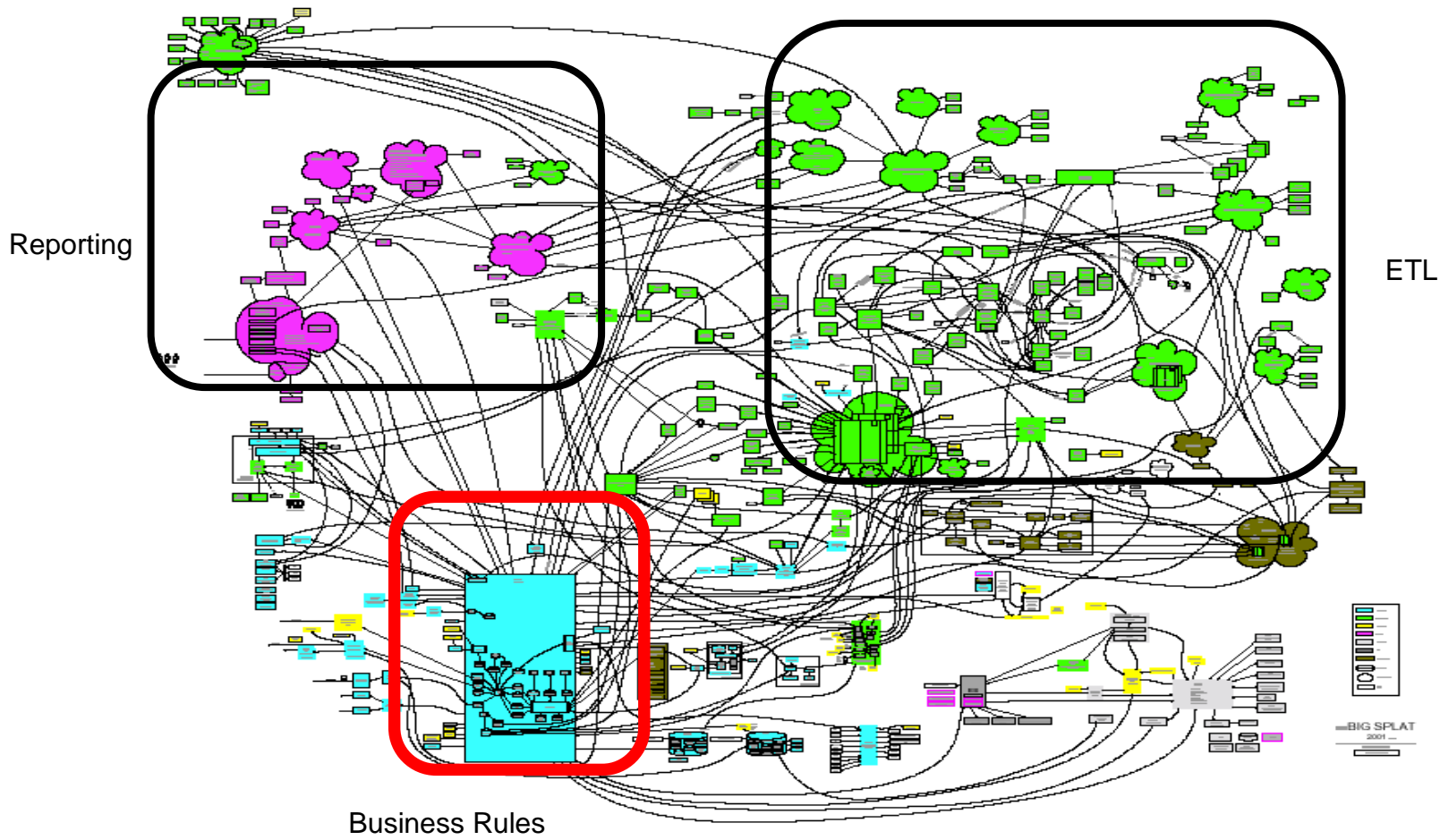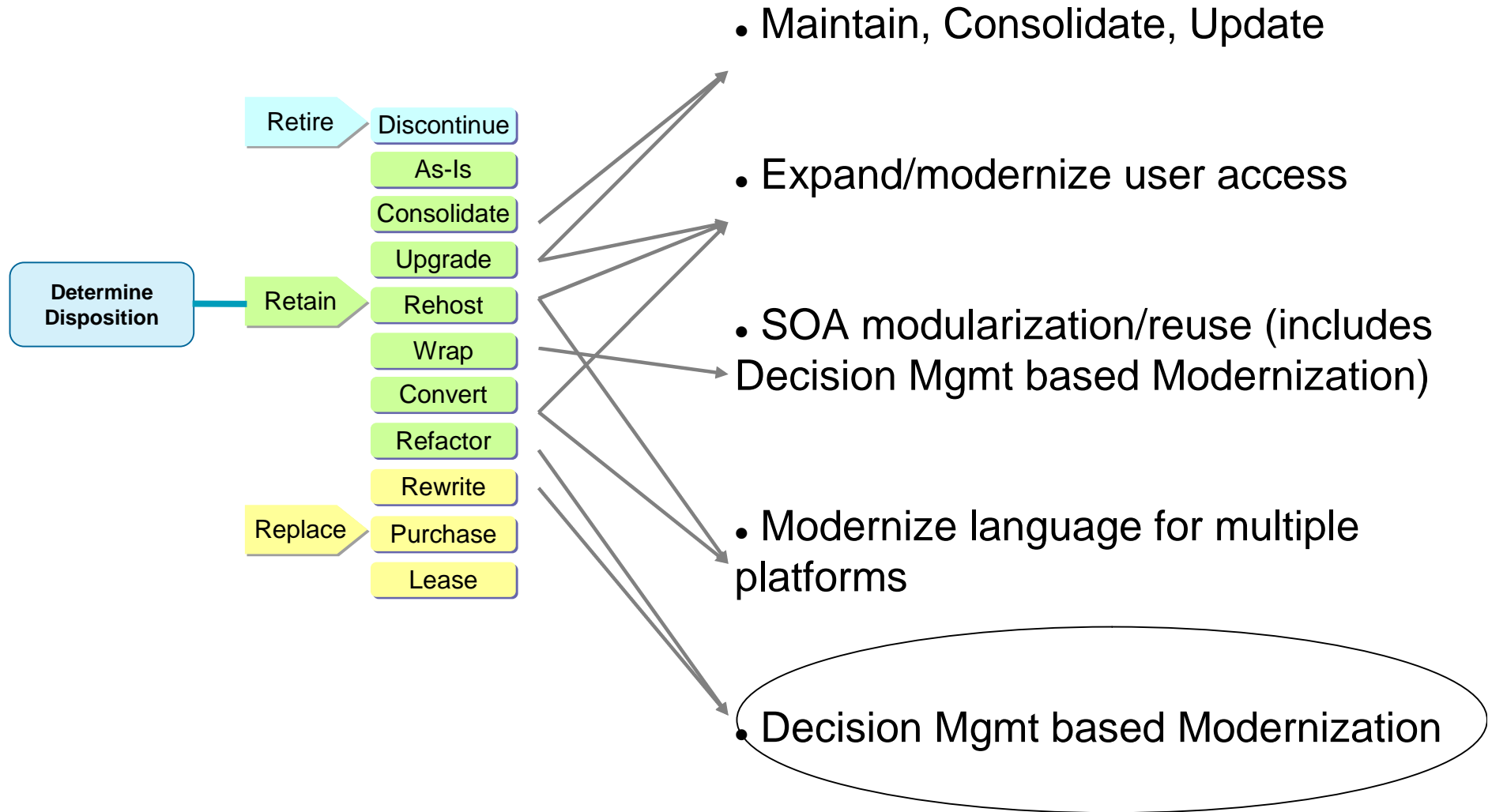
— IBM Corporation

Functional Component Segregation

*Use powerful tools to quickly begin SOA evolution by harvesting and repurposing proven assets*

Reporting

ETL

Business Rules

Application modernization
what are the modernization options

- Maintain, Consolidate, Update

- Expand/modernize user access

- SOA modularization/reuse (includes Decision Mgmt based Modernization)

- Modernize language for multiple platforms

- Decision Mgmt based Modernization

Determine Disposition

Retire — Discontinue

As-Is
Consolidate
Upgrade

Retain — Rehost

Wrap
Convert
Refactor
Rewrite

Replace — Purchase

Lease

Incrementally modernize applications

Use IBM ODM to unlock rules hidden in existing applications
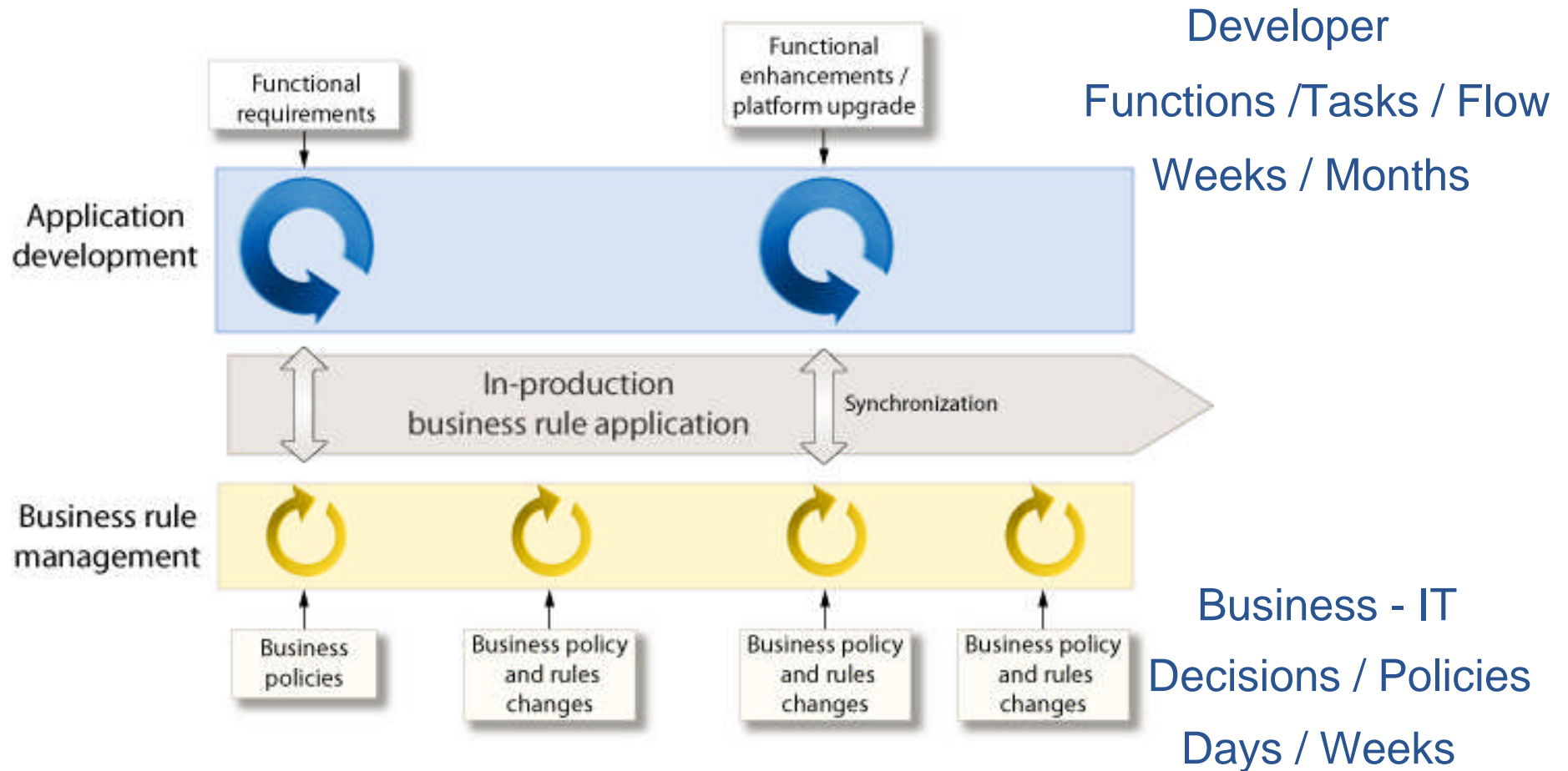
Application

Rule 1

Rule 2

Rule 3
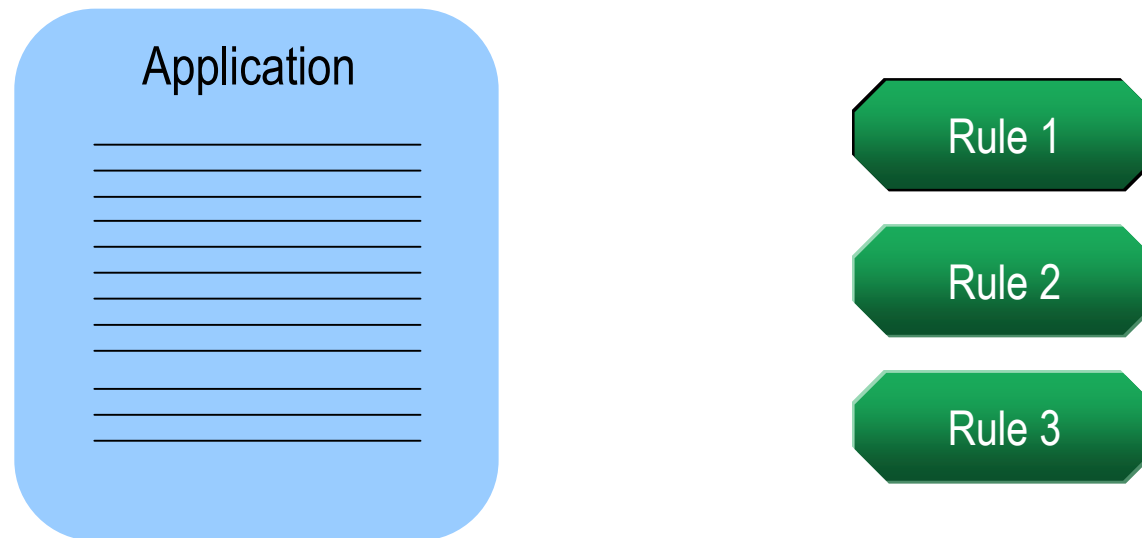
- Gradually pull out rules from existing applications

    – Focus on those business decisions that change fast and often

    – Re-express business rules in natural language

    – Manage and store them in a central facility

    – Does not require a "big bang" change

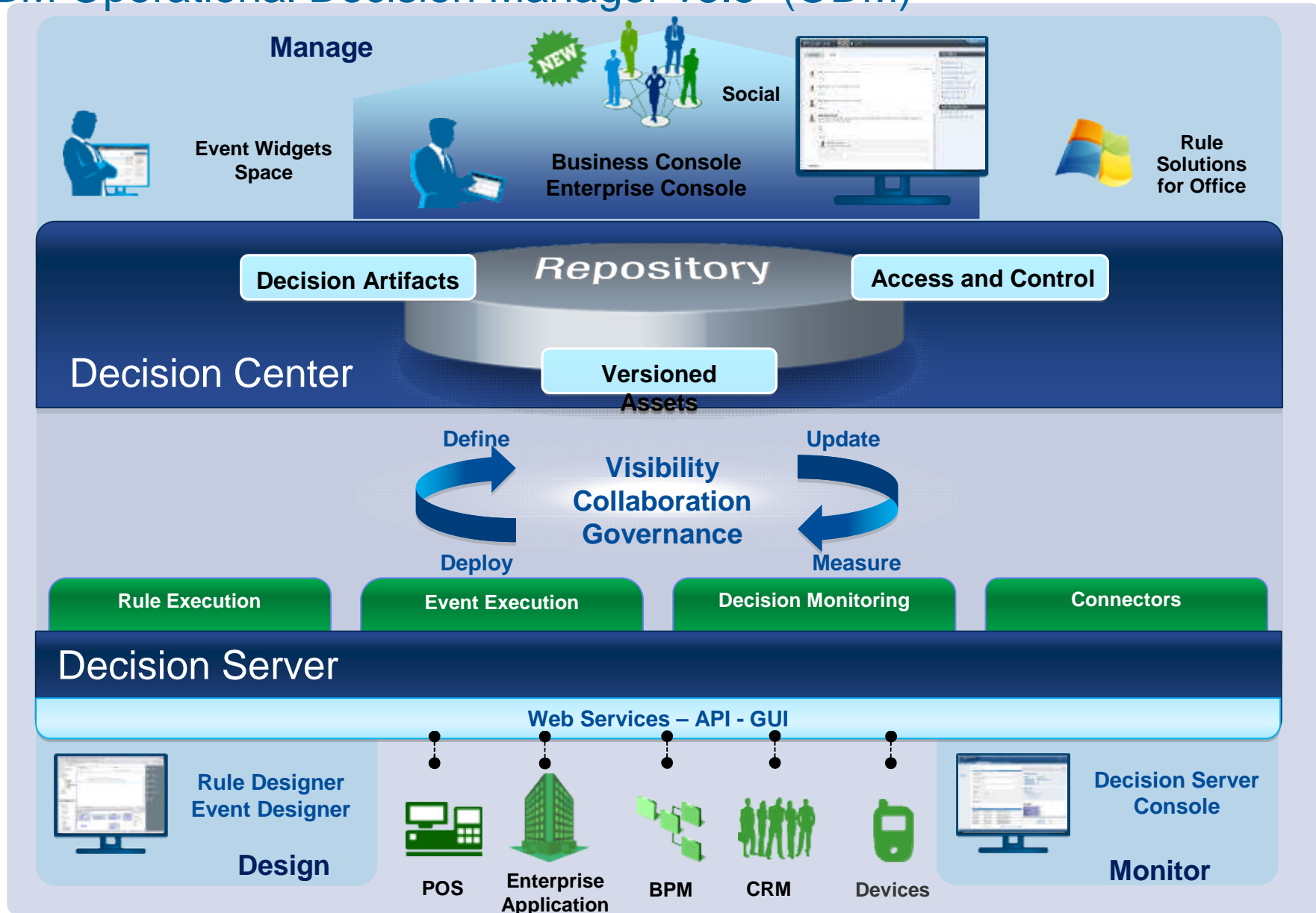# The Lustratus BRMS Maturity Model

Rules Based Enterprise
- Full enterprise operations based on cross domain shared rules
- Rules based compliance management, audit & governance

Business Driven
- Business units create and manage rules
- Optionally, IT still controls deployment

Direct Business Interaction
- IT builds rules but business units can edit them as necessary

Development / Business Collaboration
- IT shares and discusses rules with business units

Development Efficiency
- IT Drive rule usage, to make maintenance quicker and easier

http://www.lustratusresearch.com/store/product/Using-business-rules-with-CICS-for-greater-flexibi,215,0.aspx

Redefined Application Change Cycle

Developer

Functions /Tasks / Flow

Weeks / Months

Business - IT

Decisions / Policies

Days / Weeks

IBM Operational Decision Manager v8.5 (ODM)

Manage

Social

Event Widgets Space

Business Console
Enterprise Console

Rule Solutions for Office

Decision Artifacts

Repository

Access and Control

Decision Center

Versioned Assets

Define

Update

Visibility
Collaboration
Governance

Deploy

Measure

Rule Execution

Event Execution

Decision Monitoring

Connectors

Decision Server

Web Services – API - GUI

Rule Designer
Event Designer

Design

POS

Enterprise Application

BPM

CRM

Devices

Decision Server Console

Monitor

30

ODM for System z enables smart organizations to capitalize on modernization and innovation

- **Faster Time to Market:**
  Ability to react to changes in a fast pace competitive marketplace though Business events and rules

- **Lower cost of maintenance**

  – Leading to improvement operational efficiency and total cost of ownership

- **Better visibility and control**

  – Leading to improvement to better corporate governance

- **Ability to implement the best rules for the best outcome**

  – Business users can see, understand and have the appropriate tools to support the needs of the organization by maximizing their IT investment

- **Ability to manage and document business decisions executed in System z applications**

  – Authoring rules for COBOL & PL/I applications in business terminology

  – Ability to share business rules with Java and other COBOL & PL/I applications

  – Integrate seamlessly with existing COBOL & PL/I applications

Solution architecture overview

Solution Support Services

- Quick Starts
- Best Practices
- Report Templates
- Configurations

Rational Focal Point

Analysis, decisions, execution roadmaps

Architectural Context

Rational System Architect

Impact analysis, architectural roadmaps, future visioning

Execution status *Execution roadmap*

Integrated Application Lifecycle Management Solutions

Execution →

← *Tracked*

Enterprise Modernization Solutions

Project execution in collaborative team environment

Application flexibility, individual and team productivity, and system utilization

Application Portfolio Management decisions and plans are executed and tracked in solutions for Application Lifecycle Management and Enterprise Modernization

IBM CIO Office - Continuous business planning experiences

- Application reduction
  - From 16,000 to 4500
  - Targeting another 50% reduction by 2015

- Benefits
  - $1,5 Billion dollar estimated savings as a result of application and data center consolidation
  - Of applications classified as "Blue", an estimated 95% savings in maintenance (due to consolidation and freeze of maintenance dollars)
  - SLAs now vary based on objective business criteria
  - Re-engineered applications - defects down 58% and maintenance costs down 20%
  - Separated low value work and applied strict governance and controls

- Ongoing process
  - Application Portfolio Management never ends, this is the 3rd time we cut application count by 50% or more….
  - Many other improvements besides IT cost reduction, such as business process efficiencies gained from global processes for a global company
  - For more info, see Computerworld article:
    http://www.computerworld.com/s/article/9226430/IBM_on_path_to_cut_internal_apps_by_85_

IBM

Resources
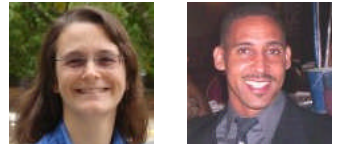
- Websites:
  - Continuous Business Planning
  - Portfolio Demand and Delivery Management
  - IBM Operational Decision Manager for z/OS

- White papers & tech docs
  - Four Steps to creating product value
  - Gartner report: PPM goes from managing projects to managing value and change

- Redbooks
  - Flexible Decision Automation for Your zEnterprise with Business Rules and Events
  - Batch Modernization on z/OS
  - Patterns: Integrating WebSphere ILOG JRules with IBM Software

- Demo: Project Portfolio Management using IBM Rational Focal Point

- IBM Operational Decision Management YouTube demo

- Top 10 Business Use Cases for Operational Decision Management

Questions

IBM DevOps Solution Series
5-part webcast series with IBM DevOps experts

Presenters	Topics	Live On
	IBM DevOps solution: Accelerating the Delivery of Multiplatform Applications *Presenters: Carmen DeArdo, Hayden Lindsey, and Mike Perera*	**August 7, 2013**
	IBM DevOps solution : Continuous Business Planning to get cost out and agility in *Presenters: Rick Slade and Richard Szulewski*	**August 14, 2013**
	IBM DevOps solution : Collaborative Development to Spark Innovation and Integration among Teams *Presenters: Tim Hahn and Danny Mace*	**Sept 4, 2013**
	IBM DevOps solution : Continuous Testing to save costs and improve application quality *Presenters: Rosalind Radcliffe & Marty Shelton*	**Sept 11, 2013**
	IBM DevOps solution : Continuous Release and Deployment to compress delivery cycles *Presenters: David Myers & Mike Baskey*	**Sept 18, 2013**

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Thank You