

Lending Business Agility

Mike McChesney

Global WebSphere Business Agility Tiger Team



Smarter Lending



Agenda

- *IBM POV- Dynamics in Banking/Lending*
- WHY BPM
- IBM BPM in Lending
- IBM Capabilities and Architecture



Smarter Lending



There are dramatic forces of change across financial institutions...

ECONOMY

Weak conditions impact investment decisions and reduce need for financial services

COMPETITION

Intensified competition with increased M&A, divestitures and entrance of non-bank service providers

CLIENTS

Rapidly evolving expectations for offerings, service unbiased advice, and convenience



TRUST

Rebuilding trust and confidence across the system is critical to future growth and stability

REGULATION

Radically increased oversight ushering in a new era of increased government intervention

CAPITALIZATION

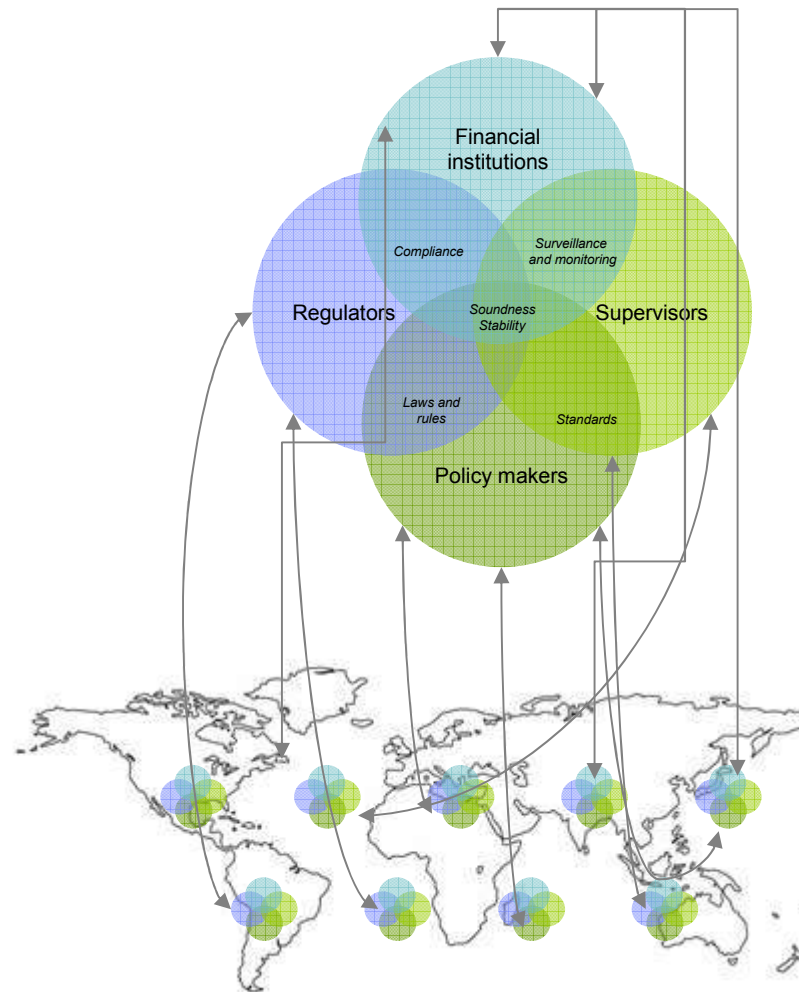
Mature markets and emerging markets alike focus on rebuilding their capital reserves



....Impacting the world's most complex system.

- A global system moves more than \$74T of money each day
- A financial supply chain that is massively interconnected and interdependent
- Public and private partnerships are suboptimal cross-border and within borders
- System requires 24/7 continuous flow of information
- Rapid increase in types of data entering financial system from “real economy” digitization
- A criminal element that grows more sophisticated
- In total the system intermediates the needs of billions of people in 190 countries in thousands of languages.

An adaptive system evolving organically



The need and opportunity for progress are clear...

50%

Percentage of customers who would give their bank only two chances to fail before considering a change in banks.

93%

of the 285 million electronic attacks are focused on the finance sector, and well over half were detected by third parties

25 billion

Global trading systems are under extreme stress, handling billions of market data messages each day.

**90%
reduction
in manual
process**

Streamlined operations:
Bank of New York Mellon

The bank streamlined operations to achieve a 90% reduction in manual touch points in the check-clearing process—cutting processing errors and required remediation.

**\$1M in fraud
eliminated
each month**

Large US Retail Bank:
Financial Crime

On the second day of production, the new system prevented \$500k in a single transaction, a additional \$733k of activities in the first month and confirmed \$1M on a monthly basis.

**21x
more
messages**

Automated trading:
TD Bank Financial Group

IBM developed a first-of-a-kind system capable of consuming, analyzing and acting on real-time market data while maintaining sub-millisecond response times even under extreme data loads.



With a unrelenting focus on the client the imperatives for financial services are threefold...

CAPITAL AND LIQUIDITY

Capital

- Raise capital through public and private investment
- Reduce leverage

Liquidity

- Utilize government liquidity facilities
- Leverage alternative forms of financing

M&A

- Jettison all but core assets / restructure business model
- Reduce government ownership over time (if applicable)

COST AND COMPLEXITY

Cost base

- Evaluate headcount & compensation
- Rationalize recent mergers & acquisitions

Strategic simplification

- IT Modernisation
- Outsource non-core components

Partnerships

- Reduce the IT/business disconnect
- Standardize vendors
- Connect to new utilities

RISK AND TRANSPARENCY

Risk exposures

- Address risk models, scenarios, stress testing and model input weaknesses
- Improve governance models

Risk portfolio management

- Ensure comprehensive, accurate and timely data
- Create a risk-based culture

Transparency

- Analyze and report enterprise-wide risk positions
- Proactively create transparency for regulators, shareholders and clients



TowerGroup Top 10 Technology Initiatives for Consumer Lending (2011)

Business Drivers		Strategic Responses		
<ul style="list-style-type: none"> •Unprecedented regulatory compliance change •Regulators seeking standardized, transparent processes and rationalized data •Weak economic recovery; sovereign debt crisis •Flat to declining loan demand and revenue, housing market dynamics •Asset-backed securities (ABS) investor information requirements/lawsuits •Ongoing FSI failures and consolidation •Burden of distressed asset management/lawsuit 		<ul style="list-style-type: none"> •Shift to nondiscretionary compliance IT projects •Continue improving risk management •Delay new IT and core systems replacement •Reexamine core processes and channel choice •Promote information transparency and clarity •Focus on customer segmentation, evaluation, and retention 		
Top 10 Technology Initiatives for Consumer Lending (2011)				
New, maintenance, and replacement technology for compliance	Integrated credit, collateral, and fraud risk management	Core lending systems transformation	Data management for business intelligence	Analytics and optimization for loan decisioning
Enterprise content and process management	Refined view of customer relationship and value	Redefining and restructuring core processing IT and operations	Multichannel lending and servicing realignment	Mobile lending and servicing

Source: TowerGroup



Mortgage Industry Trends

- The ugly, the bad, the good

The ugly.....

- Serious delinquencies
- Writedowns
- Single Point of Contact
- QRM

The bad...

- Changing regulatory environment
- Compensation and pricing
- GSE's and the politics of housing

The good.....

- New book is best ever with high quality loans and high borrower FICO scores
- Low rates keep volume strong
- Survivors are poised to capture new opportunities in a consolidated market
- Changing business models



Mortgage Insurance *Industry Trends*

- The ugly, the bad, the good

The ugly.....

- Unprecedented volume of rescissions and denials is costly and creates forward risk uncertainty
- Continued high loss experience, default ratios and new defaults
- Pool insurance market non-existent
- QRM

The bad...

- Revenue challenges due to low volume of new private insurance in force or need to grow share in a smaller market
- Increasing risk to capital ratios
- Changing regulatory environment
- GSE's

The good.....

- New book is best ever with high quality loans and high borrower FICO scores
- Declining reserves against future claims as default inventory slowly declines
- Survivors are poised to capture new opportunities in a consolidated market
- Changing business models

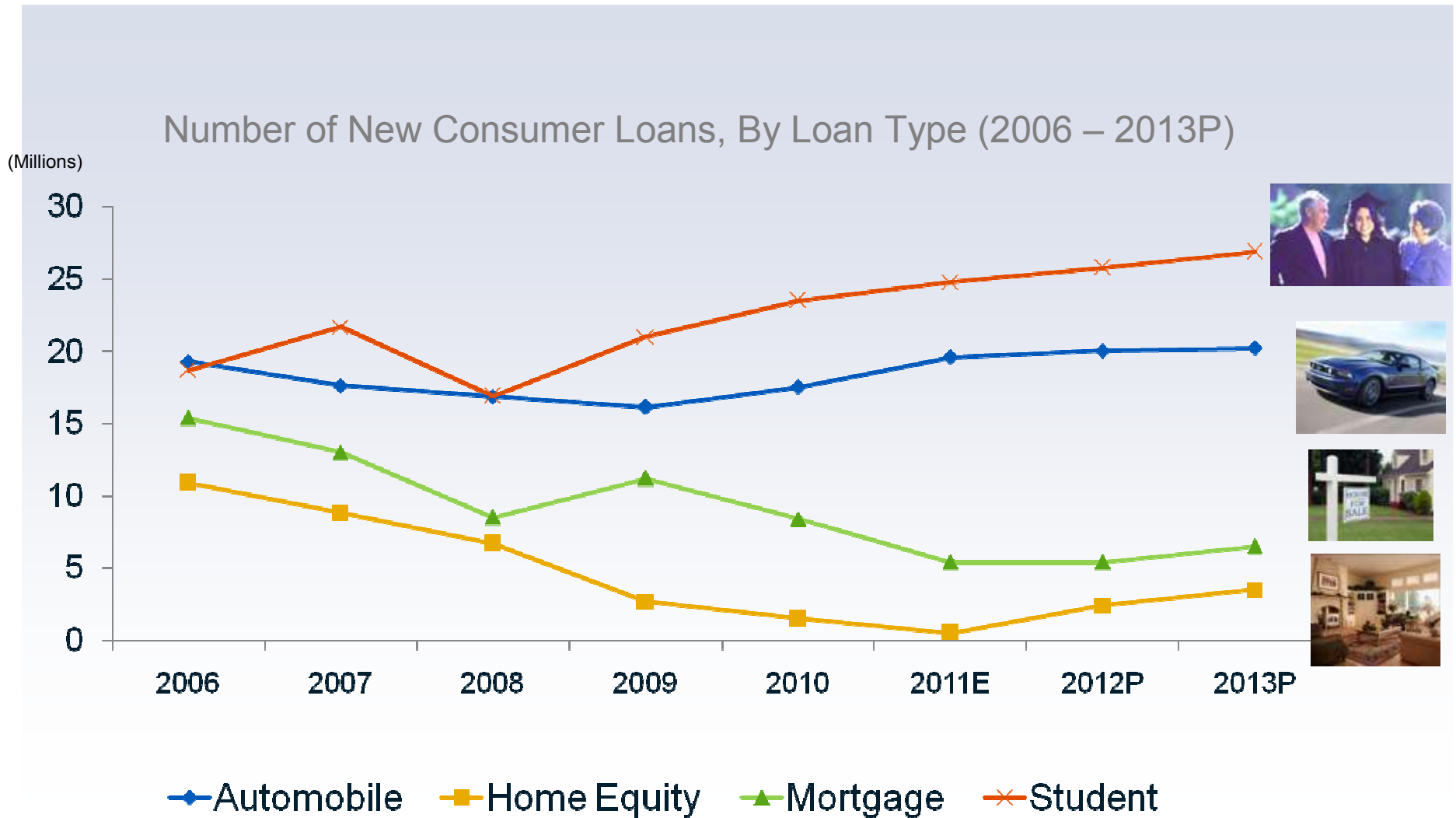


But for banks who decrease complexity in their Lending Processes they can...

- **Decrease** lending cycle from **7 days to hours** for most applications
- **Reduce** processing centers and provide geographic coverage and business contingency options
- **Trim** employees from **135 to 25**
- Reduce cost of application from **\$38/application to \$7/application**



Loan Growth Is Flat, So Businesses Must Be Efficient and Automated To Grow



Are You Running Inefficient & High-touch Loan Origination Processes?

Bank Customers Experience

- Waiting time of **two weeks** for loan results
- **Numerous** errors and re-submissions of customer data
- **Frequent** call backs from bank for more information
- No **visibility** in status of loan

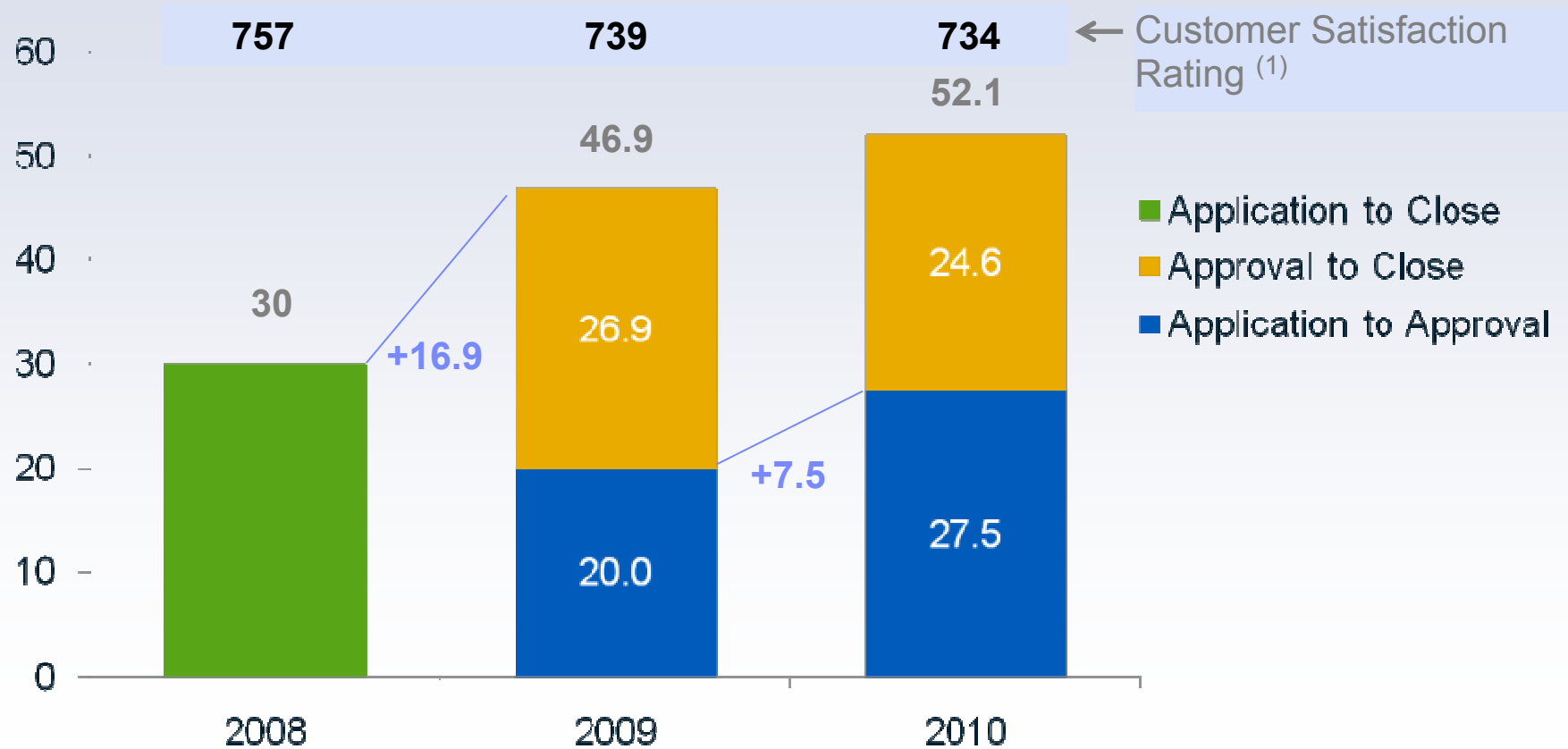
The Impact on Business Results

- **15 days** for loan approval process
- **100's of man-days** lost to inefficient and manual processes
- **Numerous** loan origination systems increase IT support costs



Customer Satisfaction Declines As Loan Application Timelines Increase (2008-2010)

(Days From Mortgage Application To Loan Closing)

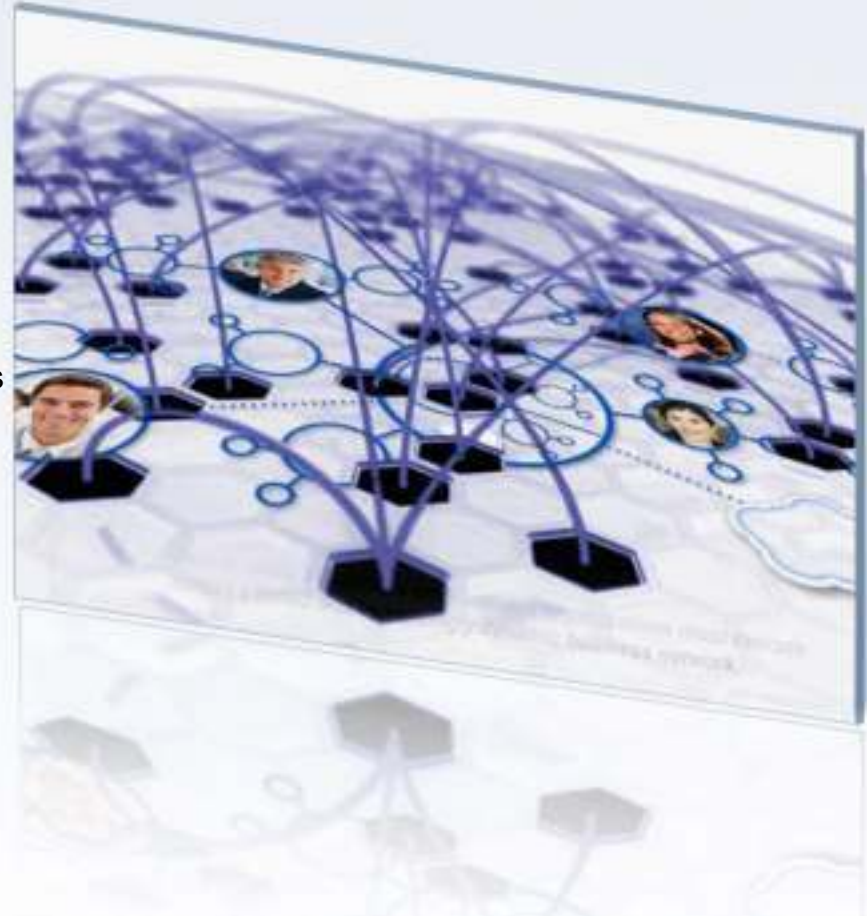


Source: JD Power, TowerGroup analysis
 (1) Customer satisfaction rating measured on a scale of 1 to 1000



... But banks are bottlenecked by growing IT complexity and lack of capacity to meet the demands of the business

- The need for visible and flexible connections across the lending ecosystem (customers, vendors, partners)
- Proliferation of rigid packaged and "homegrown" loan applications
- Variety of different platforms, networks, and devices
- Exploding volume of unstructured information Architecture is a key driver
- Time to market to capture market opportunities
- Lending platforms vs. product silos
- 360 degree view of the customer
- Common rules across platforms and products
- Real time decisioning
- Process standardization and reuse
- Collaboration with business users
- Measured on business outcomes



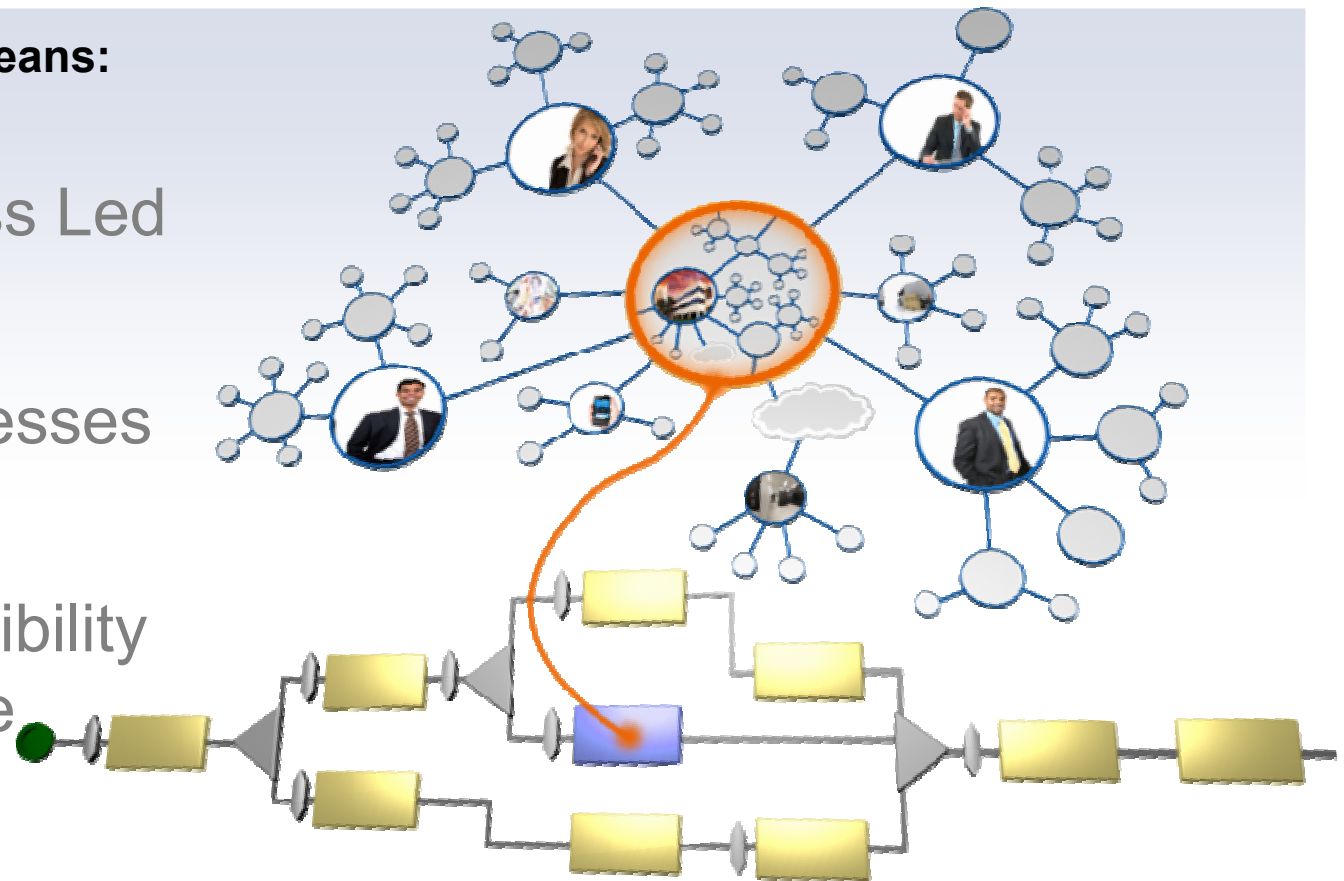
IT organizations must deliver shared and reusable solutions more quickly and at lower cost



Can Your Loan Processes Handle Change, Uncertainty and Complexity?

Transformation Today Means:

- Simpler Business Led Change
- Optimized Processes and Decisions
- Full Process Visibility and Governance

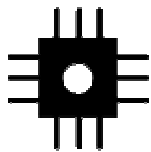


Agile Processes and Decisions with Business Process Management



Why IBM Business Agility & Smarter Lending?

INSTRUMENTED



Financial products are decomposed and managed at the atomic level, allowing the participants to measure, control, sense and respond quickly and precisely based on a “single source of truth.”



INTERCONNECTED



A smart bank is built on systems that advance processing to better automate transactions with counterparties, partners and suppliers to enable innovation across the value chain.



INTELLIGENT



A smart bank enables the rapid, intelligent analysis of a vast mix of structured and unstructured data to improve insight, enable informed judgment and fight abuse.



SMARTER LENDING



A smart bank anticipates client needs and delivers innovative products more quickly and consistently than the competition. It can respond nimbly to changes in market conditions.



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Smarter Lending



McKinsey 2012 Survey: Process is King



Even in their dreams, they put process above creating new products and services!

McKinsey 2012 Technology Survey of 927 IT and non-IT Executives, December 2011



IBM is the Undisputed Leader in All Things Process

Table 2. BPMS Software Market Share by Vendor, Worldwide, 2008-2010 (Millions of Dollars)

Rank 2009	Rank 2010	Rank Change	Vendor	2008	2009	2010	Share (%) 2008	Share (%) 2010	Growth (%) 2009	Growth (%) 2010
1	1	-	IBM	370.2	453.6	535.6	22.9	24.7	19.9	18.1
2	2	-	Oracle	151.7	202.4	218.7	10.2	10.1	33.4	8.1
4	3	+1	Adobe	151.6	159.7	194.8	8.1	9.0	5.4	22.0
3	4	-1	Pegasystems	116.7	106.1	177.3	8.4	8.2	42.3	6.8
5	5	-	Software AG	148.2	152.9	164.7	7.7	7.0	4.6	7.7
6	6	-	Fujitsu	84.5	93.1	94.8	4.7	4.4	10.1	1.9
7	7	-	Tibco	70.2	65.4	69.3	3.3	3.2	-6.9	0.0
8	8	-	Global 300	58.9	59.6	68.9	3.0	3.2	1.5	15.1
9	9	-	Appian	24.5	43.9	62.3	2.2	2.9	70.0	41.9
11	10	+1	Melastorm	37.8	40.0	41.7	2.0	1.9	5.8	4.4
15	11	+4	Cordys	16.3	21.3	36.4	1.1	1.7	31.0	71.0
12	12	-	DST Systems	31.4	30.0	32.1	1.5	1.5	-4.3	6.9
13	13	-	Autonomy	26.3	26.8	29.3	1.3	1.4	1.9	9.4
16	14	+2	Singularity	27.6	19.4	21.8	1.0	1.0	-29.9	12.5
-	15	-	Progress Software	0.0	0.0	19.4	0.0	0.0	0.0	0.0
			Others	417.0	449.2	398.9	22.6	18.4	7.7	-11.2
			Total	1,738.9	1,903.8	2,166.0	100.0	100.0	14.1	9.2

Source: Gartner (April 2011)

Gartner.

IBM #1 in **BPM**
with **24.7%**
market share



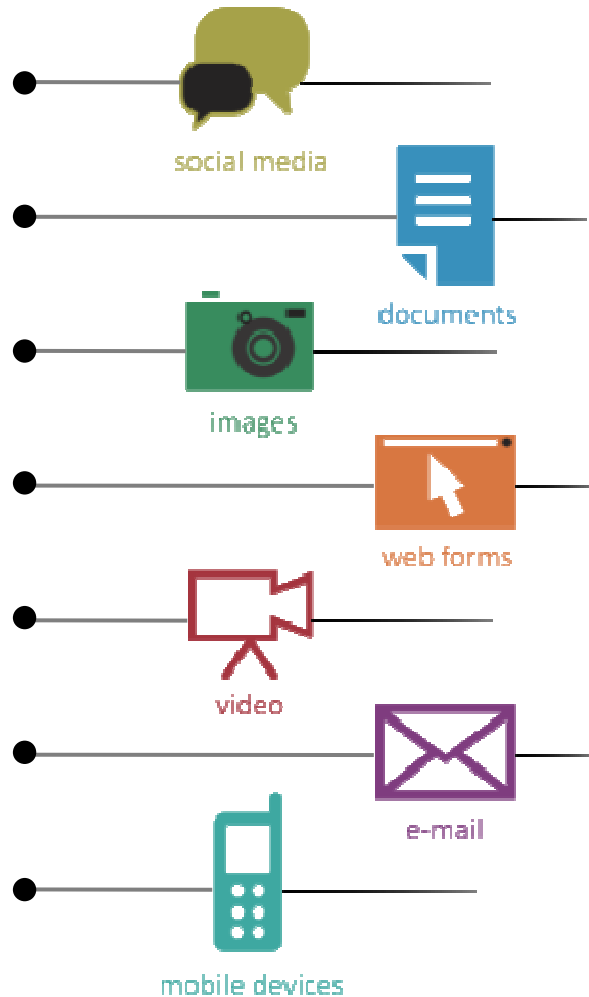
IBM #1 in **Rules**

Figure 2 Vendors With Strong Position And Momentum

	Momentum & position rating	Revenue (millions)	Revenue growth	Customer base
Bosch	Moderate	\$10	47%	250
Corticon	Moderate	\$15	45%	450
CRIF	Moderate to weak	\$6	5%	50
Experian	Moderate	\$65	7%	315
FICO	Moderate to weak	\$69	0.4%	500
IBM	Strong	\$200	25%	1,200
InRule	Strong	\$6	25%	225
Red Hat	Strong	\$2	25%	100

Source: Forrester Research from vendor reports
Note: Red italics indicate Forrester estimates.

Current business challenges...



Knowledge workers in all industries must do more with less...

- Automation has handled the routine; **exceptions are now the norm**; many automated processes are outsourced
- The **volume** and **variety** of information can be overwhelming, and it is arriving faster every day
- **Flexibility** is essential to responding effectively to opportunities or threats
- Regulatory or legal **risks** require consistent adherence to critical policies and rules

...yet businesses need to improve service and manage risk while controlling costs



To regain lost productivity, improve response times, increase speed to market, and respond to regulatory challenges banks require Business Agility

- **Agile processes** to optimize decision making
- **Unbounded applications** that enable business change and maximize investments
- **Rapid, adaptable integration** to thrive in an interconnected world
- **Flexible and intelligent infrastructure** for performance, productivity and scale
- Take advantage of **new delivery models** – mobile, cloud, appliances

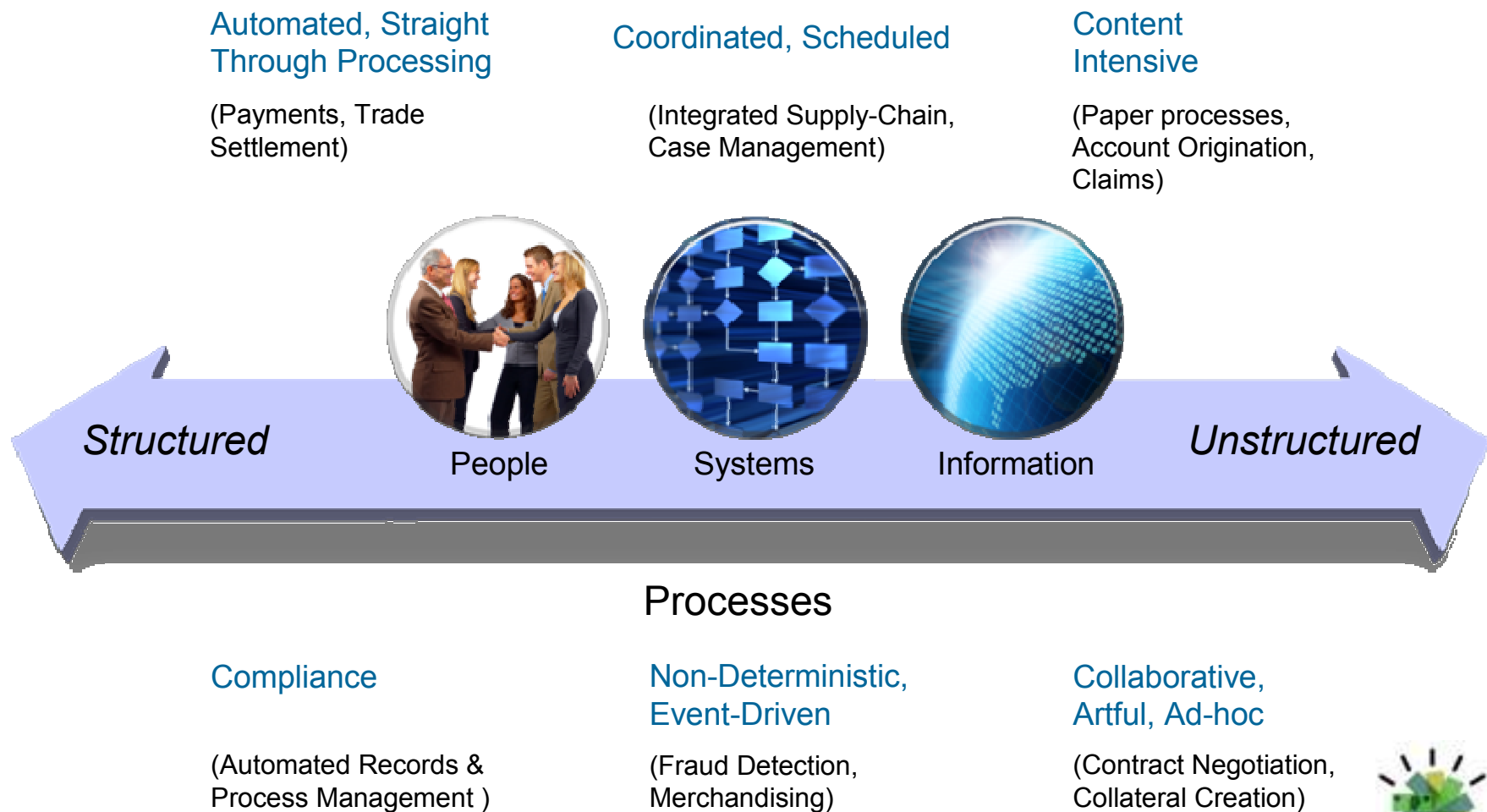


In order to execute across a broad and increasingly dynamic business network



Types of Business Processes

A **business process** is a collection of interrelated tasks, which accomplish a particular goal, usually decomposed into several sub-processes.



Challenges of Traditional Process Management

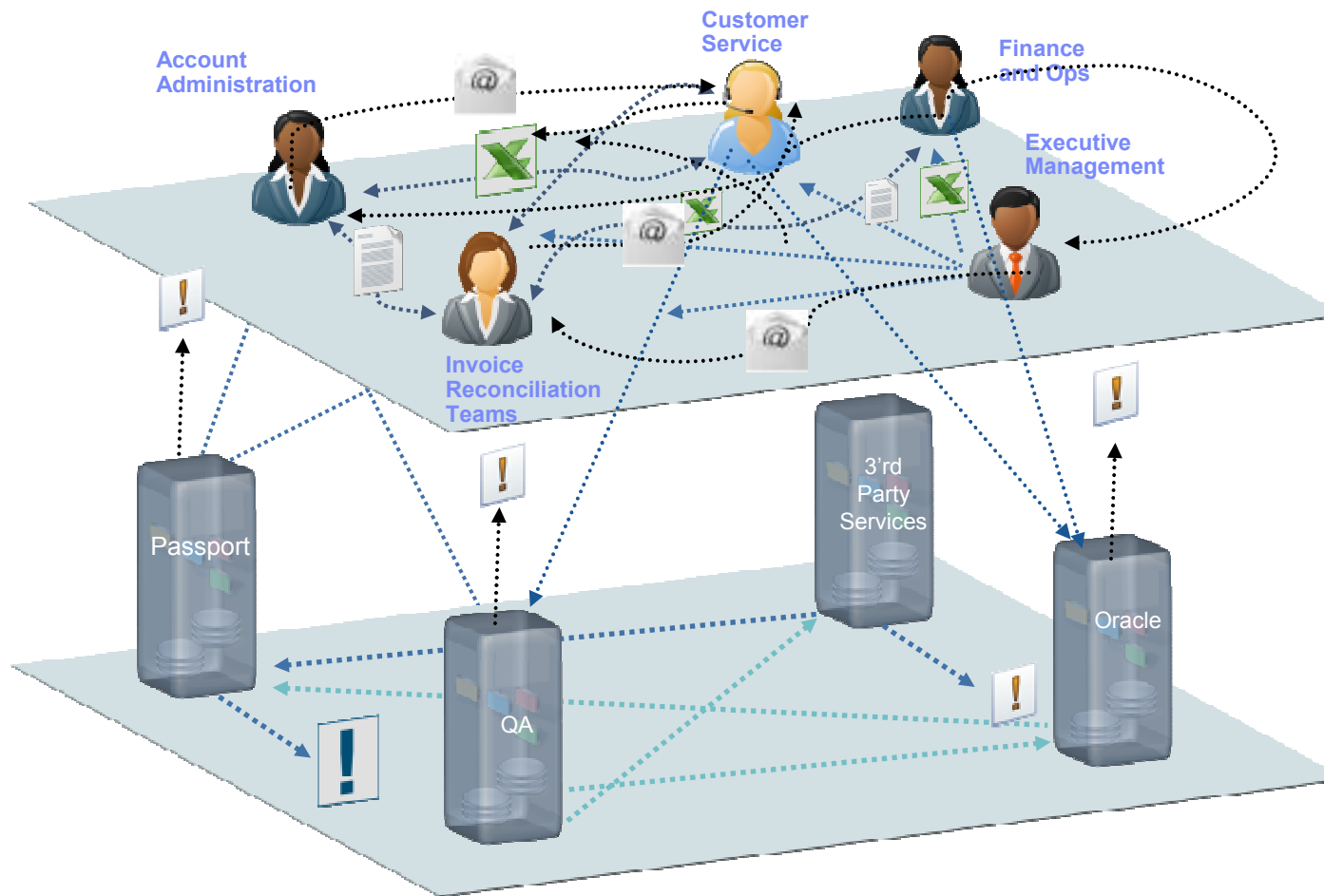
- **Processes inside applications**
 - Processes are rigid and costly to change
 - IT changes needed lag far behind
 - With passage of time, changes may no longer be relevant
- **Processes that span applications and organizational boundaries**
 - Any changes have implications across all applications
 - Inefficient and ineffective processes remain long after the need for change has been recognized
- **Managed manual processes**
 - No automation exists to enable on-the-fly process changes
 - No automation exists to trigger processes based on events or patterns
- **Ad-hoc processes**
 - Most systems are not equipped to capture ad-hoc work
 - Most ad-hoc processes often not tracked or monitored
 - Costs remain hidden and ad-hoc processes remain ad-hoc



Opportunities for business optimization and business innovation are lost



Business Chaos Begs for Process Improvement



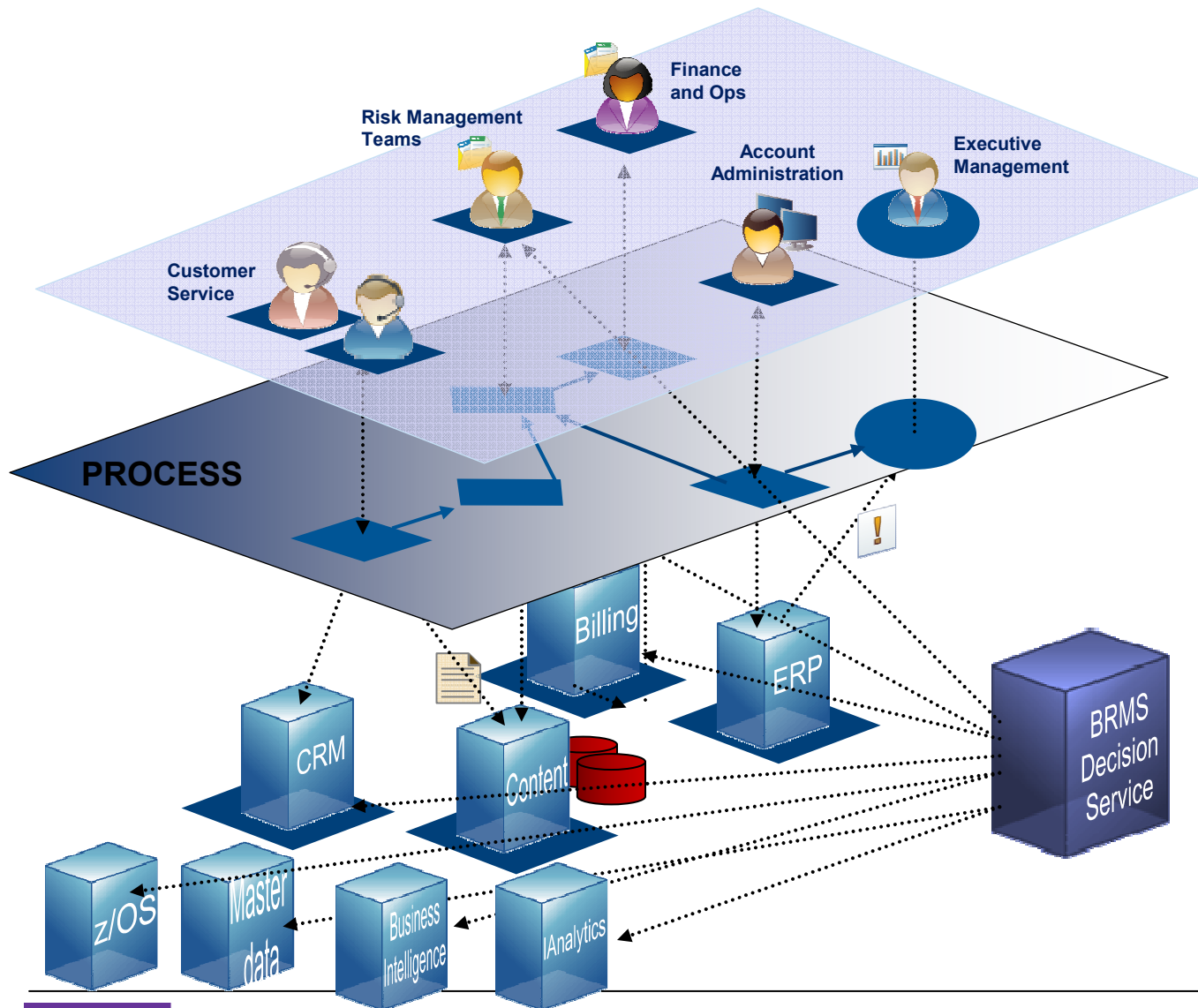
1. Informal tasks and communication (e.g. Paper or email)
2. Inefficient working environment spans systems
3. Inconsistent prioritization
4. Inconsistent decision making
5. Incomplete or inaccurate data flow between systems
6. Lack of control over system and business events (exceptions)
7. Poor visibility into process performance
8. *Tribal Knowledge*

Customer Problems:

- Cannot grow efficiently
- Poor customer satisfaction
- Limited visibility



Process and Decision Management Bring Order to Chaos



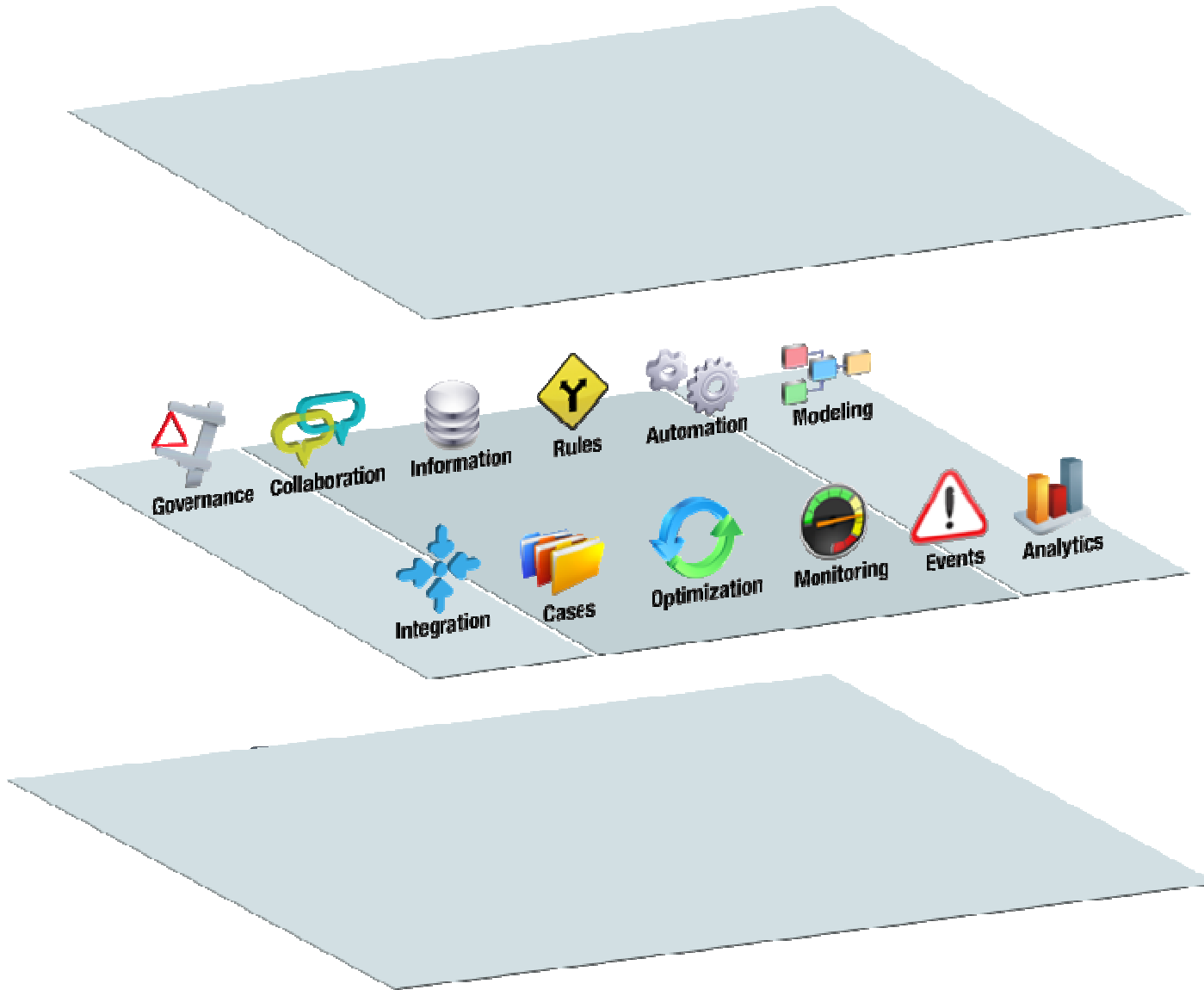
1. Automatically prioritize and route work
2. Guide users through decisions
3. Standardize resolution across geographies
4. Leverage existing systems and data
5. Monitor for business events and initiates action
6. Real-time visibility and process control
7. Automate decisions
8. Reduce errors and improve accuracy
9. Improve consistency across geography, channel, division ...

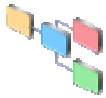











Customer Benefits:

- Huge reduction in manual interactions
- Faster Issue Resolution
- More flexible, responsive systems



The Essential BPM Capabilities

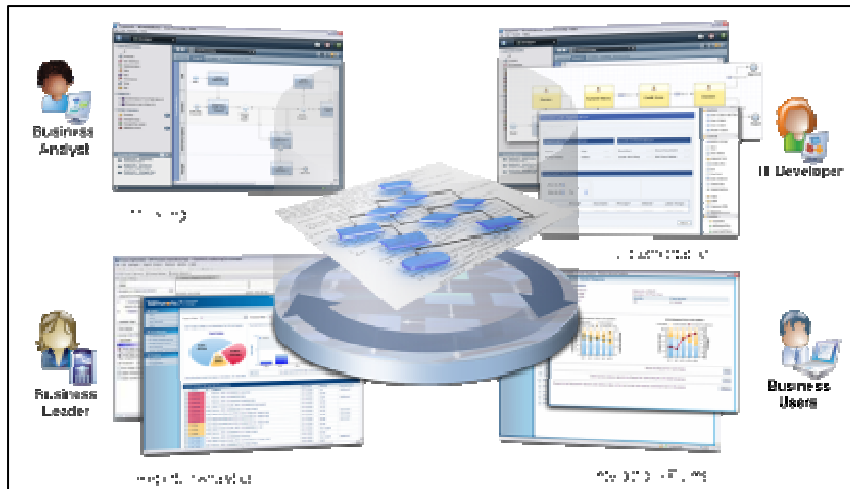


-  • Modeling
-  • Monitoring
-  • Automation
-  • Governance
-  • Optimization
-  • Rules
-  • Business Data
-  • Documents
-  • Events
-  • Integration
-  • Collaboration
-  • Analytics

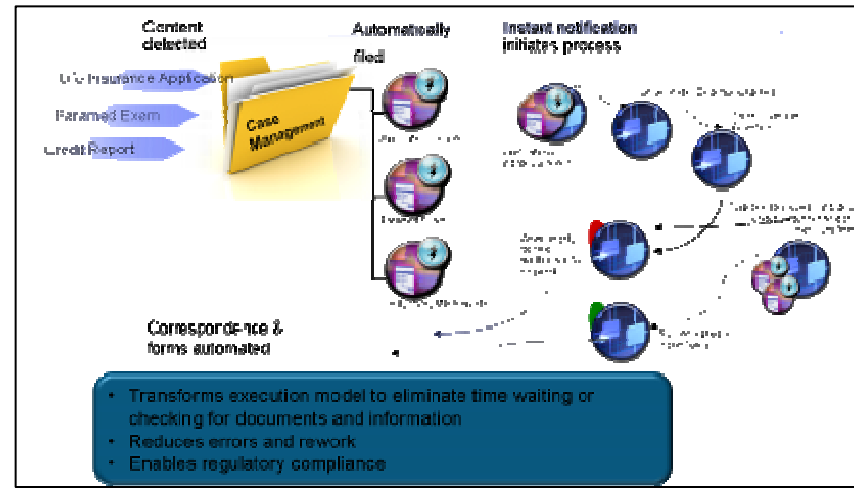


BPM Capabilities Agenda

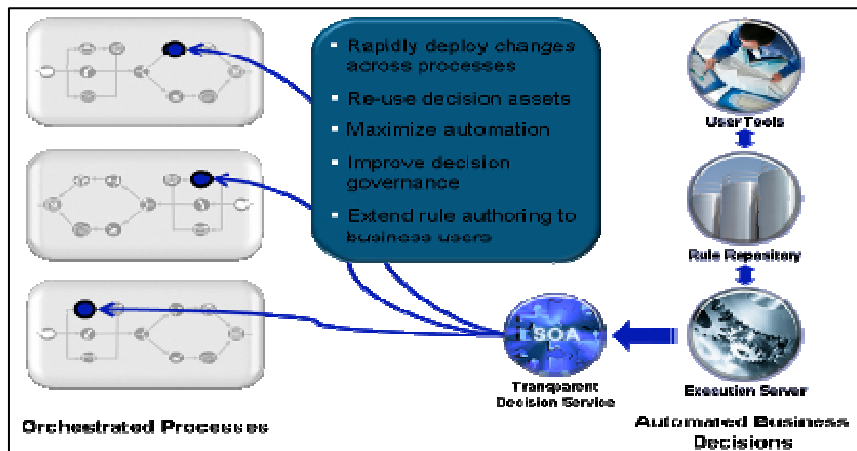
Process Discovery/Analysis/design



Process orchestration and Active Content



Decision Services-Rules and Events



Process Visibility



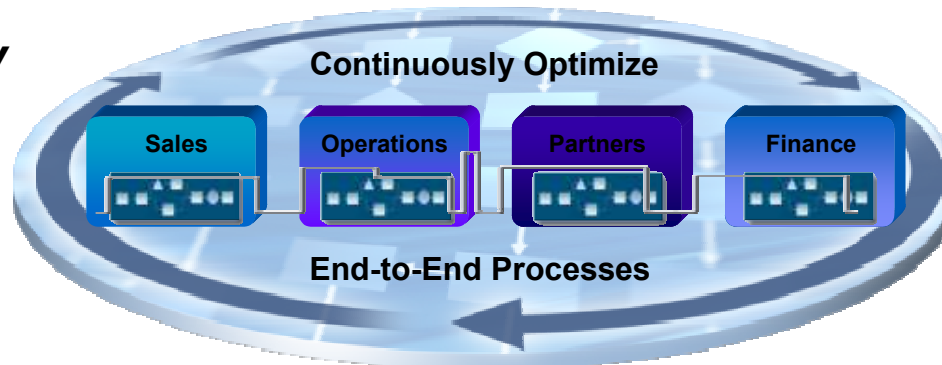
The BPM Lifecycle Empowers Business and IT to Collaborate and Continuously Optimize Processes

Deploy, Execute, and Change

- Automate processes to improve operational efficiency and profitability
- Adapt and collaboratively respond to change

Process Discovery and Modeling

- Assess, capture, and analyze core processes
- Align business strategy and IT execution

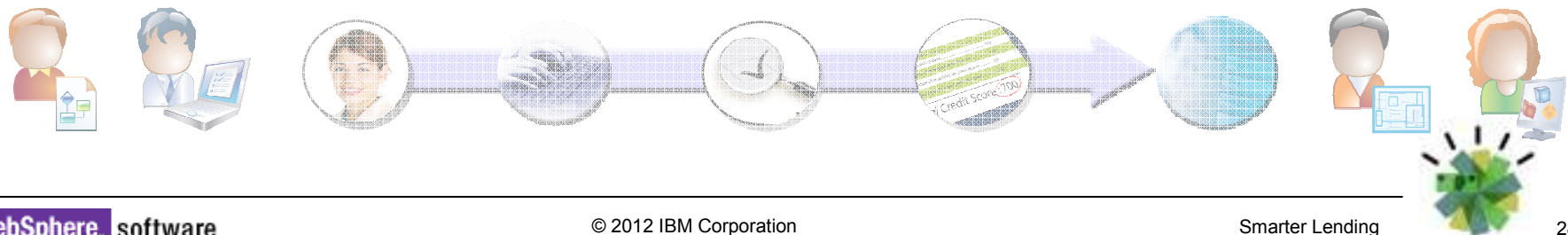


Monitor, Analyze, Predict and Act

- Monitor implemented process performance
- Track metrics to measure and optimize business operations
- Guided optimization

Governance and Compliance

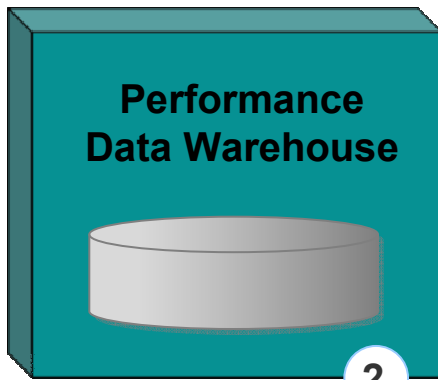
Manage and reuse shared services to streamline development and deployment
 Maintain business and IT consistency as well as organizational and regulatory policy



Process Analytics and Social Collaboration in Real Time



1



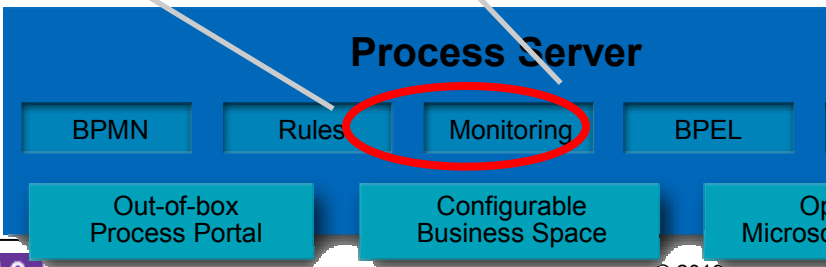
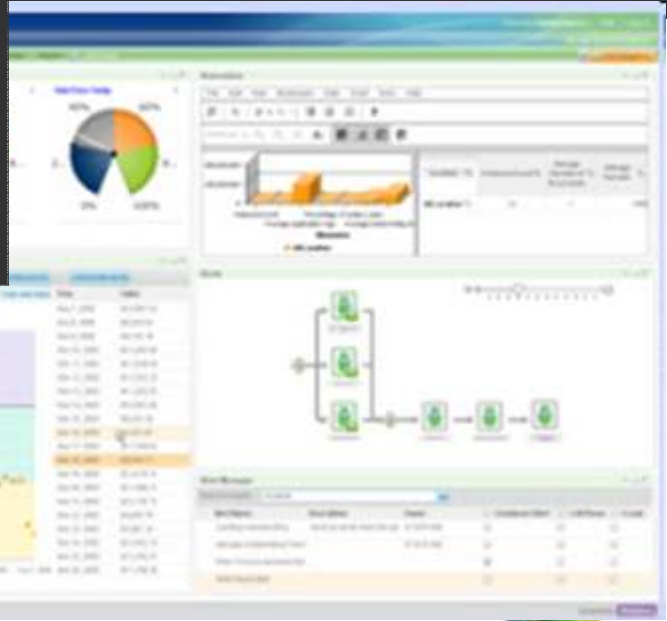
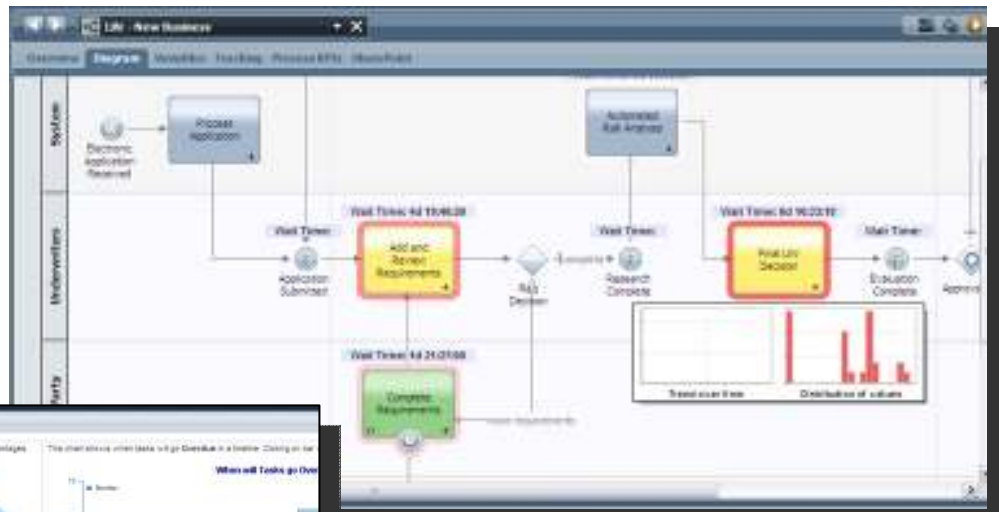
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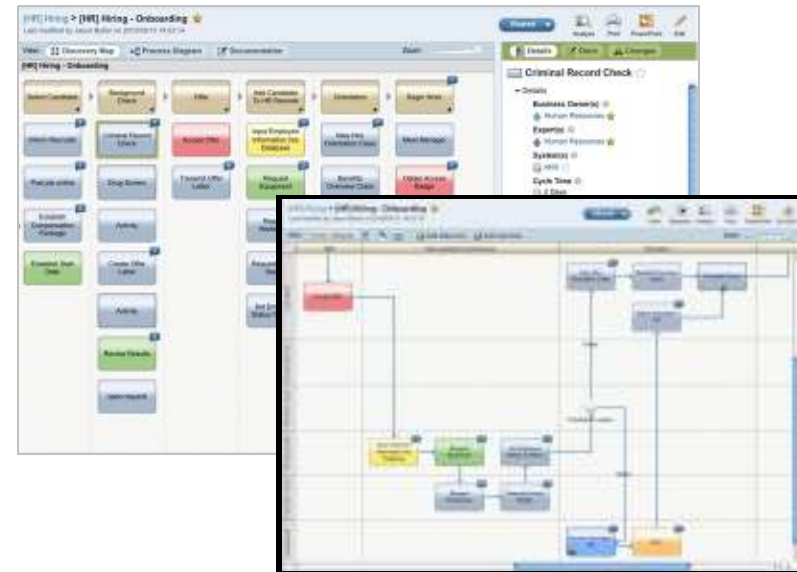
4



IBM Blueworks Live: Blueprinting a Process

- **What It Offers**
- Insight into processes
- Evergreen documentation
- Rich template library

- **Benefits**
- Easy for novices, rich for experts
- Keeps everyone current and engaged
- Participation of Business and IT



Test drive Blueworks Live!

Document & Run Processes in the Cloud

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Sign Up Now For a Free 30 Day Trial.



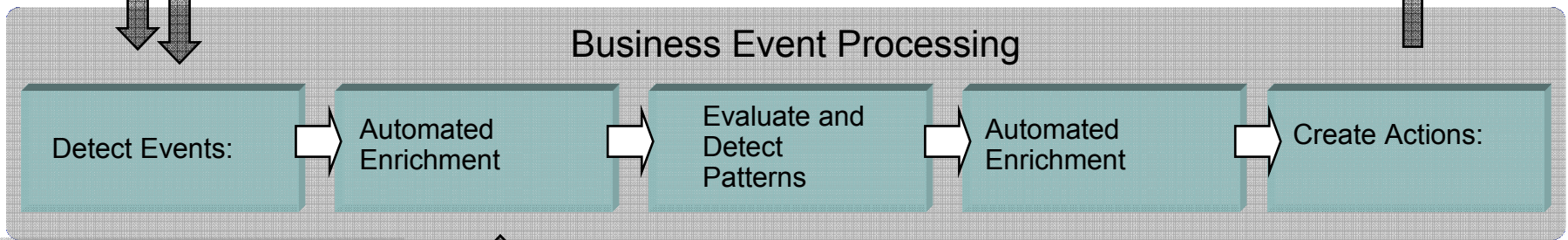
Rules and Events Enable Optimized BPM Solutions

Automate, manage and govern operational decisions

First Name: Peter
 Last Name: Crocker
 Zip Code: 50001
Event: Customer Loan Request
 Registration: 01/2011
 Year: 2011
 Insurance Group: 123
 Car Value: 40,000
 Drivers Age: 33

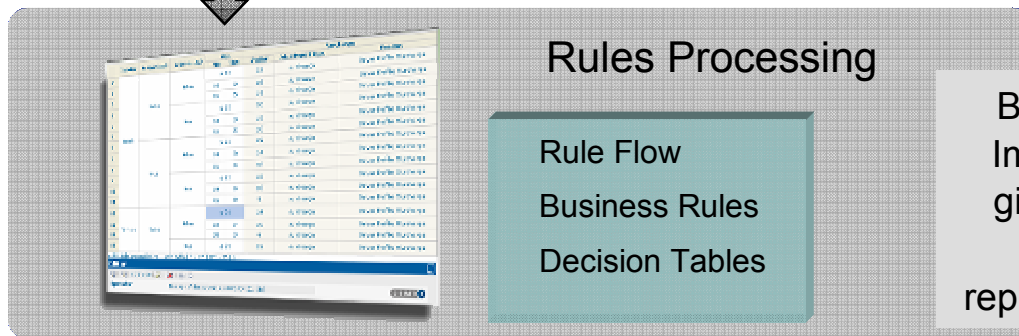
Event Management: Implements pattern detection based on an event history – as data set evolves, what of interest is transpiring?

Action: Upsell to other products/services



Call out for a decision

How can we 'personalize' the offer based on client behavior?
 What terms and conditions should we offer the client?



Business Rules Management: Implements a decision model - given a snapshot view of data, provides decision services representing best course of action



Extend Visibility with Business Activity Monitoring

- Monitor metrics, business situations, and events in real-time
- User customizable dashboards to ensure targeted, relevant information
- Feed and correlate alerts with business event processing for enhanced pattern visibility
- Interact directly with processes in real-time
- Predict future values of KPIs based on historic and cyclic trends
- Trigger alerts when predicted values indicate a problem detection

Identify trends, forecast events, make smart choices

Understand up-to-minute business performance by monitoring KPIs

Detect, respond rapidly to change

Continuously improve key business processes

Customize dashboards easily

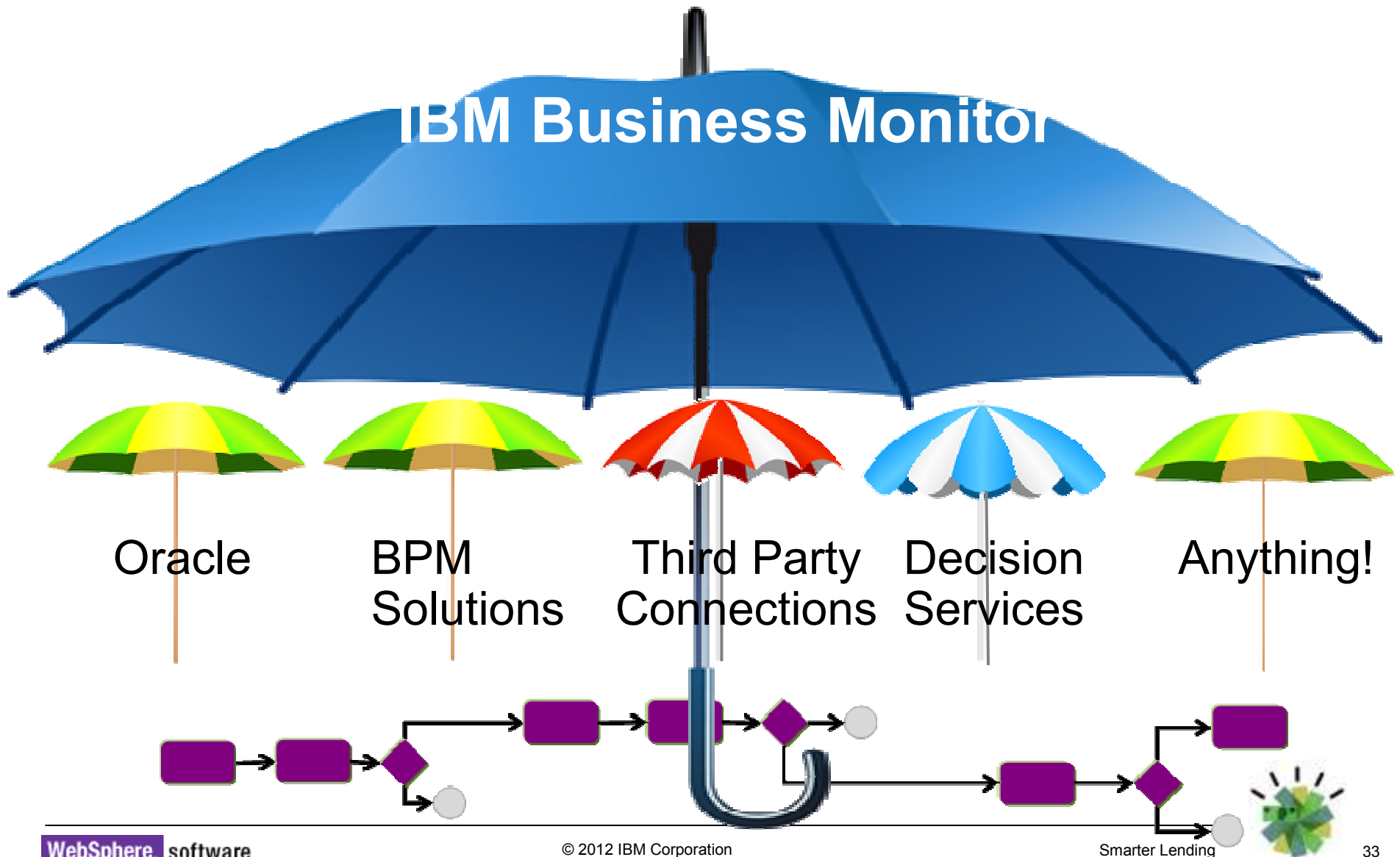
Leverage mobile devices

Rebalance human workload on the fly

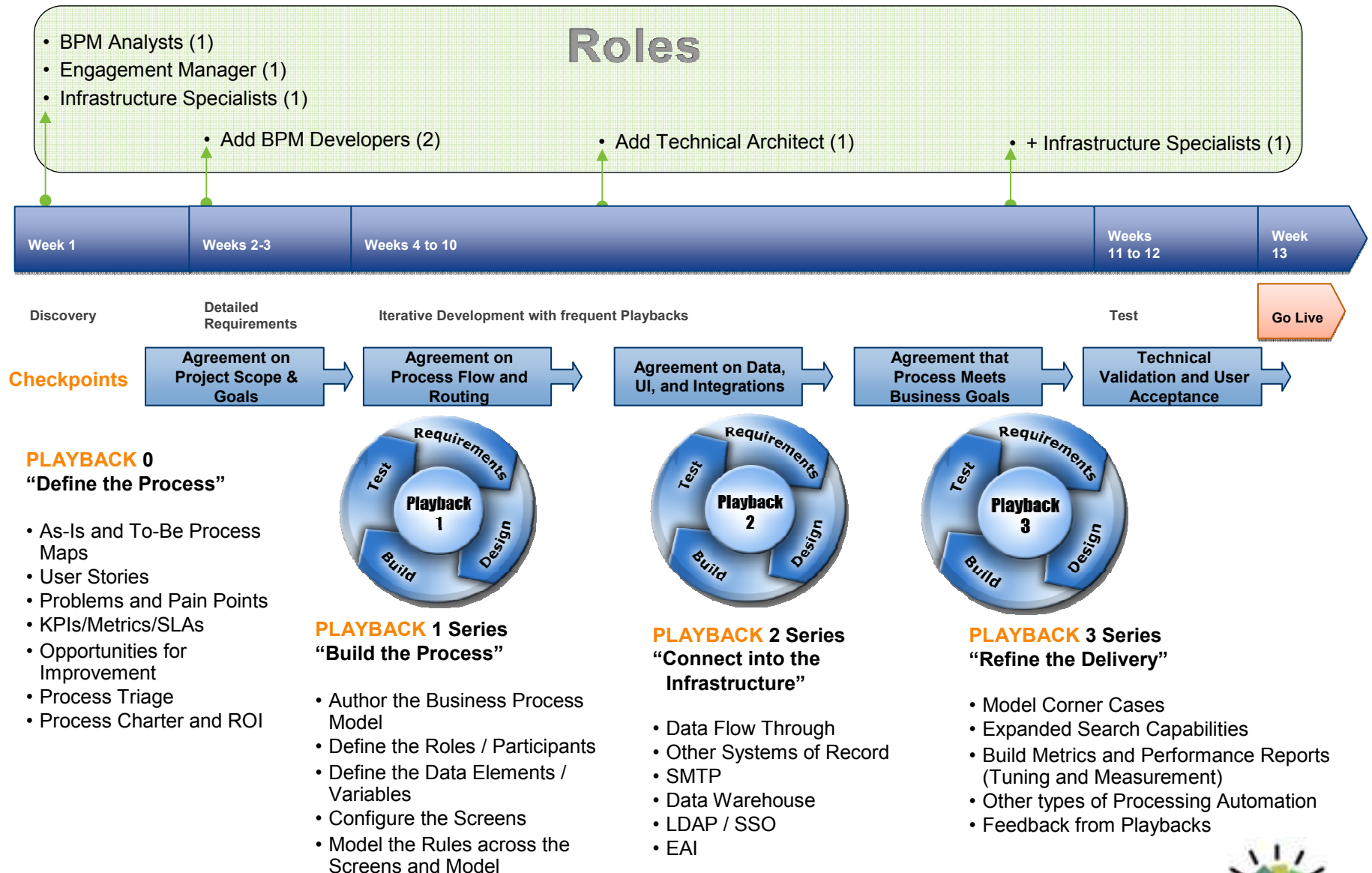
Loan ID	Status	Size of Loan	Associate ID
1000	Error	750,000	Shari Matheny
2000	Processing	10,000	Steve Mackay
3000	Processing	10,000	Steve Mackay
4000	Processing	200,000	Paul Loren
5000	Processing	200,000	Paul Loren
6000	Rescinded	200,000	Paul Loren
7000	Rescinded	200,000	Paul Loren
8000	Rescinded	200,000	Paul Loren



Instrument “Shadow Processes”



BPM Projects from Inception to Production in ~90 Days

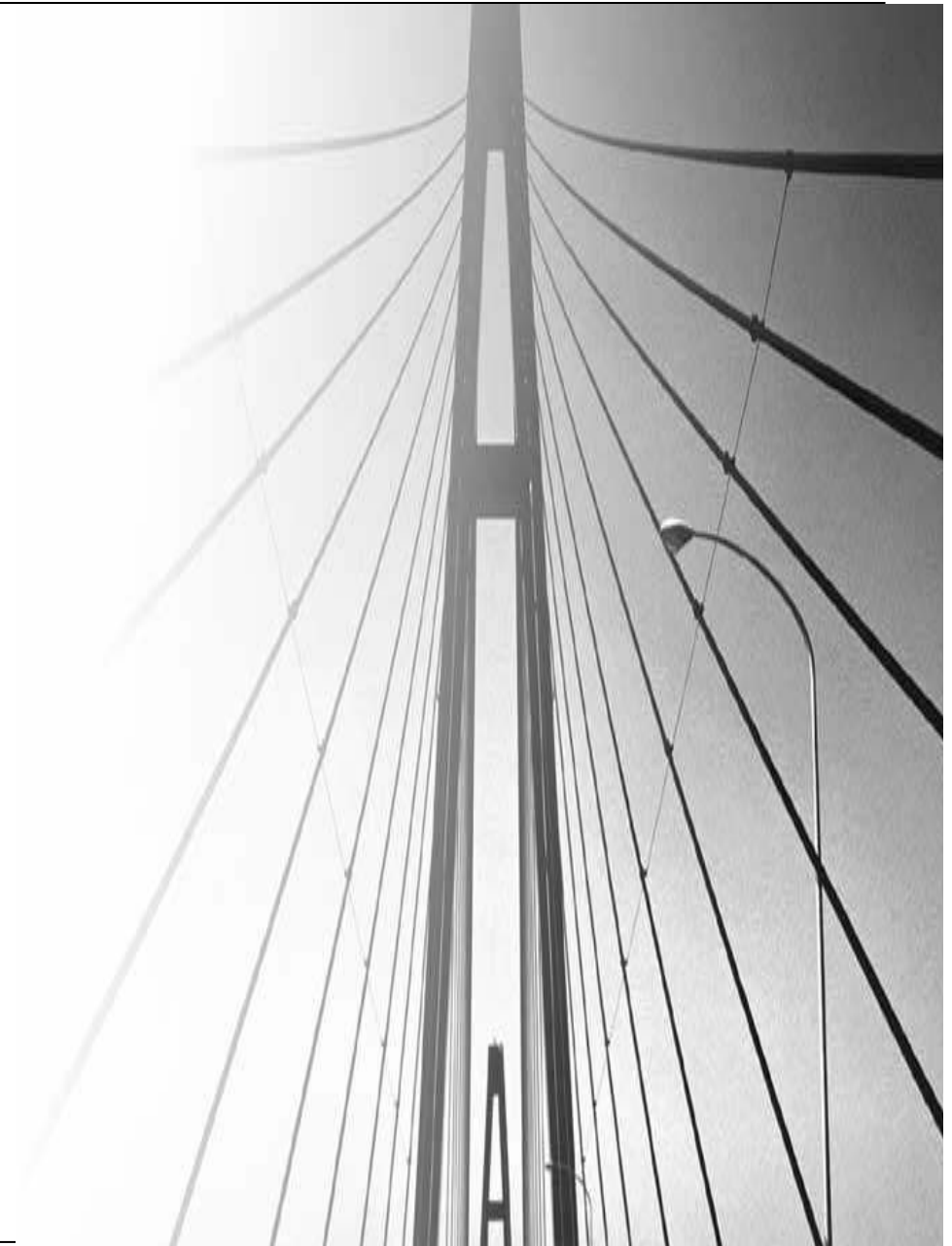


Playbacks = Running the process for an audience of 1+. The main playbacks are for sign-offs of the whole Business+IT team. There are more frequent playbacks, daily/weekly etc., for smaller audiences throughout the project.



Agenda

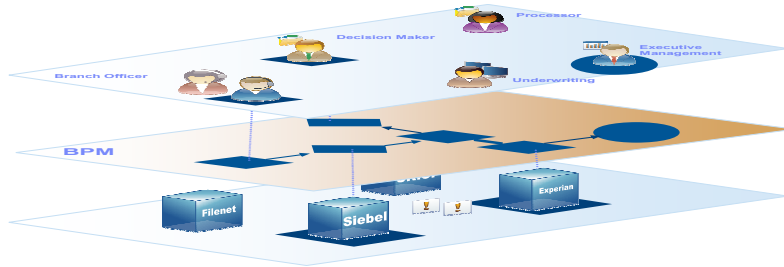
- IBM POV- Dynamics in Banking
- IBM BPM
- ***IBM BPM in Lending***
- IBM BPM Capabilities and Architecture



Lenders are responding to challenges by utilizing strategic levers including process, organizational and technology capabilities

End-to-end Business Levers

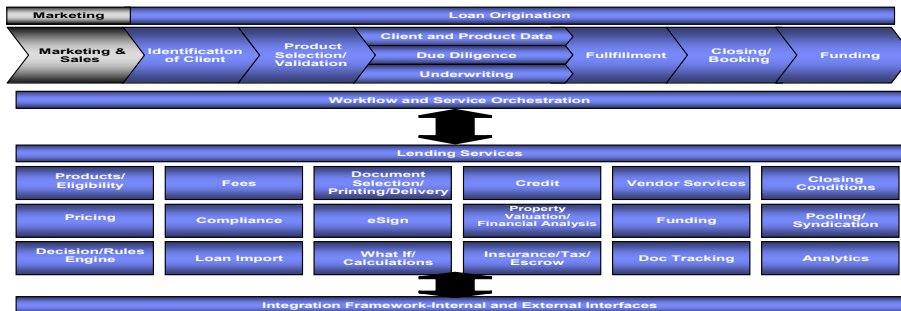
Process standardization and automation



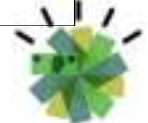
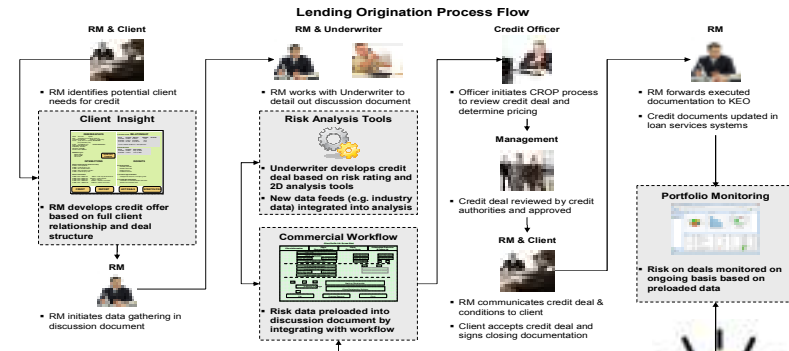
Organizational flexibility

	GBD Planning	Origination	Underwriting	Documentation & Closing	Booking	Servicing
Plan / Direct	Segment Analysis & Planning GBD Technology Planning Event Management	Evaluate Origination Platforms Plan Origination Channel Strategy Evaluate Personnel Profiles / Models	Plan Loan Decisioning Process Evaluate Personnel Profiles / Models	Evaluate Documentation & Closing Processes	Preservation & Retention Policy Definition Process department channels	Multi-channel Servicing Strategy Customer Retention Strategy Organic Cross-Sell
Control / Govern	GBD Governance Monitoring & Regulatory Reporting	Capture Service Tracking & Reporting Legal & Compliance Documentation Policies	Workflow Tracking & Statistics Compliance Tracking Access Protection & Management Credit Policies	Legal & Compliance Requirements Document Quality Assurance Version Control	Regulatory Monitoring File Retention Management	Content Access & Protection SLA Metrics Customer Satisfaction Metrics
Execute	GBD Systems Administration GBD Facilities, Infrastructure, and Operations GBD Security Administration GBD Disaster Recovery GBD Staff Administration	Identify Customer Needs Solicit Loan Offering Prepare / Discuss Term Sheet Collect Customer Documentation Create new customer record and authenticate Evaluate Customer Creditworthiness Loan Recommendation Create Preliminary Loan Packet & Submit Loan Request	Analyze & Spread Financials Review documentation for completeness Determine credit worthiness of applicant Decision deal Loan Committee Approval Customer Communication	Complete Loan Documentation Generate Loan Closing Documents Review Closing Documents Execute Documents Post Closing Review	Perfect Collateral Create new loan account record Disperse Funds Documentation Filing & Archiving	Advances/Borrowing Billing & Payments Loan Maintenance Collections & Recovery Customer Inquiry Research Collateral Release / Payoff

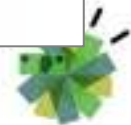
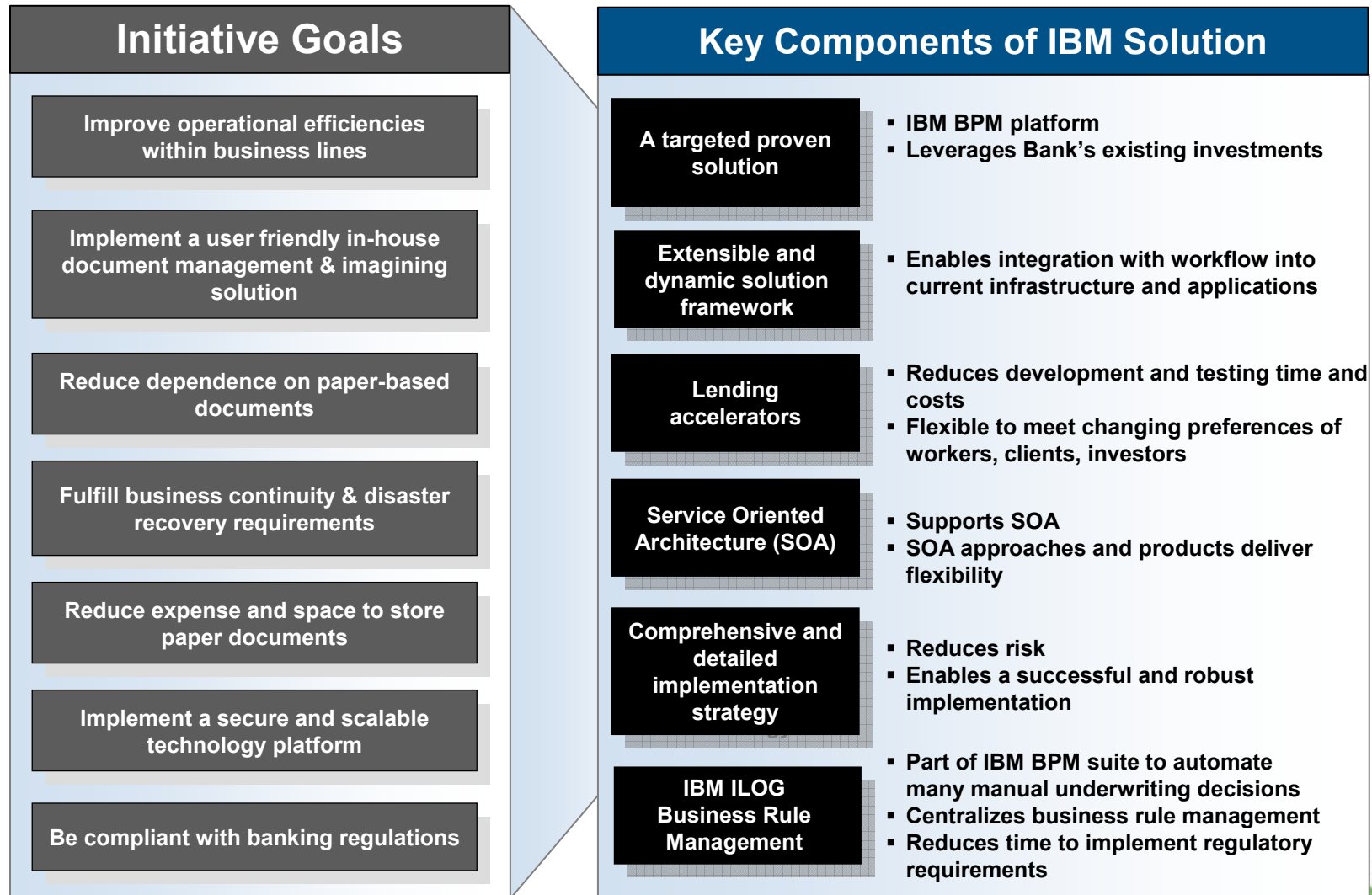
Technology integration



Customer service and support



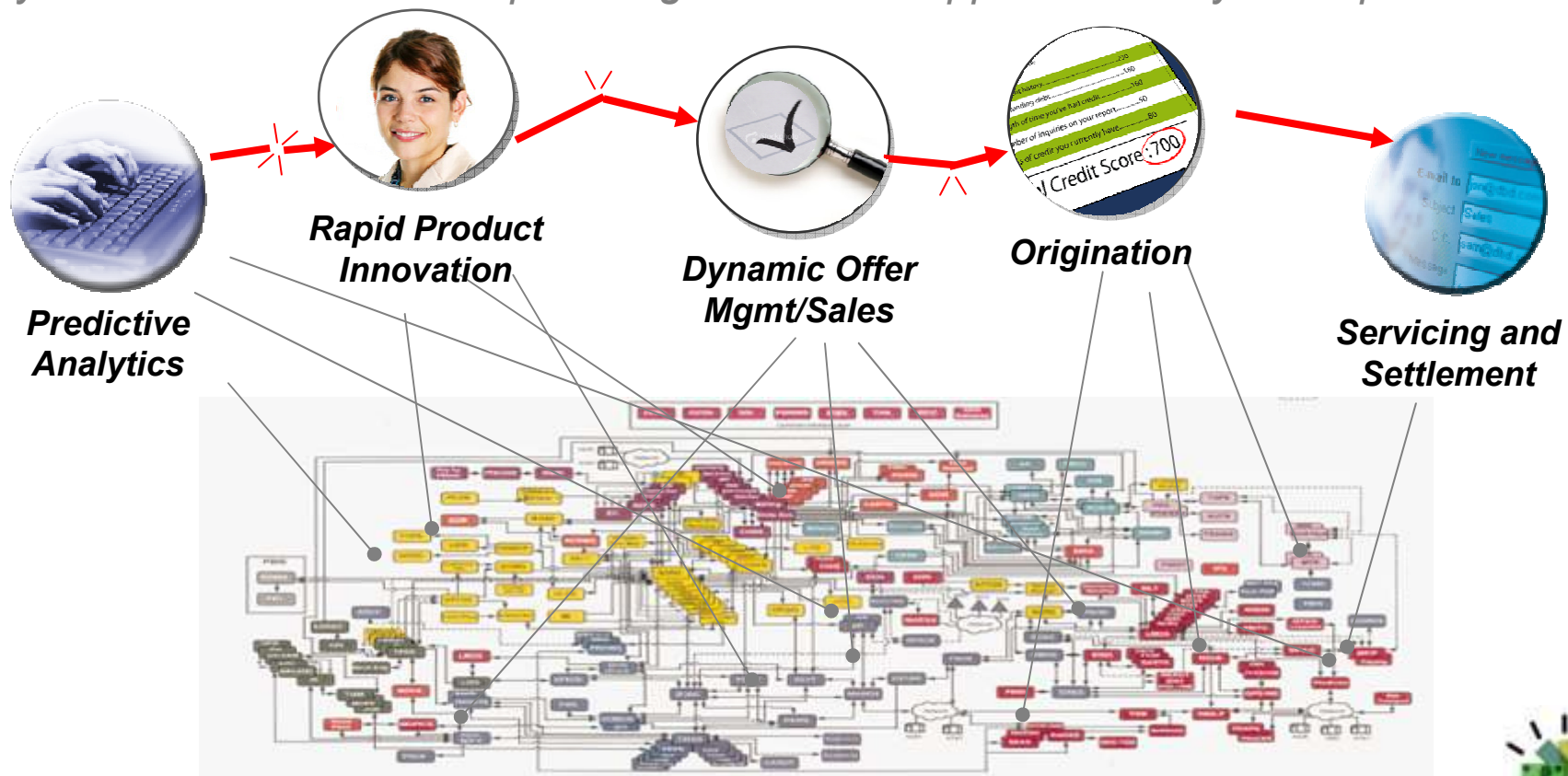
IBM's Smarter Lending Solution Responds to Lenders' Goals



IBM is partnering with our clients to create innovative solutions that will capture the value of their investment in Smarter Lending solutions

Example: Smarter Lending Life Cycle

The current process is complex, inefficient and fragmented across multiple different systems. The benefits of optimizing this can be applied to many other processes.



Three Requirements of Smarter Lending

- Deliver a rich, targeted customer experience
- Achieve truly integrated risk management
- Build flexible process and systems, integrate smarter decisions

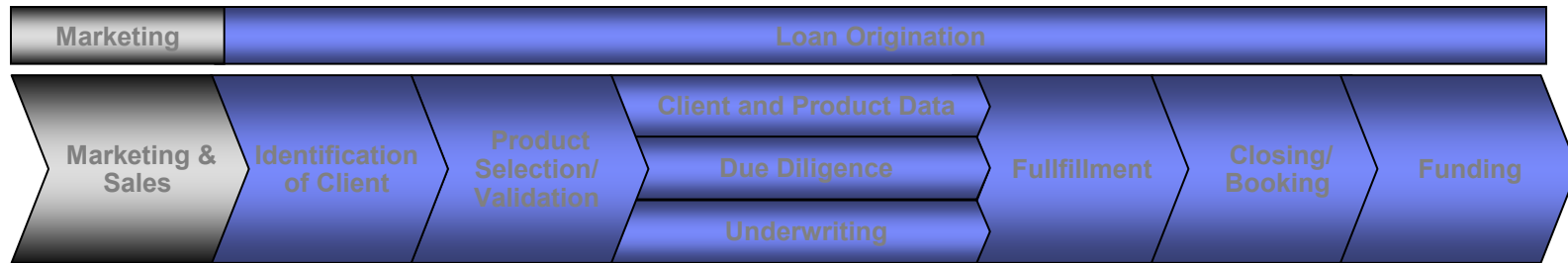
Create Desired Business Outcomes

- Improve product marketing, delivery and customer management
- Optimize account opening through multiple channels to enhance customer experience
- Increase customer acquisition and retention rates at pricing that maximizes profitability
- Improve customer experience with integrated case management and exception processing
- Optimize operational efficiency with STP and process improvement
- Enhance risk and compliance management



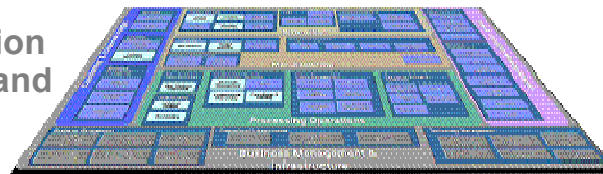
Lender Business Architecture-Origination Example

IBM has developed a flexible and scalable business and technology architecture to support lender origination



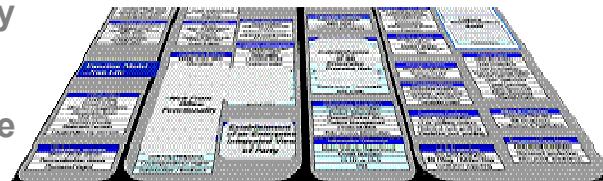
Business Solutions

Best-in-class origination fulfillment processes and capabilities



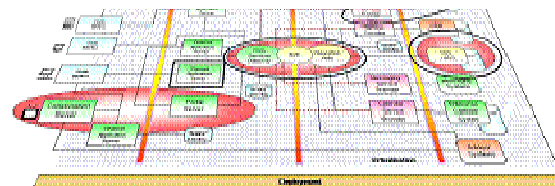
Shared Solution Components

Industry-leading functionality integrated into the lender business architecture using Service Oriented Architecture (SOA) principles

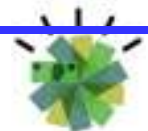


Defined Architecture

Robust, agile and flexible platform for consistent delivery of solution assets



- Automates end to end supply chain
- Fully process and image enabled, straight through processing
- Lower technology costs
- Reduced implementation risks



However, each bank is different.....let's follow two banks on their approach



ZUNO Bank

- Integration and BPM Centric Solution



Regional European Bank

- BPM and BRMS Centric Solution



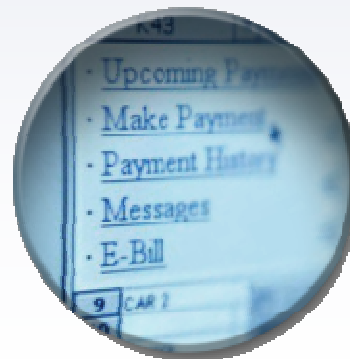
How responsive are you?

- How long does it take to **approve loan applications**?
- How many hours are you wasting asking for **duplicate information**?
- **How many times** does a customer call you for an application status?



ZUNO Bank

- A business-oriented solution with a quick implementation processes
- Increased efficiency in handling voluminous transactions.
- Reduced processing time due to higher automation



Regional European Bank

- Eliminated guesswork and error, which lowered risk and improved customer satisfaction by accelerating time-to-market for product processing.
- 500 percent faster time-to-market for processing products





Zuno Bank is charting their roadmap to agility Leveraging Agile Processes and Rapid Integration

With IBM's help, banks can *And must continue to transform to grow*

Agile processes and decisions

- Optimize the loan origination process, improve efficiency and productivity

Rapid, adaptable integration

- Decrease time-to-value with assets that can be easily integrated into existing infrastructure



Unbounded applications

- Enable reuse of lending services & assets across LOBs, geographies and projects

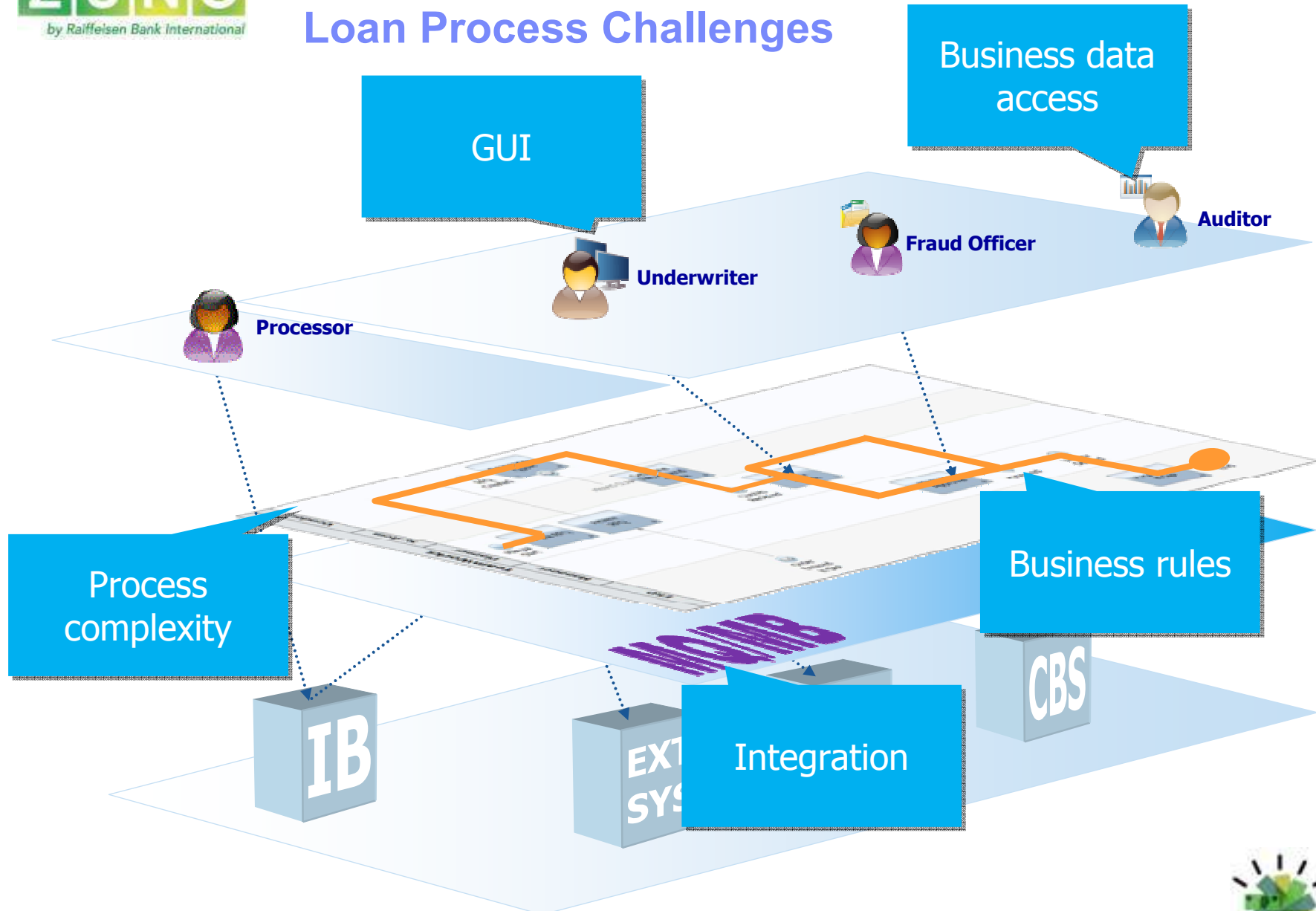
Flexible and intelligent Infrastructure

- Simplify complex existing point-to-point infrastructure that slows new product & service delivery





Loan Process Challenges



ZUNO BANK AG

Dynamic business process management platform to facilitate loan processing.

The need:

Zuno Bank, a Vienna headquartered bank, offers online and commercial banking services for customers who conduct most of their banking on the Internet in the Slovak and Czech Republics.

The bank wanted to build a loan application process, based on a business process management solution to achieve end-to-end process control and higher automation rates.

The solution:

Zuno bank turned to IBM and IBM business partner, MOViLES for a business process management platform built upon IBM WebSphere Lombardi Edition software, WebSphere Message Broker and WebSphere MQ software.

The solution facilitated a robust process flow from an internet originating loan application until the final account opening in the core banking system. The IT environment was fairly complex (internet banking site, several internal and external databases, a business rule management system for credit decisions, a core banking system and a data warehouse).

The benefits:

- A business-oriented solution with a quick implementation processes
- Increased efficiency in handling voluminous transactions.
- Reduced processing time due to higher automation

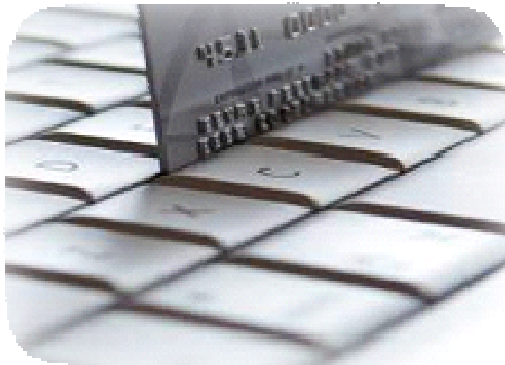
Solution components: Software

- IBM WebSphere® Lombardi Edition
- IBM WebSphere® Message Broker for Multiplatforms
- IBM WebSphere® MQ



Regional European Bank:

500 % faster time-to-market for processing loan products



Situation

- Bank employees were struggling with a 45-page book containing 147 business rules for routing product requests
- Rules changed daily, and it was taking too long to make rule changes and get them into the hands of employees.
- The decision-making process was error-prone and routing product requests took too much time.
- Processing 200,000 non-payments per day, and each one had to go to the manager responsible for that account

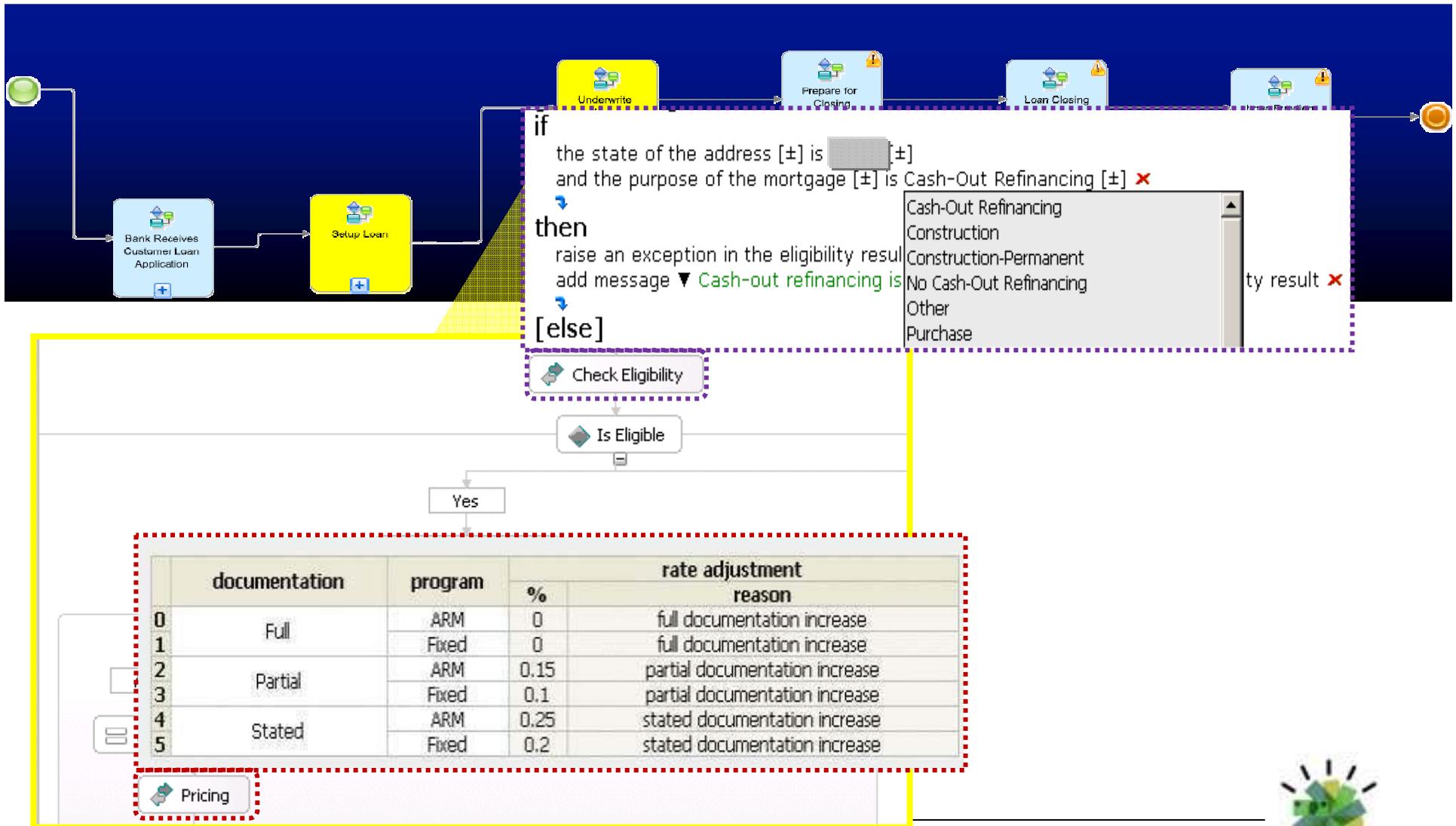
Business Agility

Key Business Outcomes

- **Hours** rather than **days** to implement changes to business rules
- **500%** percent faster time-to-market for processing products
- **14 minutes** per night to execute assignment of **200,000 non-payments** to appropriate managers

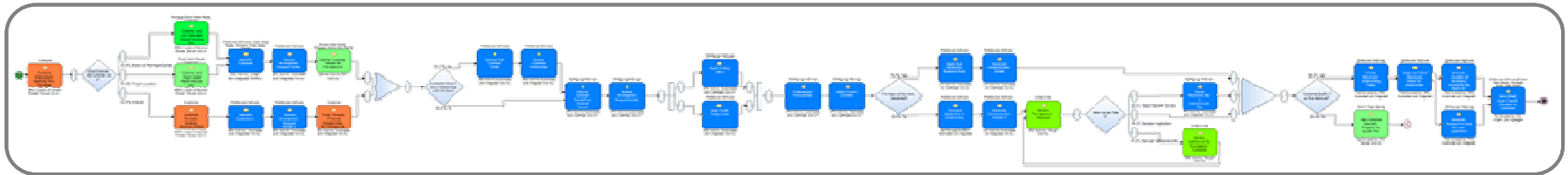
Loan Origination:

500% faster time-to-market for processing loan products



Example Smarter Lending Process Opportunity

Mortgage Pre-Approval Future State Process Vision



Orange: Customer, Green: Lender's Employee, Blue: BPM Software

Key Process Changes

- Shift the focus from digitizing paper in the process, to digitizing the process itself
- Multi-Channel Enabled
- Pre-Approval or Pre-Qualification Happens as quickly as your business rules allow
- Straight Through Processing
- 'Manage by Exception'
- Skill-Based Routing
- Business Dashboards for Monitoring and Process Status Tracking (also Multi-Channel)
- Product systems (in house and 3rd party) are invisible and seamless to users (customers and employees)
- Eliminate paper altogether where possible



IBM offers a complete lending architecture

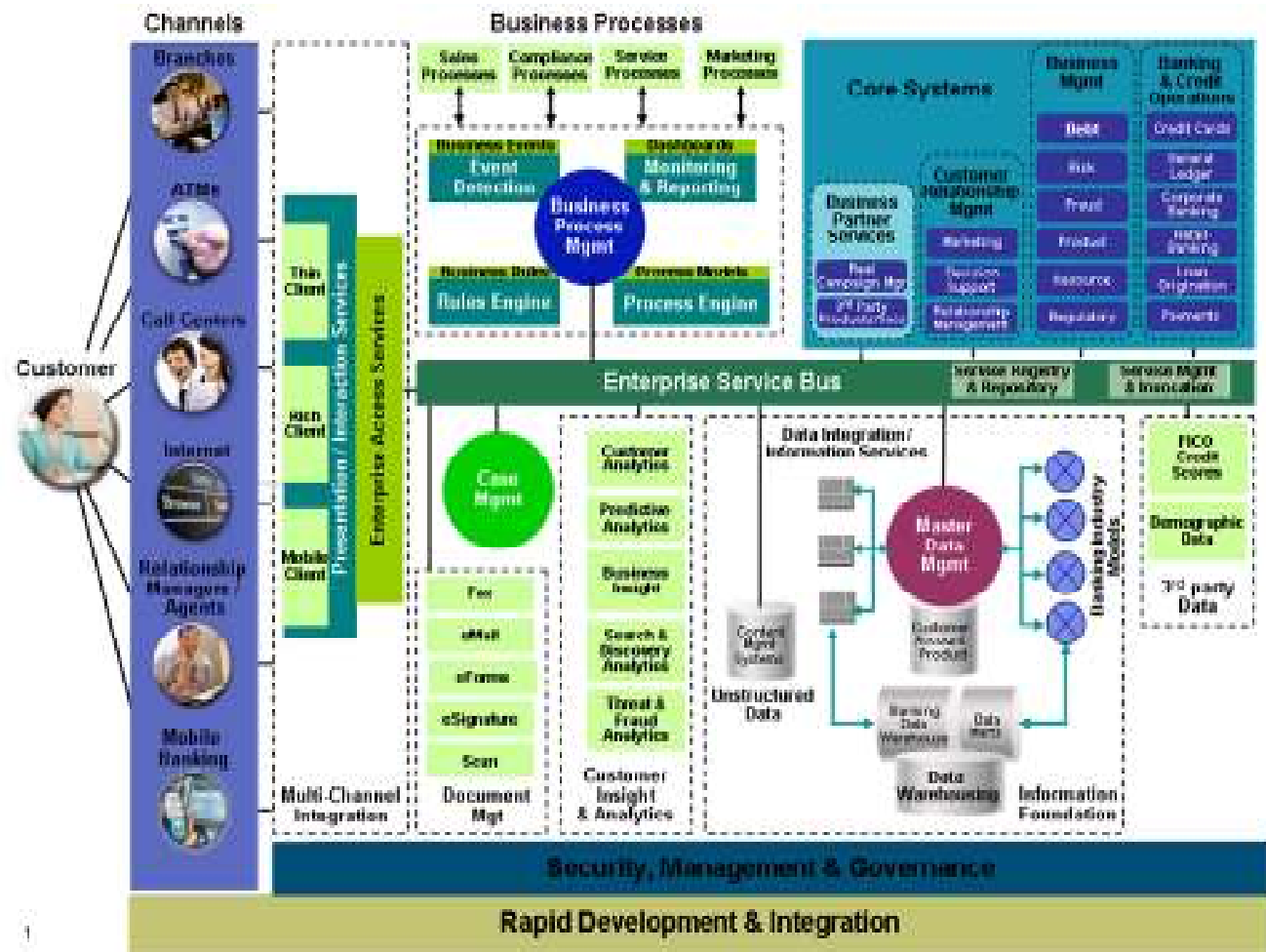
IBM's Smarter Lending supports multiple channels and loan products

Platform Architecture

- Supports access to any involved party based on defined authorizations
- Deliver Status, Pipeline Count, Conditions etc
- Multi-Channel Support

System Functionality

- Rules based decisioning (product, eligibility, risk, pricing) services
- Common Process standardization
- Task based workflow
- E-Disclosure /e-Sign/ e-Delivery Document/content management
- Integrated to Decision Manager and other Core Systems



IBM Capabilities Improve Efficiency and Reduce Costs

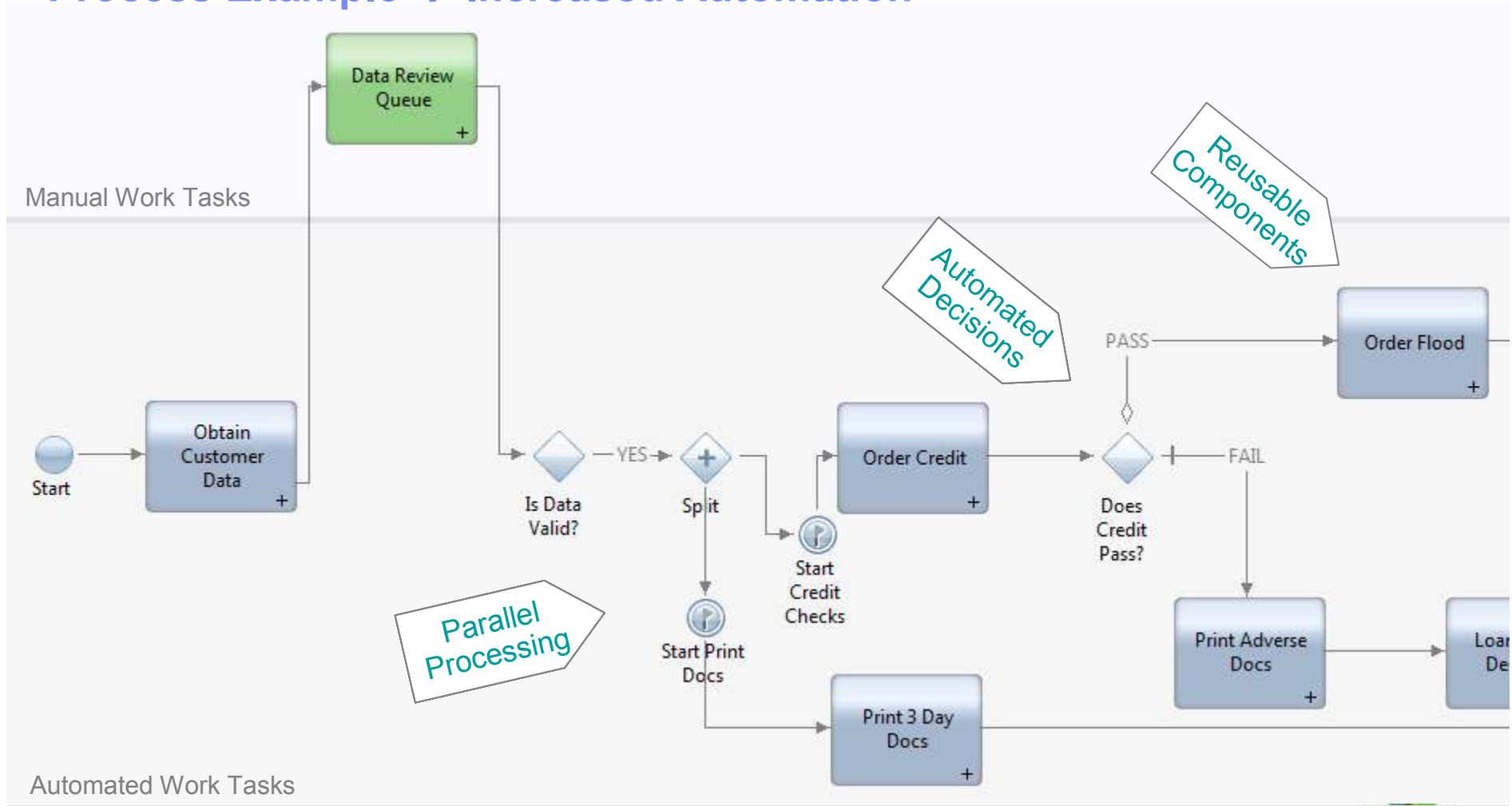
Taking LOS Workflow to the Next Level with BPM

- Business Process Management Adds Efficiency:
 - Integration with Internal Bank Systems to eliminate manual verification of Deposits, Credit Card Accounts, Loans, Stocks, etc
 - Streamline “on us” refi’s by pre-populating all required data from servicing
 - Improved integration to third party providers
 - Extend workflow capabilities and integration between Impact and other LOS
 - Integrate to employee e-mail, calendar, and chat systems
 - Generate cross sell leads for credit card, auto loans, etc. based upon liability or other data in Impact



IBM Capabilities which Improve Efficiency and Reduce Costs

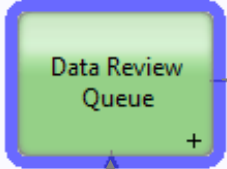
Process Example → Increased Automation



IBM Capabilities Improve Efficiency and Reduce Costs

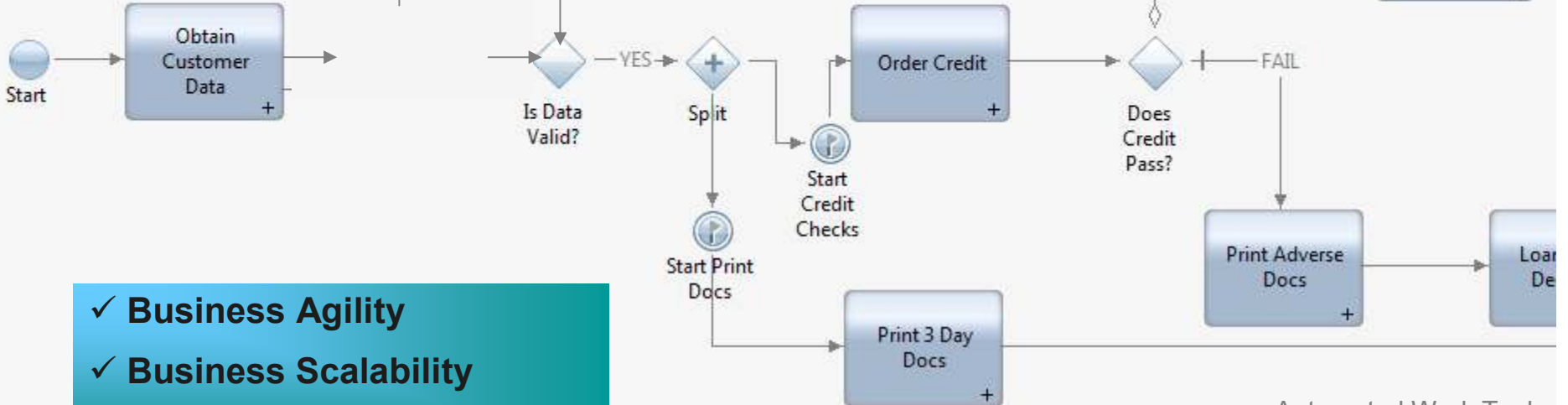
Manual Task reduced from 15 days down to 5 hours

A:0d 05:42:23
B:15d 23:37:57 (+99%)



Type	Implementation
Data Validation Rules	Review
	+ Details
👤	Data Review Queue
★ 👤	Data Validation Rules
👤	Obtain Customer Details
👤	Order AVM
👤	Order Credit
👤	Order Full Appraisal
👤	Print 3 Day Docs
👤	Route To Underwriting

Manual Work Tasks

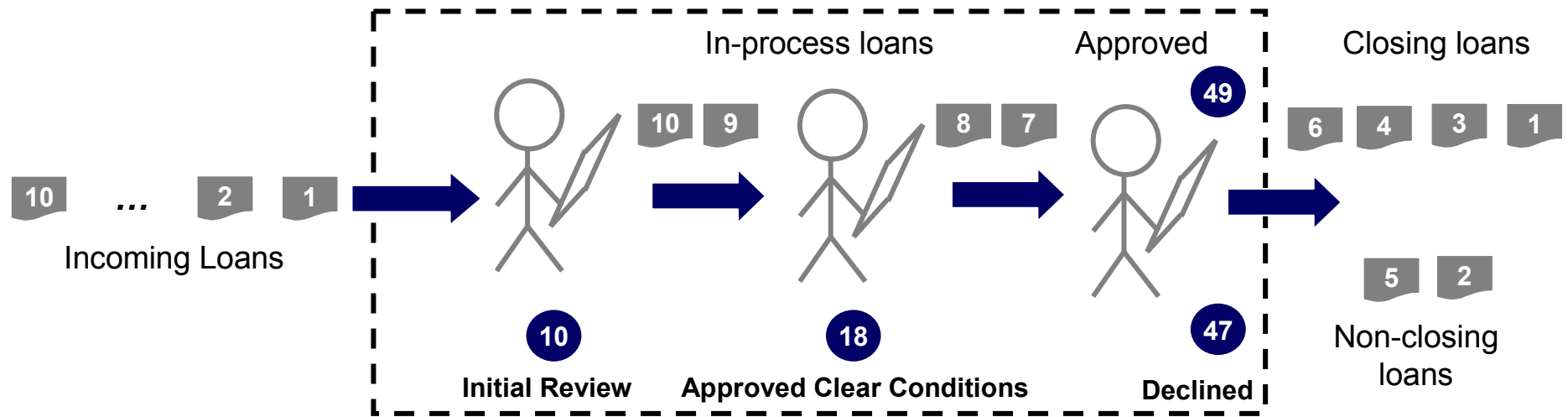


Automated Work Tasks

- ✓ Business Agility
- ✓ Business Scalability
- ✓ Business Transformational



IBM Capabilities Improve Efficiency and Reduce Costs



Objective: Identify loan characteristics that predict likelihood of closing and apply that information to improve pull-through and productivity in loan originations

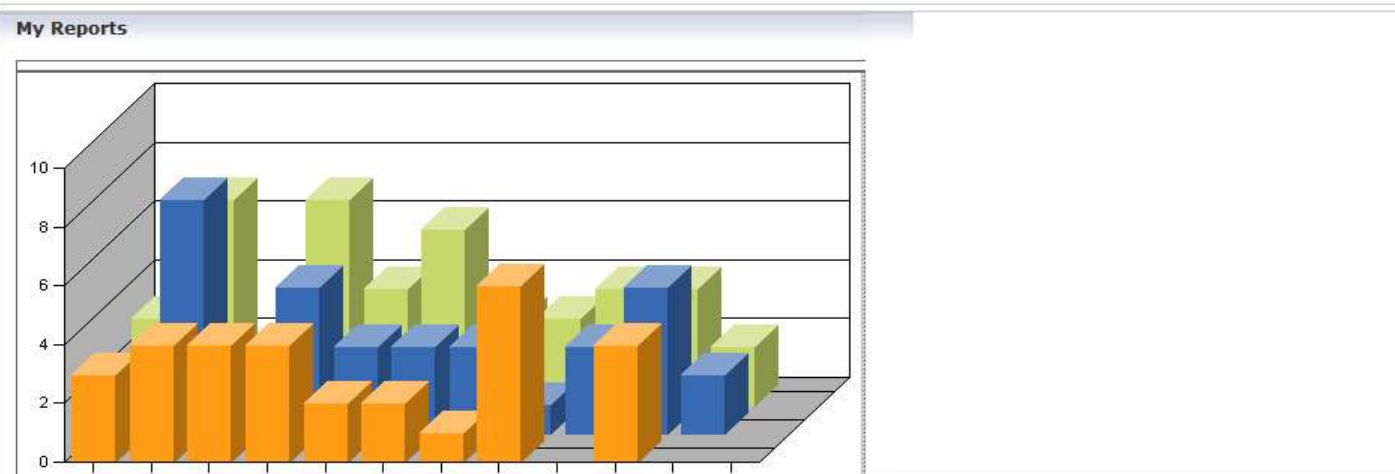
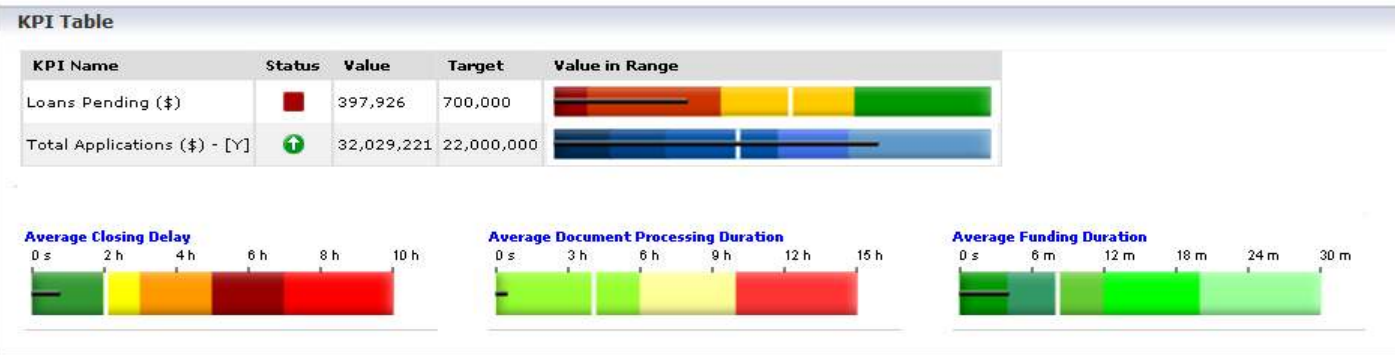
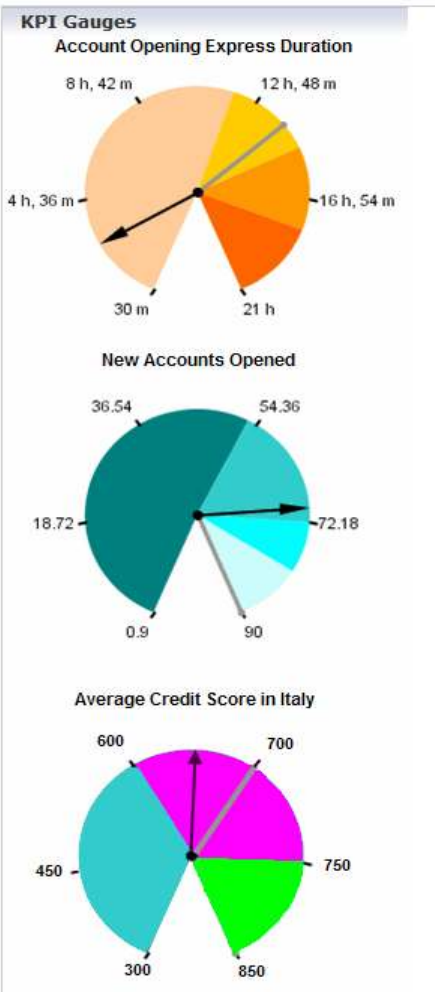
Approach: IBM Research has created a model that ranks loan applications in terms of likelihood of closing

- Analyzes multiple product, customer and process attributes
- Simple and scalable density modeling technique allows consequent “corrective action”

Result: 22-130% performance improvement over un-prioritized work flow



IBM Capabilities Improve Efficiency and Reduce Costs



- Alerted When Key Performance Indicators Approach Tolerance
- Data Helps Pinpoint Troubled Areas – How Do You Repair?



IBM Additional Capabilities Improve Efficiency and Reduce Costs

Objective: Identify, at a loan level, the best time to contact borrowers to maximize RPC Application – Loss Mitigation Department:

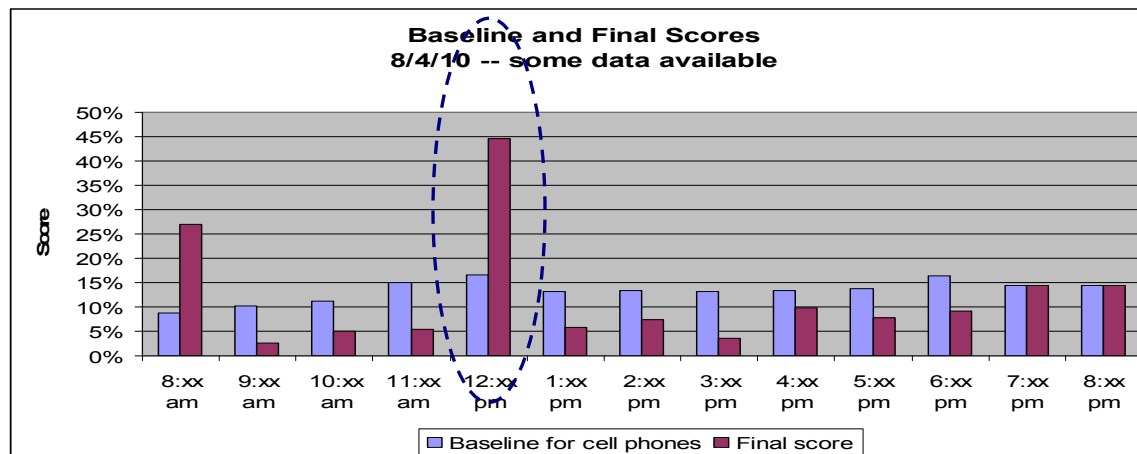
- Manual mode: loan officers will be able to determine the best time to call, given the borrower they want to reach on a given day.
- Given a time instant, loan officers can query which phone numbers have the best success rate of being reached in terms of right party contact and increase loan workout success rates

Application – Contact Center:

- Automated mode: with IVR for a given day, it will schedule a selected set of phone numbers to be dialed out at selected best times to call, to maximize right party contacts

Result: Outbound calling efficiency gain between 20% and 37% and lowered OpEX

Best time to call borrower JD with cell phone number (xxx) xxx-xxxx: 12 -1 PM local time



IBM Capabilities Improve Efficiency and Reduce Costs

Objective: In a multi-channel world, given borrower data, determine the best channel (phone, texting (SMS), e-mail, portal (web-chat), print, (potentially social media), etc. to contact a borrower?



$\text{Pr}\{\text{response}\} = 0.5$



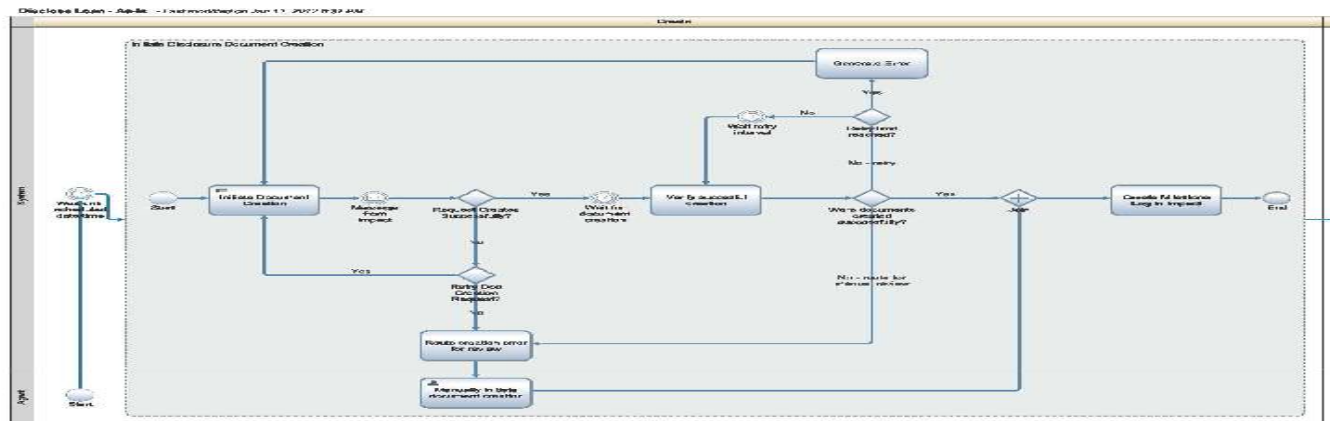
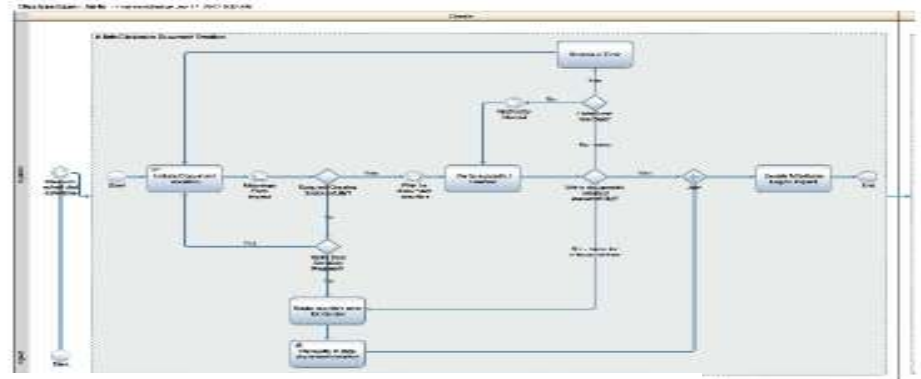
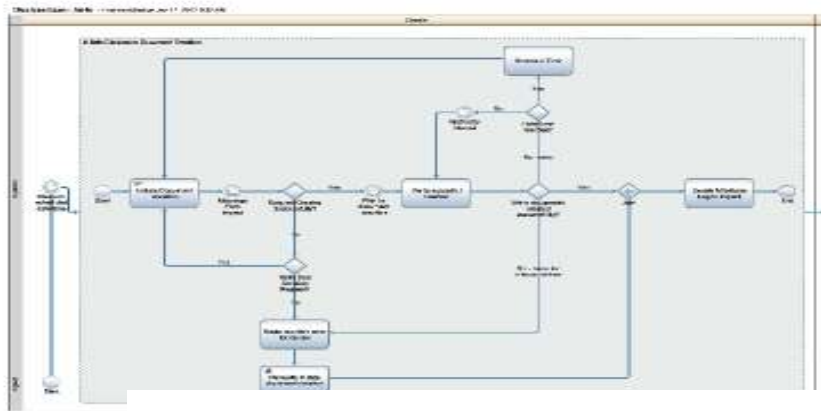
$\text{Pr}\{\text{response}\} = 0.75$

Challenge: Without the knowledge of channel response probabilities, which channels should you try over N attempts to maximize your total number of responses? How well can you do?

Result: We have developed a predictive model using an exploration-exploitation strategy that provides a near-optimal policy to determine the best channel to contact borrowers.



Using BPM to Enhance existing LOS Applications: Loan Disclosure Use Case

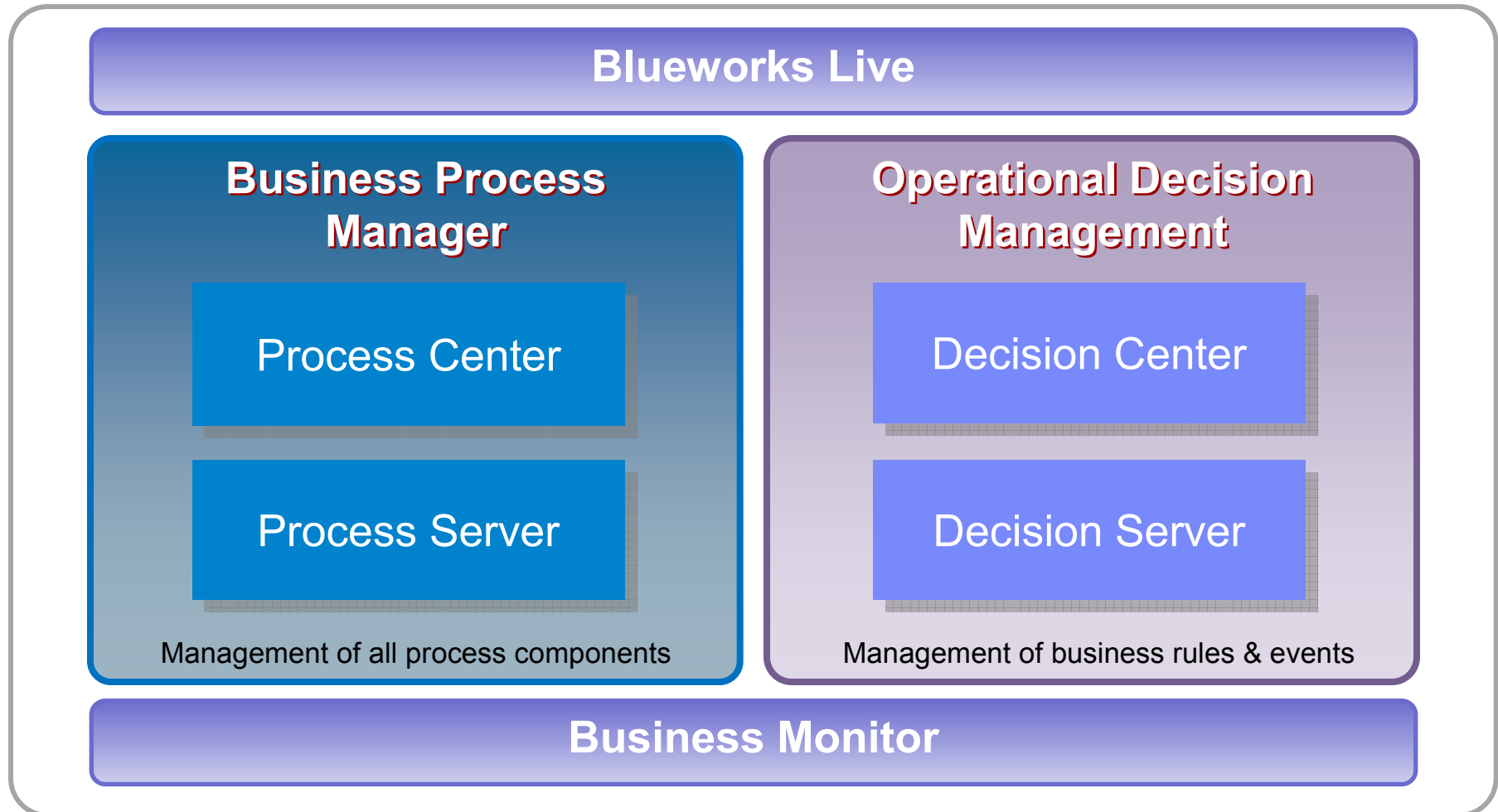


Agenda

- IBM POV- Dynamics in Banking
- IBM BPM
- IBM BPM in Lending
- ***IBM BPM Capabilities and Architecture***



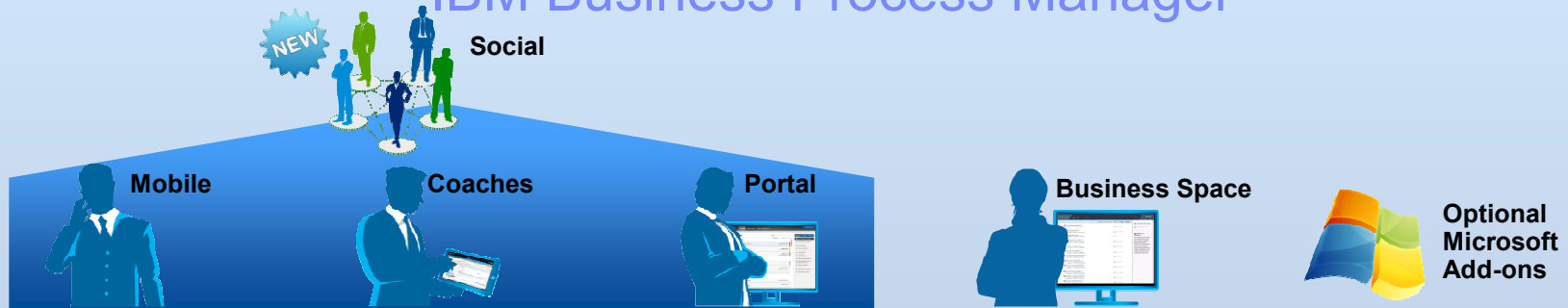
IBM Products for Business Process & Decision Management



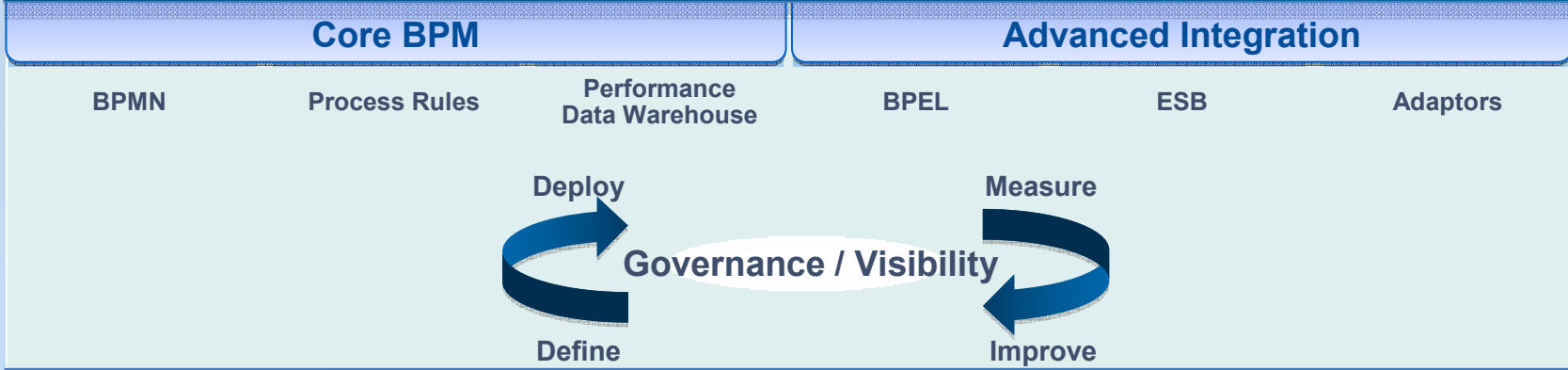
Work together to deliver effective solutions for business operation improvement



IBM Business Process Manager



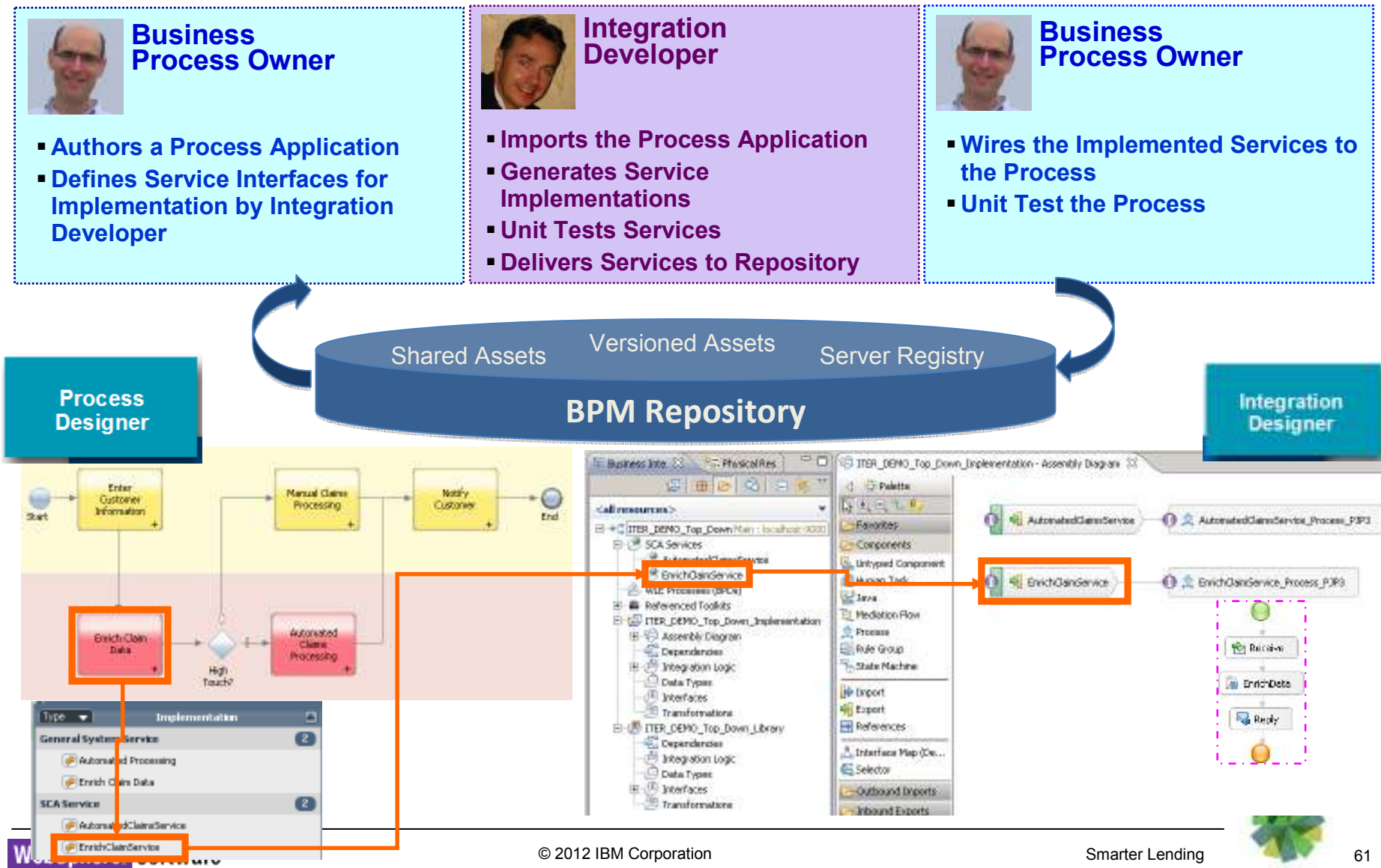
Process Server



Process Center

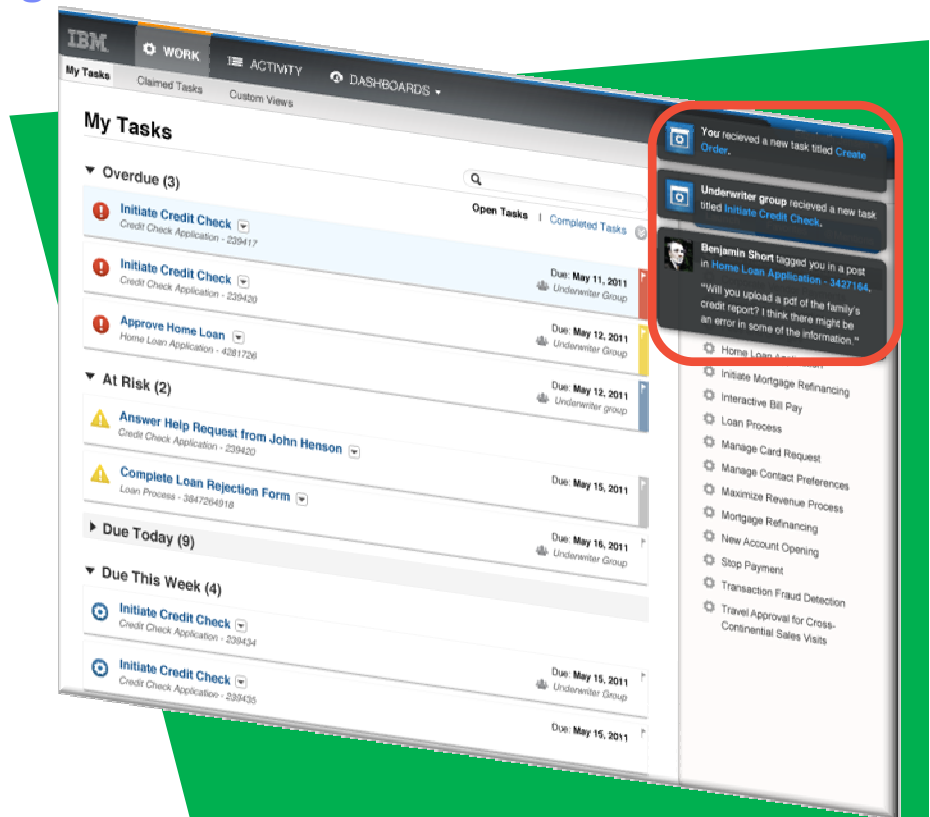
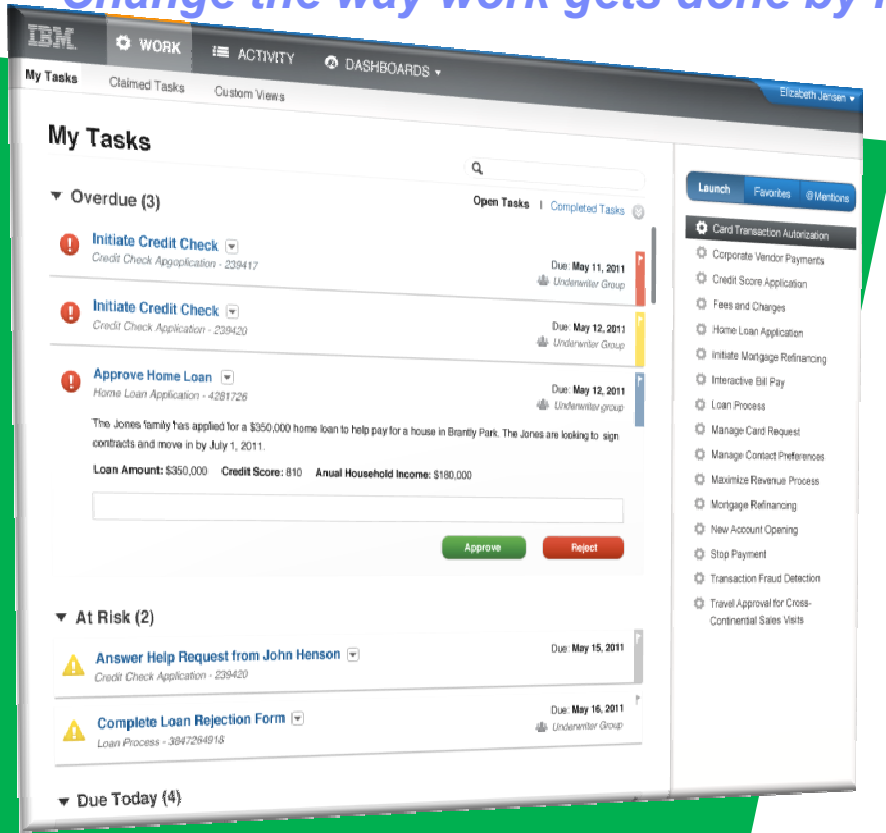


Seamless Collaboration Across Roles



Drive Deeper Business User Engagement

Change the way work gets done by making it social and accessible



Simplify user interactions by allowing "in-line" task completion

Dynamic activity notifications facilitate real-time collaboration and responsiveness

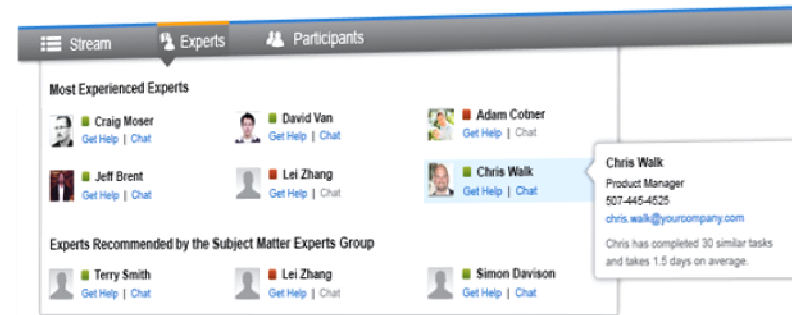
Social Collaboration

Collaboration Breeds Better Results

Easily access and connect with participants and experts

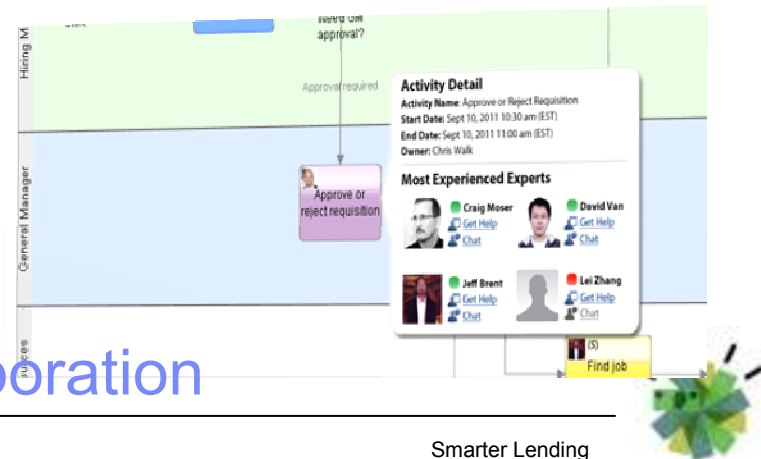
Connect to other Experts and Participants to get help with this task – via:

Coach Toolbar



or

Process Diagram



Social Collaboration

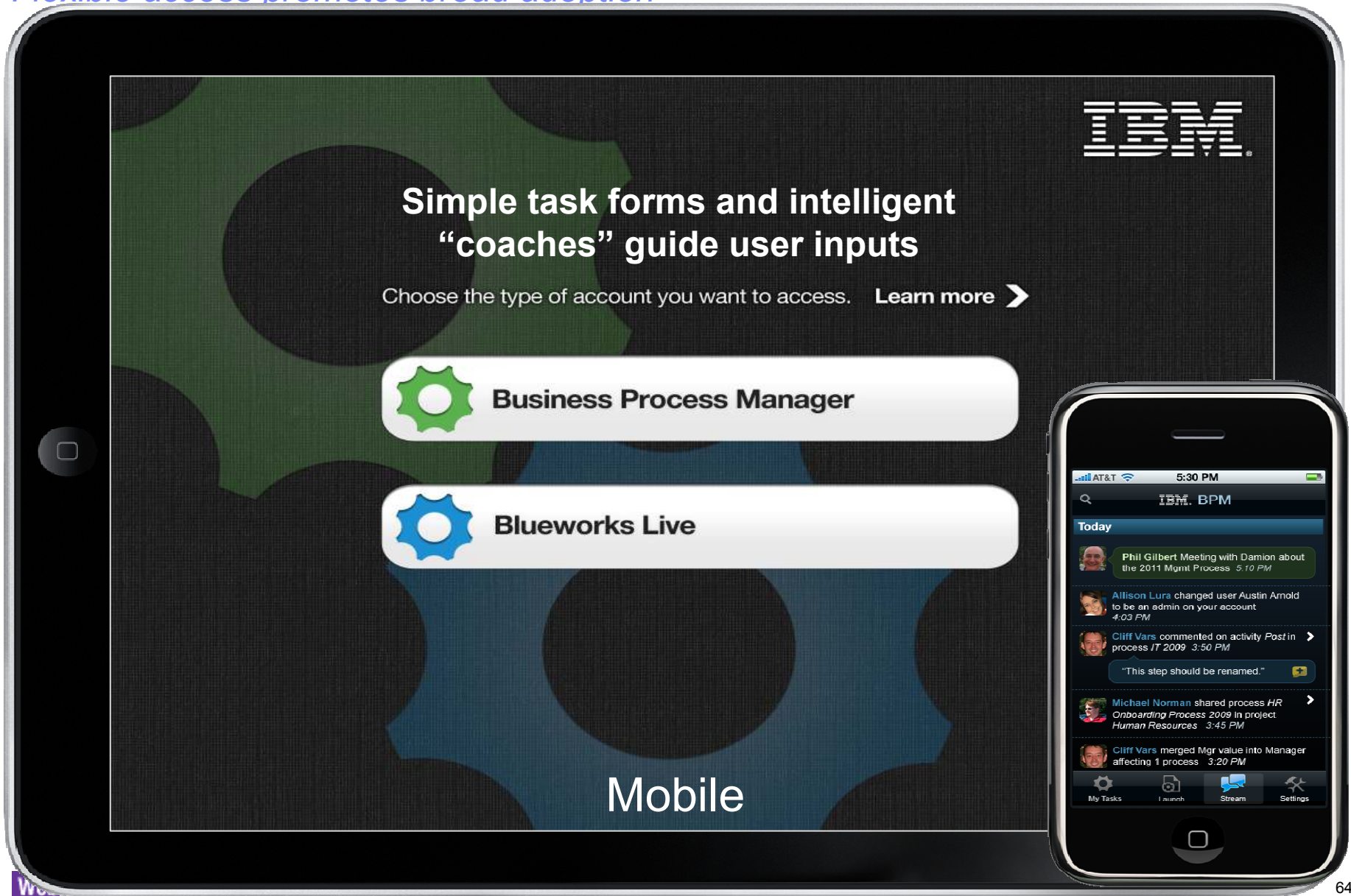
Interact with other Participants via Stream of comments and attachments for process instance

The screenshot shows a social collaboration stream with three main entries. The first entry is from Bob Cox, asking for help with a candidate's educational background. The second entry is from Craig Moser, attaching a 'Jamie Hue Resume.pdf' and asking for thoughts by 5 pm. The third entry is from Adam Cotner, asking for help with an overdue instance. A system message at the bottom indicates the instance is now overdue as of Thursday, 8 August 2011.



Empower Business Users by Extending Access to Mobile

Flexible access promotes broad adoption



End Users View and Interact with Documents from Any ECM Repository Using CMIS Standard

TitleName	IMM Type	Version ID	XYZ_AdjustDate	XYZ_AdjustName	XYZ_AdjustName	XYZ_ClaimNumber	XYZ_PolicyNum
A18818A18888380918188	image/jpg	1	2001-01-31	Michael	Road	8-007654	18452130412
A18818A18888380918188	image/jpg	2	2001-05-07	John	Johnson	5-054123	18315875388
A18818A18888380918188	image/jpg	1	2001-08-01	Catherine	Green	4-052309	18285285418
EC000	null	1	2016-10-24	Johnny	Crow	1234	6678
EC000	null	1	2016-10-24	Johnny	Crow	1234	6678
EC000	null	1	2016-10-24	Chakly	White	1234	6678
EC000	null	1	2016-10-24	Chakly	White	1234	6678
AAAAA@desuper-414.xml	null	1	2016-10-25	Michael	Lastname	1234	66788
DH1 Report for 6.1.0 HF28.pdf	application/pdf	1	1975-01-11	Robb	Fingers	909090	171717
ECM APs guide.pdf	application/pdf	1	1978-01-23	Mayin	Balk	090909	717171
AAAAA-cal.jpg	image/jpg	1	1909-12-31	Jackie	Gleason	50505050	70707070

CMIS = Content Management Interoperability Services

- View a list of existing documents
- Add a new attached document
- View a document in the Coach
- Open a document in its own window



Push your BPM initiative to the next level, *into the cloud*

The discipline of business model agility demands an agile infrastructure

Gain the simplicity, visibility, governance and power of the **IBM Business Process Manager** BPM platform without sacrifice

Kick off that ever important initial BPM project within **minutes** by turning to the **Smart Cloud**

Leave the **complexity** of your infrastructure up to IBM while maintaining **flexibility** level agreements required by your business

Bring your **business processes**, you can now take resource constraints out of the project to program roadmap and you can focus on



How to Get Started on the path to Smarter Lending

BVA Case

Current Process Challenges

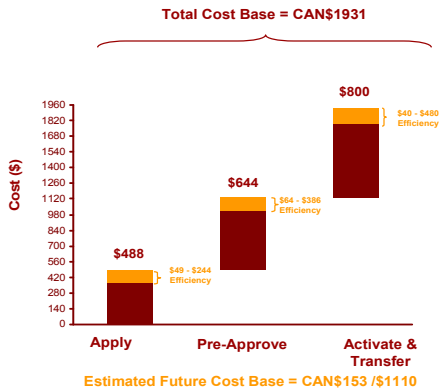
After evaluating the current mortgage origination process, we have identified the following challenges:

- Revenue Growth** – Mortgage sales goals and objectives are increasing and HSBC does not have the operational capacity to continually keep pace with increasing revenue targets.
- Shorter Process Cycle** – Current process cycle is time intensive; takes longer than industry averages and has a large amount of manual hand-offs.
- Process Control** – Front-end processing has few control points (*i.e.*, no triggers or controls) to track applications, view application status or identify bottlenecks and impediments.
- Systems Integration / Operational Efficiency** – Current process is very time intensive; requires up to twenty-five days to fund mortgages and has little systems integration, internal controls and process management.
- Relationship Management** – HSBC has two types of customers to satisfy – the broker and the mortgagee. The experience of both should be responsive, uncomplicated and pleasing.
- Know Your Customer (KYC)** – HSBC has a need to continue its development of a single view of customer to integrate all customer data into a single repository.
- Document Management** – Current environment is paper intensive, requires a great deal of re-entry and incurs excessive administrative costs.

Implications & Best Practices

Industry Costed Operating Inefficiencies in the MO process

Cost per New Mortgage Origination
Based on Total cost of mortgage on the book



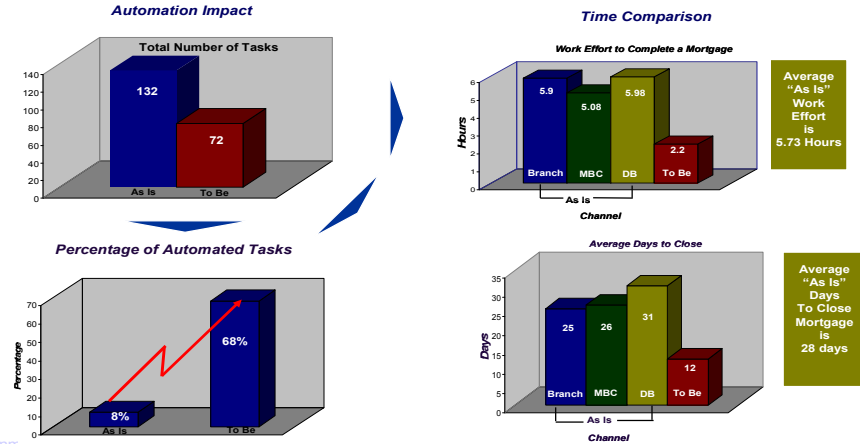
Savings Explanations

	Apply	Pre-Approve	Activate & Transfer
Efficiency Savings (\$)	\$49 – \$244	\$64 – \$386	\$40 – \$480
Efficiency Savings (%)	10% - 50%	10% - 60%	5% - 60%
People 22% of total savings	Automated task completion through rule based workflow	Automated task completion through rule based workflow	Automated task completion through rule based workflow
Process 6% of total savings	Collect data once Auto distribute product/price info	Collect data once Auto distribute product/price info	Collect data once Auto distribute product/price info
Technology 72% (Interlock with process)	Integrated automated price lock	Automated 3 rd party integration Electronic transport of data Smart doc. validation	Electronic fund mgt through wire transfer

Total Efficiency Savings Estimates represent \$153 to \$1110, corresponding 8% to 57% total savings from identified improvements

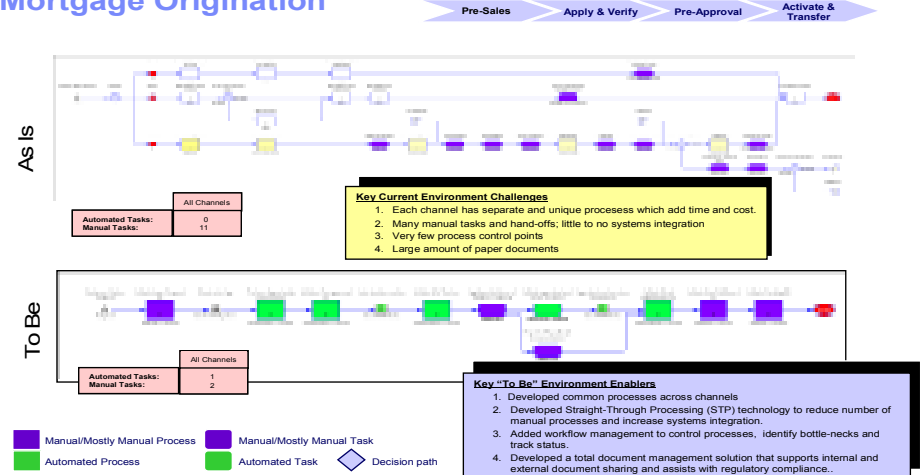
Value analysis from the review

Identified Benefits from Automating Processes



Key environment

Mortgage Origination



Source: CAFI – Australia – Benchmark review 2002, IBM Analysis



How to Get Started on the path to Smarter Lending

Partner with IBM on a Process Improvement Discovery Workshop

A complimentary 2.5 day workshop to help you evaluate a banking process improvement initiative

Read more...

<http://www-01.ibm.com/software/websphere/products/business-rule-management/lombardi/workshop/>



IBM Process Improvement Discovery Workshop

Quick Win Pilot for Business Process and Decision Improvement in Lending

Deliver measurable business results in 10 weeks or less
[Quick Win Pilot](#)

