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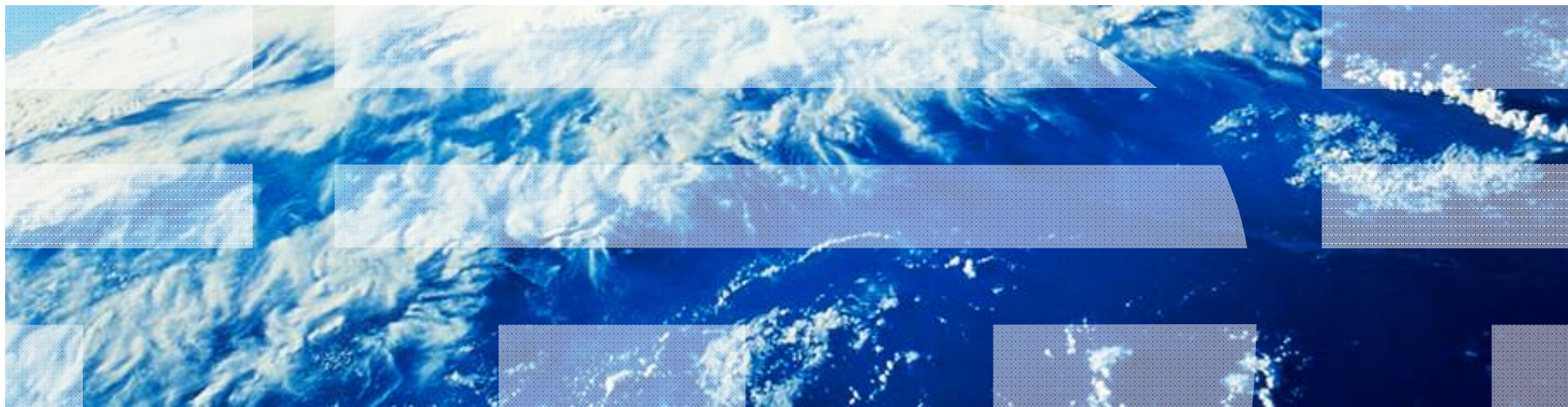


University of Zurich



Enterprise IT Architectures

BPM (Business Process Management)





Introduction



Agenda of this Part

- **Business Process Management (BPM),
a relatively new approach in IT**

- **Key is:**
 - **Business Processes can be captured in models and visualized in
Business Terms
(Activity, Task, Participant)**
 - **Business Processes are automated using process models for
execution**
 - **Integration with existing applications through interfaces and
services**



BPM Introduction



The New Normal: Change, Complexity, Uncertainty

\$488 billion

Lost in process inefficiencies in Fortune 500 companies

\$534 billion

In mobile transactions by 2015

85%

Of enterprises use external cloud services

50%

Of businesses plan to adopt more collaborative sourcing models

70%

Of businesses outsource one or more strategic activities

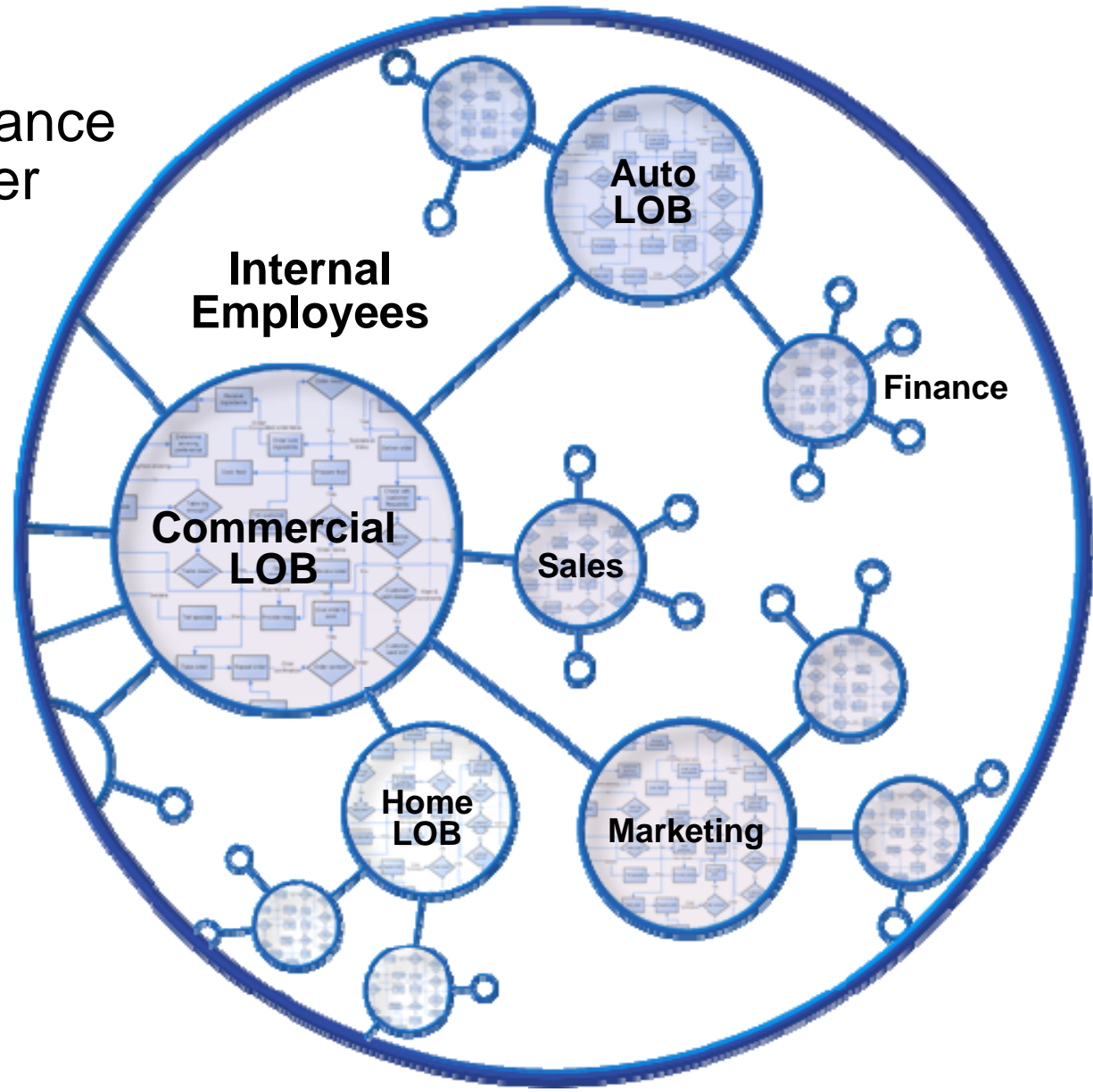
50 billion

Devices connected to the Internet by 2020



Complexity exists internally within organizations.....

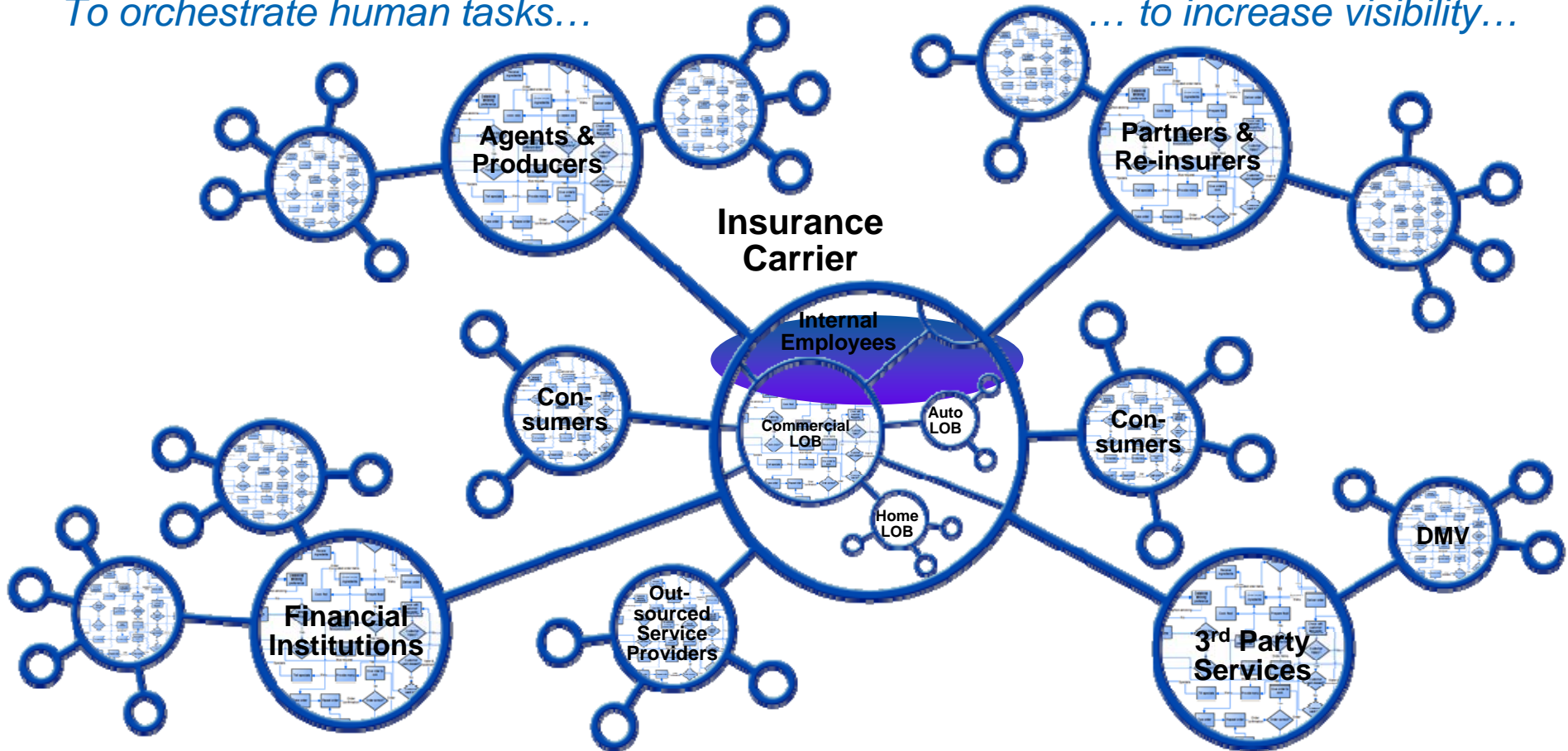
Insurance
Carrier



....and externally within the broader business network Companies need end-to-end process management

To orchestrate human tasks...

... to increase visibility...



... to manage exceptions and cases...

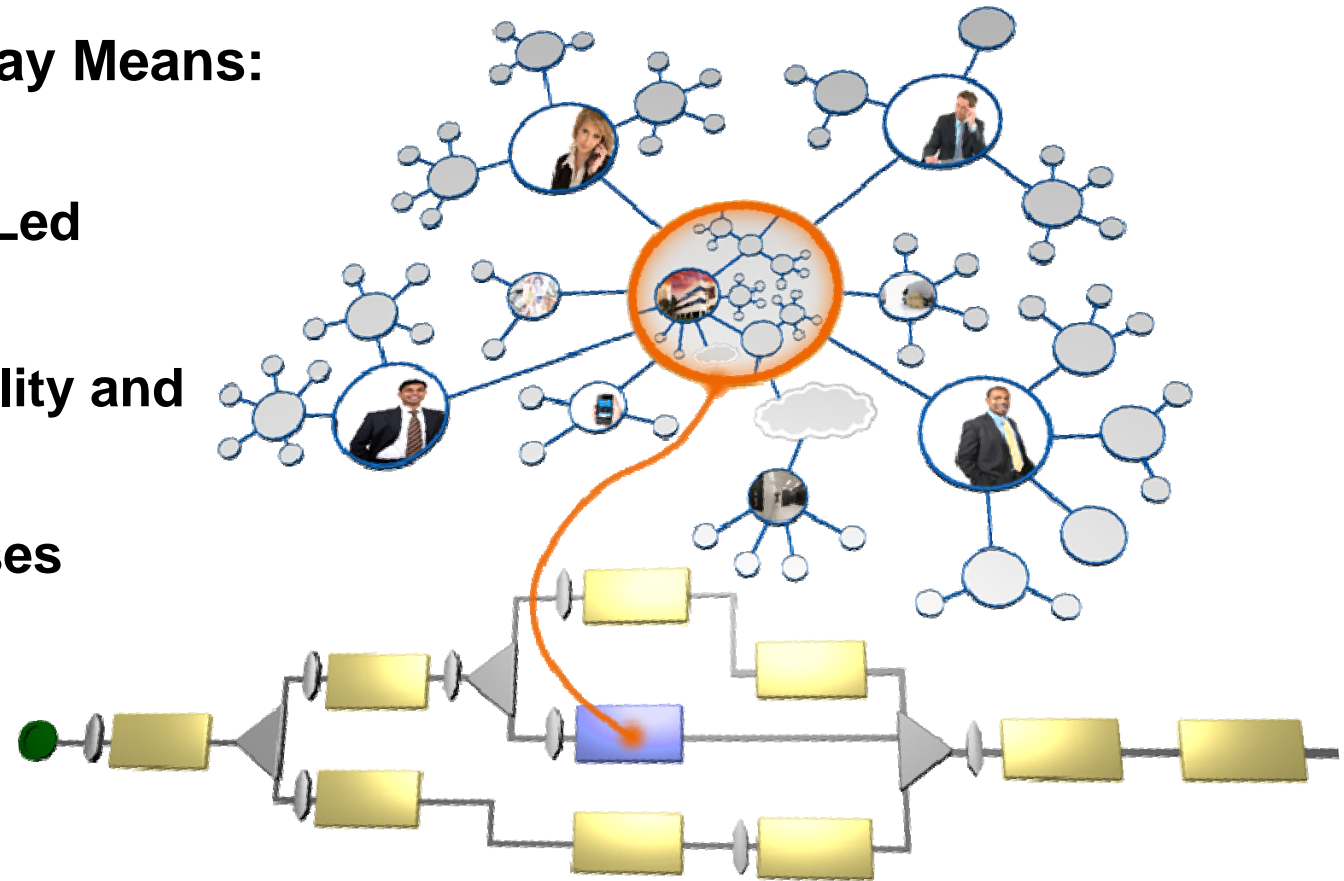
... and for scalable transactions...

... everything you need to manage end-to-end business networks

Can Your Processes Handle Change, Uncertainty and Complexity?

Transformation Today Means:

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



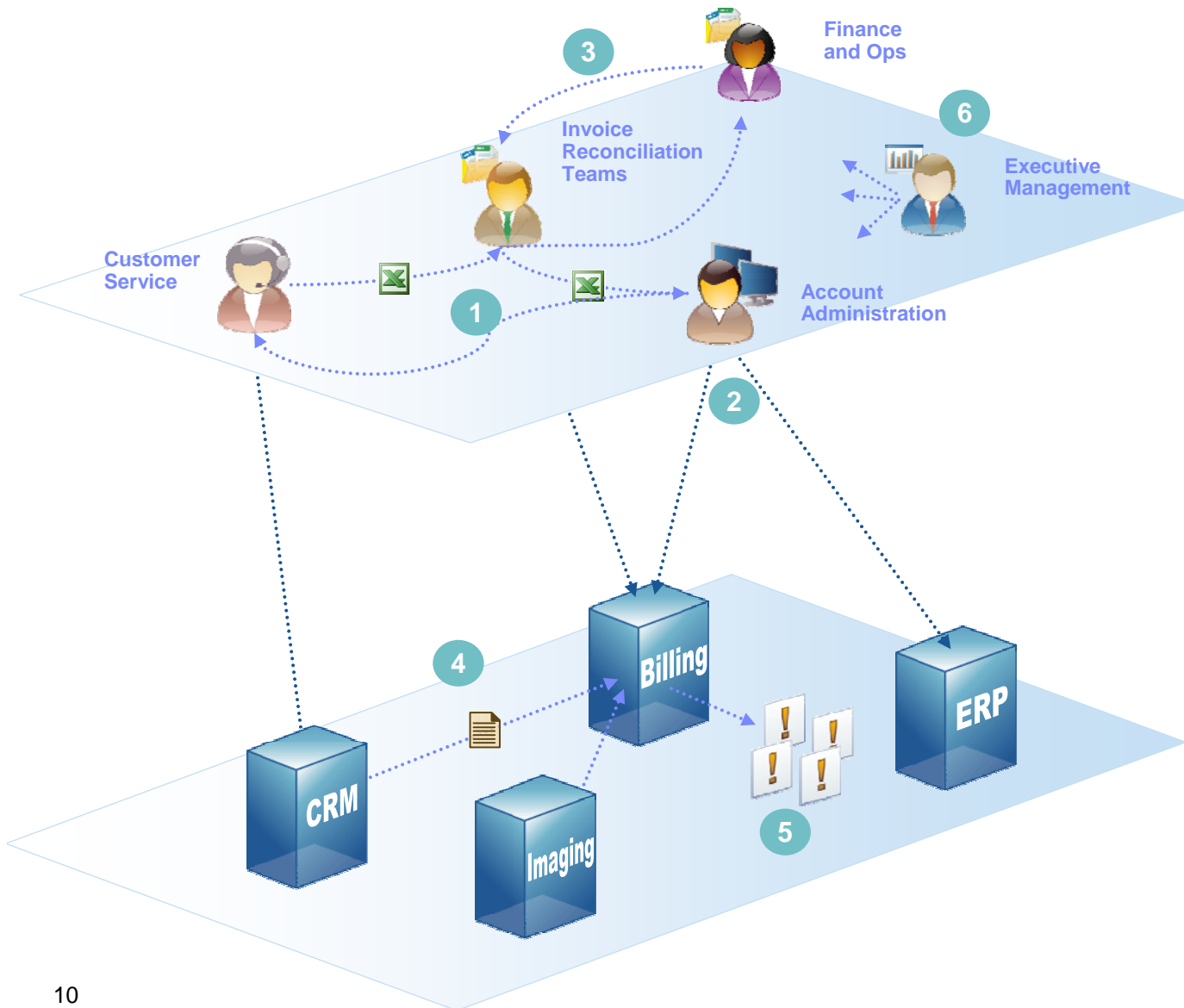
Agile Processes and Decisions with Business Process Management



BPM Architecture



Root Causes of Business-Driven Processes Problems

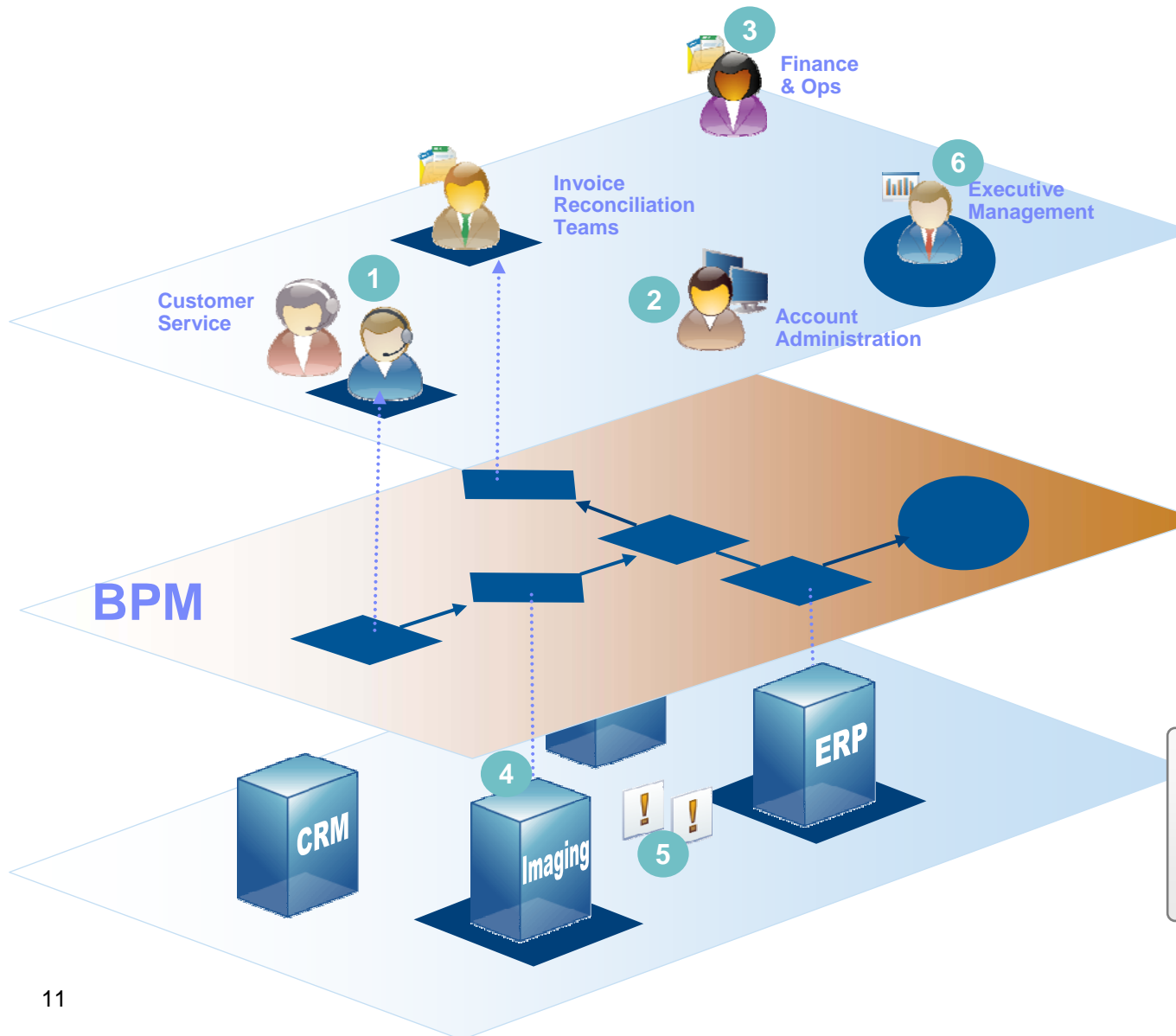


1. Informal Tasks and Communication (ex Paper or email)
2. Inefficient Working Environment Spans Systems
3. Inconsistent Prioritization
4. Incomplete or Inaccurate Data Flow Between Systems
5. Lack of Control Over System and Business Events (Exceptions)
6. Poor Visibility Into Process Performance

Business Pains:

- Cannot Grow Efficiently
- Customer Satisfaction

BPM Delivers a Layer for Control and Visibility

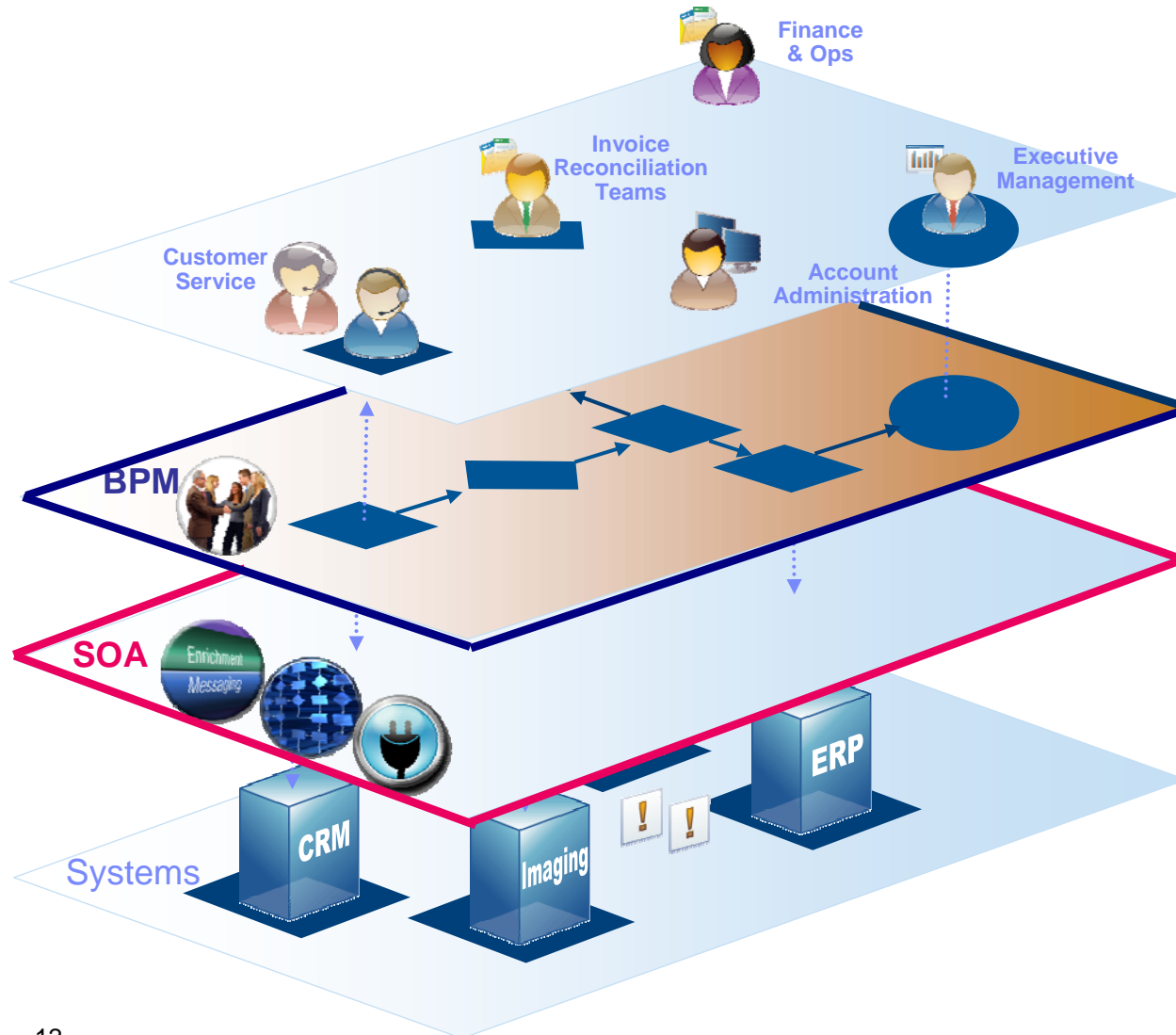


1. Automatically prioritizes and routes work
2. Guides users through decisions
3. Standard and consistent work prioritization
4. Leverages exiting system data Systems
5. Reacts to business events and generates actions
6. Real-time visibility and process control

Benefits:

- 80% Reduction in Manual Interactions
- Faster Issue Resolution

BPM Leverages SOA Infrastructure



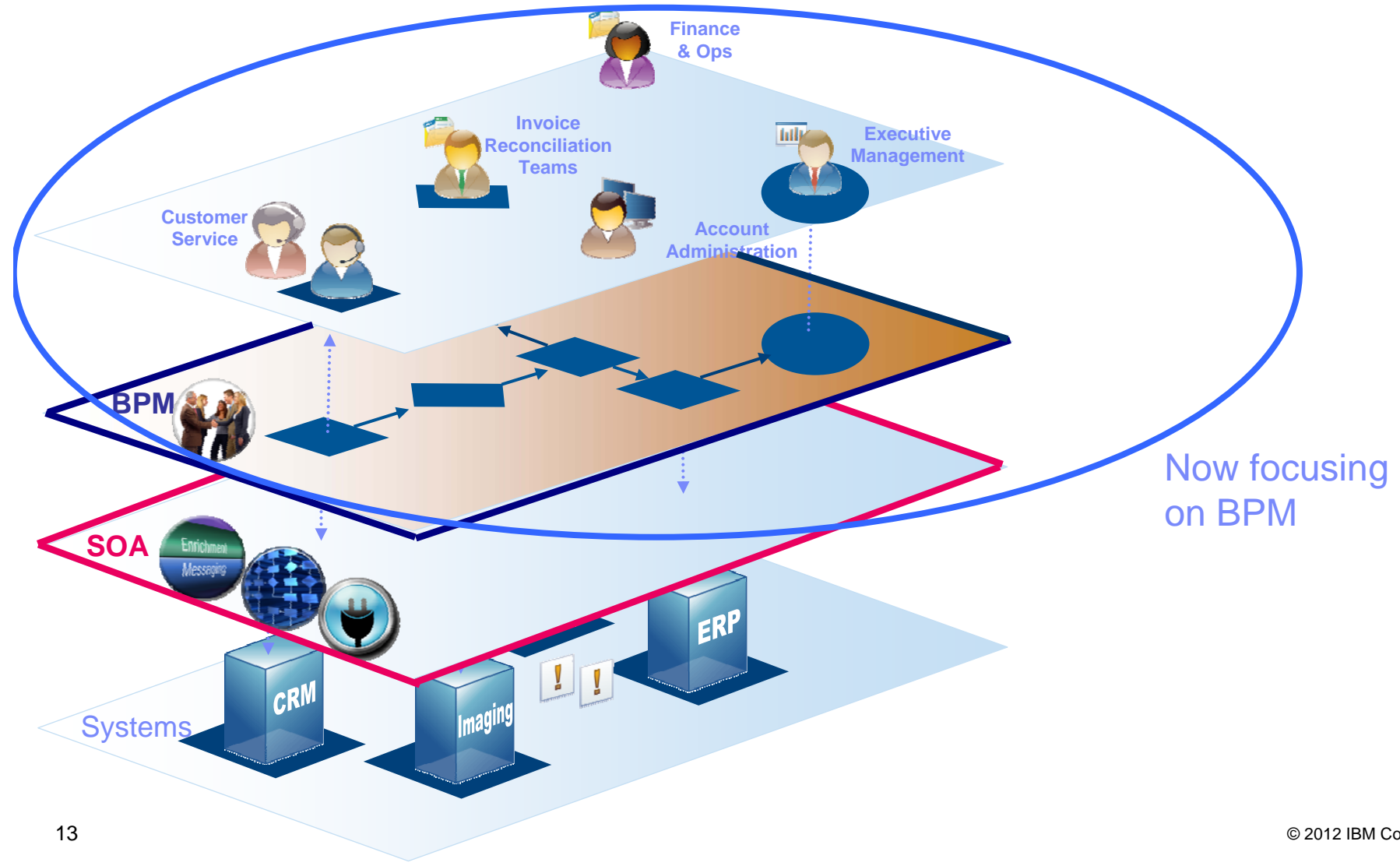
– BPM can abstract the “business process” from underlying systems and services.

– **Over time**, IT can consolidate those services into a common set of services within one SOA layer.

– Users of the process are not affected as **services and systems are merged, replaced, or updated.**



BPM





**Terms for BP Modelling based on BPMN
(Business Process Model and Notation)**



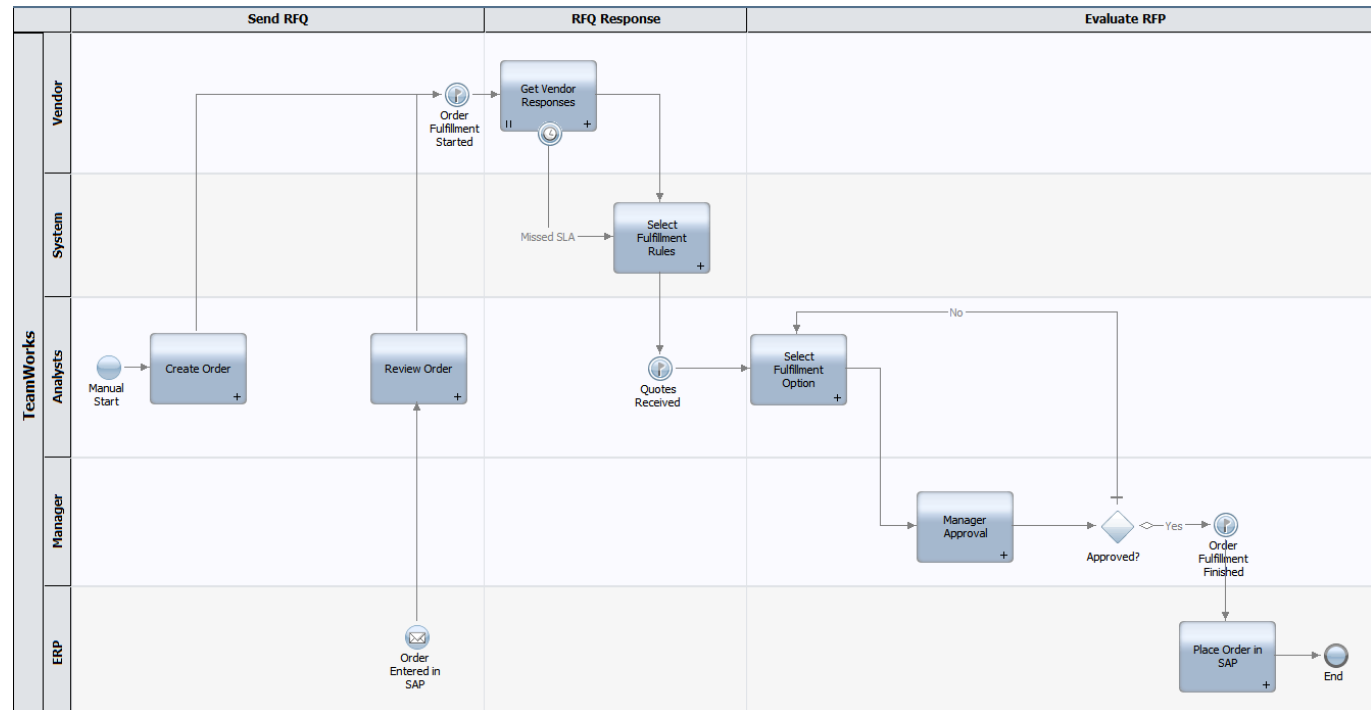
BPMN 2.0 (Business Process Model and Notation)

- **BPMN (formal/2011-01-03) is an OMG Standard (Object Management Group – see www.omg.org), most IT vendors are supporting BPMN**
- **BPMN 2.0 covers notation as well as the metamodel suitable for execution (BPMN 1.x covered only the notation)**
- **BPMN supports:**
 - **Notation that a business person understands including a visual model with an appropriate Interchange Format**
 - **Semantic Metamodel and an appropriate Interchange Format (such that models can be exchanged between tools)**
 - **BPMN “execution semantics”**

Definition of Terms

(see also Standard BPMN – Business Process Model and Notation)

- Business Process Definition (BPD)
- Swim Lane
- Milestone
- Participant
- Step/Activity
- Flow Line
- Business Event
- User Story





Business Process Definition (BPD)

A diagram that illustrates a business process

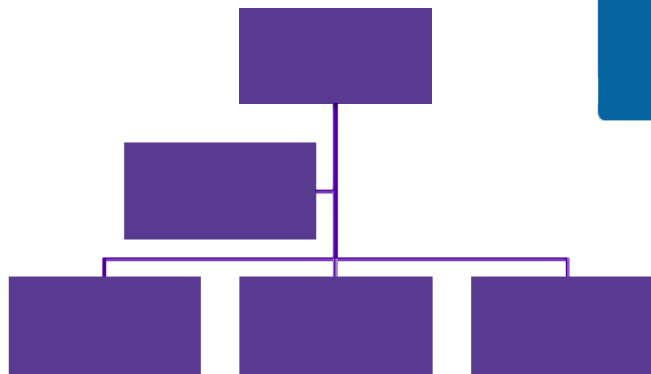
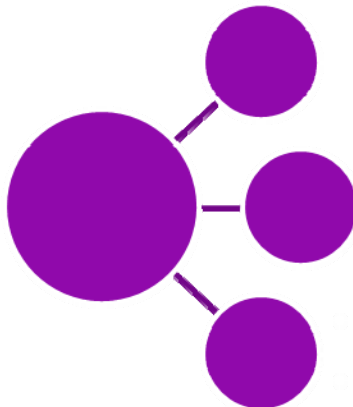
includes participants, steps, activities, and sub-processes

Business Process Definition objectives:

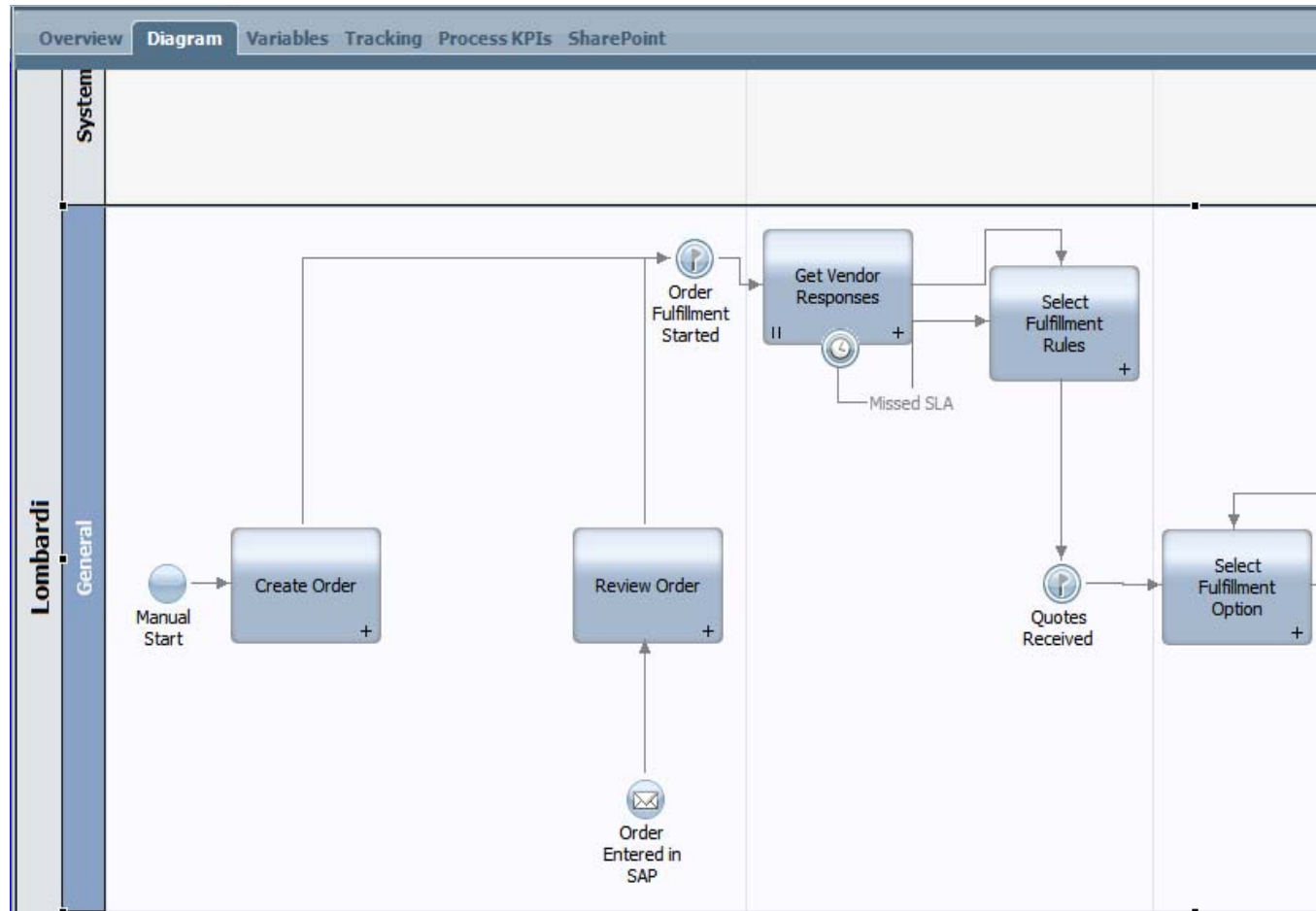
- **Universally understood** by both business and technologists
- **Clearly and easily communicated in 5 minutes or less**
 - at any level of granularity
- **Executable** in a **Business Process Management System**

What is **not** a Business Process Definition?

- Entity State Diagrams
- Use Cases, Use Case Relationship Diagrams
- System Relationship Diagram
- Architectural Diagram
- Workflow Model (Application Development), Screen Flow



(Swim) Lane

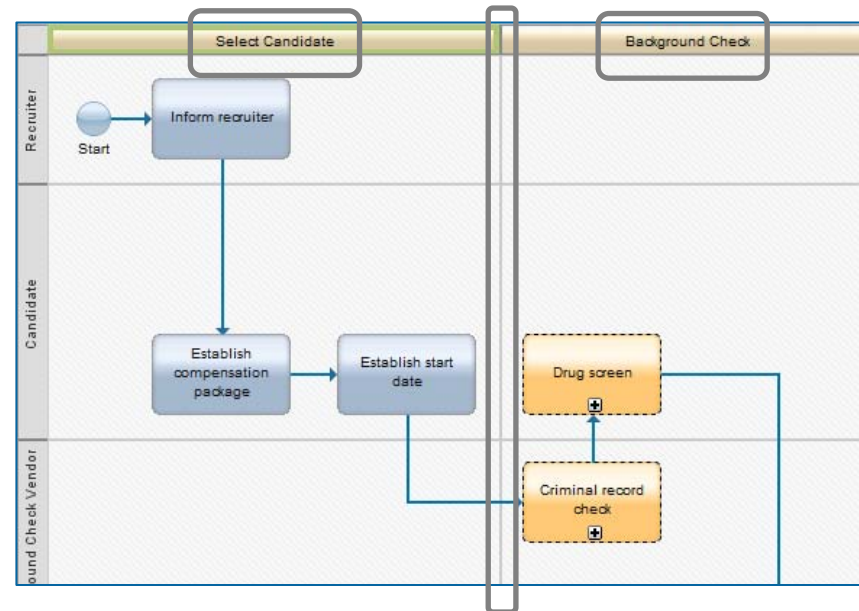


- Highlights role oriented activities versus the flow oriented activities
- A lane has a default set of participants

Milestones

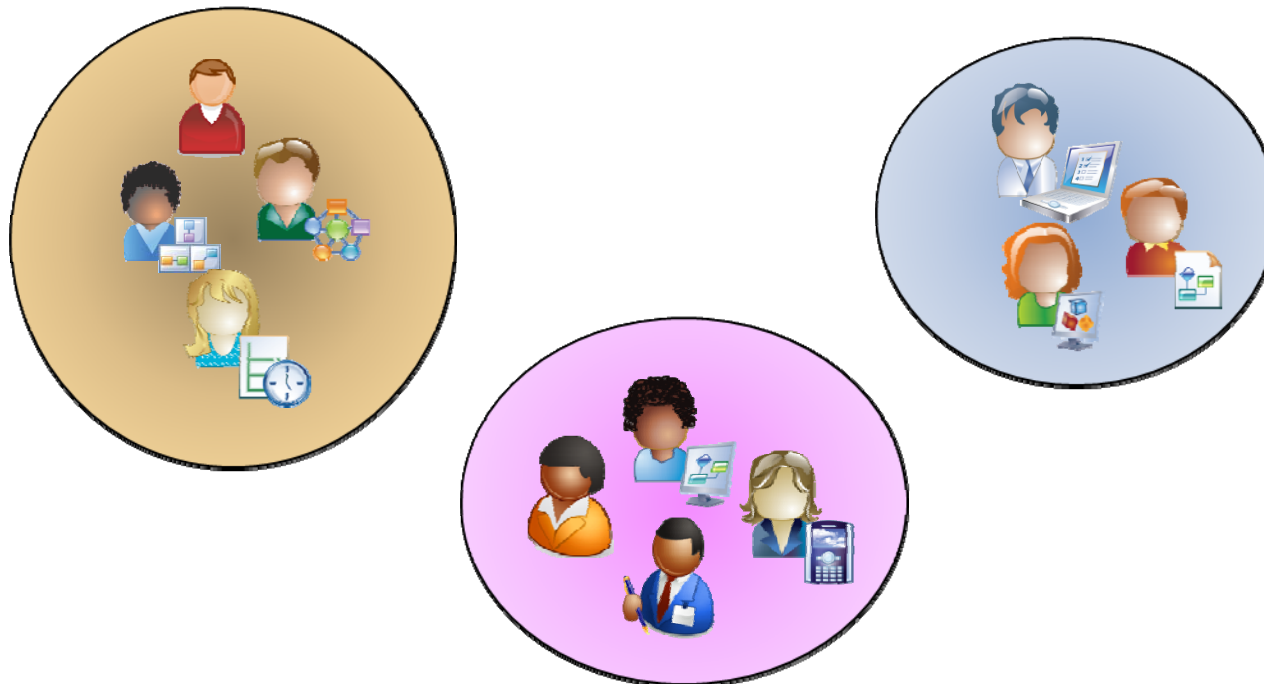
A milestone in a process...

- **Represents**
 - A period of time
 - Goal/transition in the process
- **May be expressed as a single moment in time**
 - e.g. graduation
 - A milestone end-marker



Participant

A *participant* is a user of a BPM environment
Sets of users are *Participant Groups*



Activity/Step

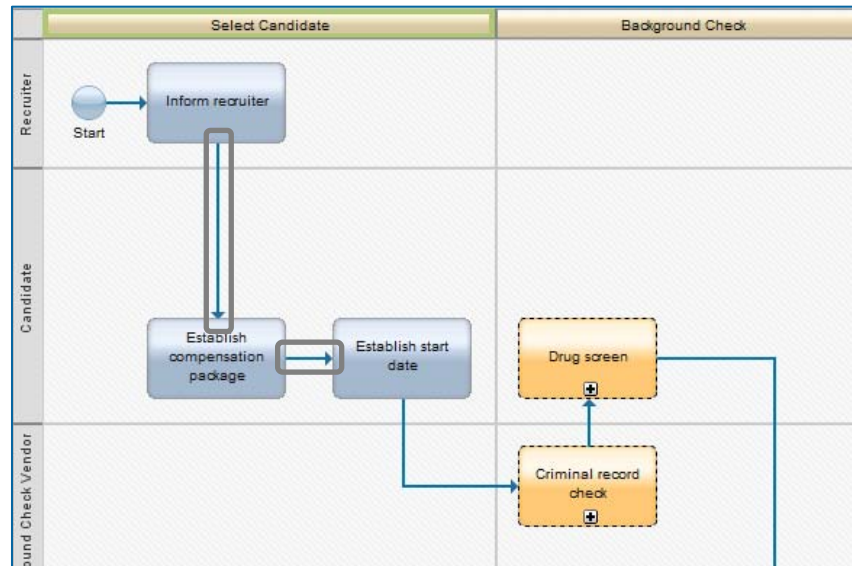
A unit of granularity in a process that...

- Has a **goal** that can be expressed as a singular **outcome**
- Implemented as
 - **Task** (human or system)
 - **Sub-process**
- Can be a human task
 - **Single participant** begins the activity
- Can contain multiple steps, (e.g. screens in a screen flow)
 - These steps are not *process* steps
- Can be a **sub-process**
 - Implemented as another BPD

Sequence Flow Lines

A sequence flow line...

- Defines the **transition** from one step or event to another



Events

A business event...

- Is the occurrence of a **condition** that triggers an activity.
- Can **listen to catch** a condition to trigger an activity or...
- **...throw** a result upon occurrence.

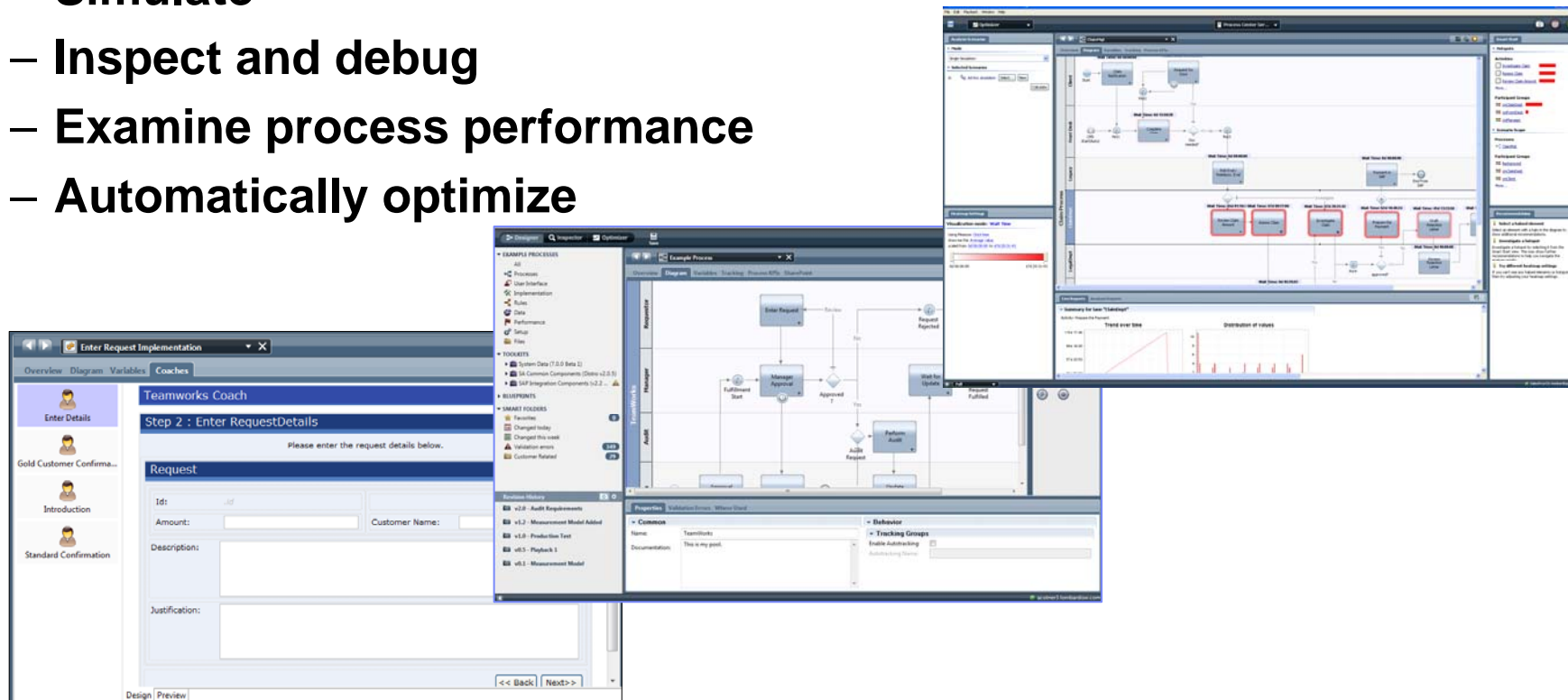


- **Types of events include the following:**
 - Start /End
 - Timer
 - Message
 - Exception

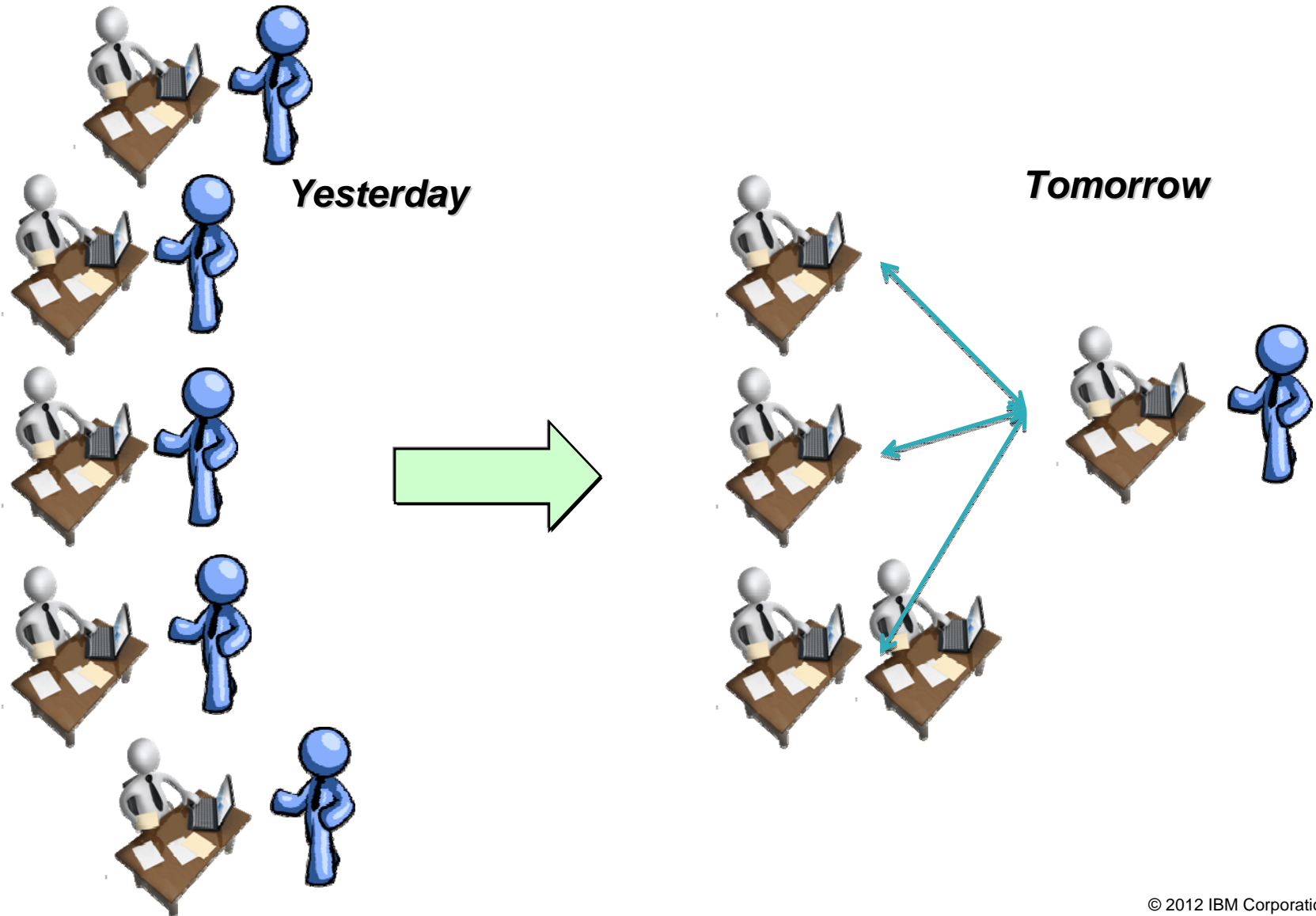


Modeling with BPMN (Business Process Modeling Notation)

- **Single Interface that enable business process authors and analysts to**
 - **Model and implement**
 - **Simulate**
 - **Inspect and debug**
 - **Examine process performance**
 - **Automatically optimize**



The Business Problem – one process instead of many actions





Exercise: Check it out with www.blueworkslive.com

- **Go to www.blueworkslive.com**
- **Register with your private email address (30 day trial)**
- **Go through tutorials**
- **Do first *Discovery Maps* – just entering milestones and activities**
- **Use *Process Maps* – modeling the business process**

Blueworkslive “Discovery” Maps

- Milestones represent phases, Activities are within milestones

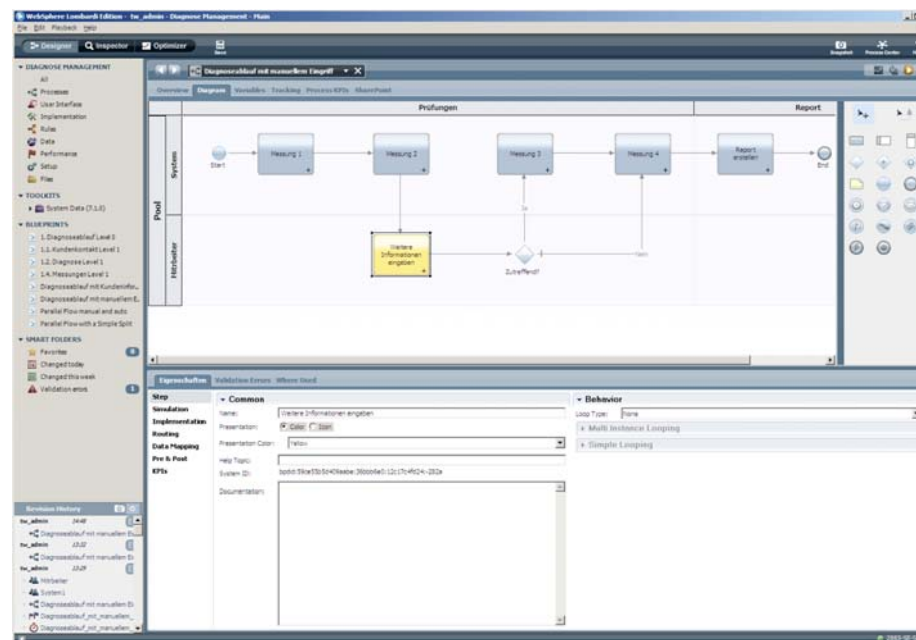
The screenshot displays the BlueworksLive interface for a process titled "Neue Kredit Karte". The interface includes a navigation bar with "Work", "Community", and "Library" options. Below the navigation bar, the process name "TicketCounter4Events > Neue Kredit Karte" is shown, along with a star icon and a timestamp "Last modified by Dirk Budke on Jan 21, 2011 at 6:33 PM".

The main area is divided into two sections:

- Process Outline:** A tree view on the left showing the hierarchy of milestones and activities. The milestones are "Erfassung", "Validierung", and "Ausstellung". Under "Erfassung", activities include "Kunde verschickt Antragsformular", "Dokument Scannen", "Archivierung", and "Daten Erfassen". Under "Validierung", activities include "Daten Valdierung", "Compliance Pruefung", "ZEK", and "Berechne Score Wert". Under "Ausstellung", activities include "Account Eroeffnung in CMS" and "Karte Erstellen und Ausliefern".
- Discovery Map:** A visual representation of the process flow on the right. It shows three main milestones: "Erfassung", "Validierung", and "Ausstellung". Each milestone contains specific activities: "Erfassung" includes "Kunde verschickt Antragsformular", "Dokument Scannen", "Archivierung", and "Daten Erfassen"; "Validierung" includes "Daten Valdierung", "Compliance Pruefung", "ZEK", and "Berechne Score Wert"; "Ausstellung" includes "Account Eroeffnung in CMS" and "Karte Erstellen und Ausliefern".

Blueworkslive “Process” Maps

- **Common ground for Business as well as IT**
 - **Business is specifying and defining activities and provides conditions / rules to be used in control flow**
 - **IT specifies services**





BPM in Action

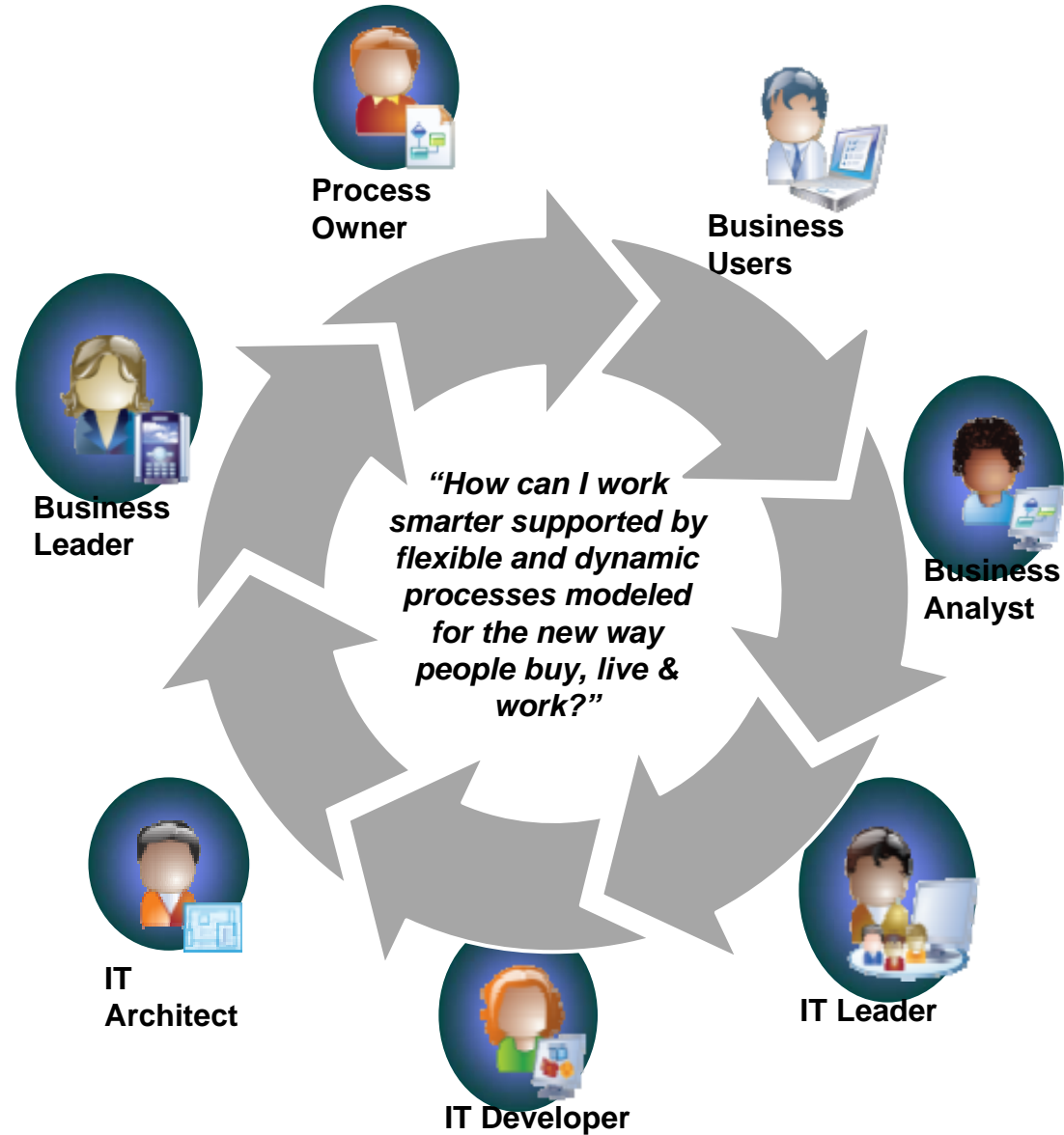
BPMN in Action: Automation of Business Processes

- **BPMN 2.0 Semantics automates the execution of business processes**
 - It is always known where the process stands
 - KPIs (Key Performance Indicators) can be attached
 - Bottlenecks can be identified
 - Processes can be optimized

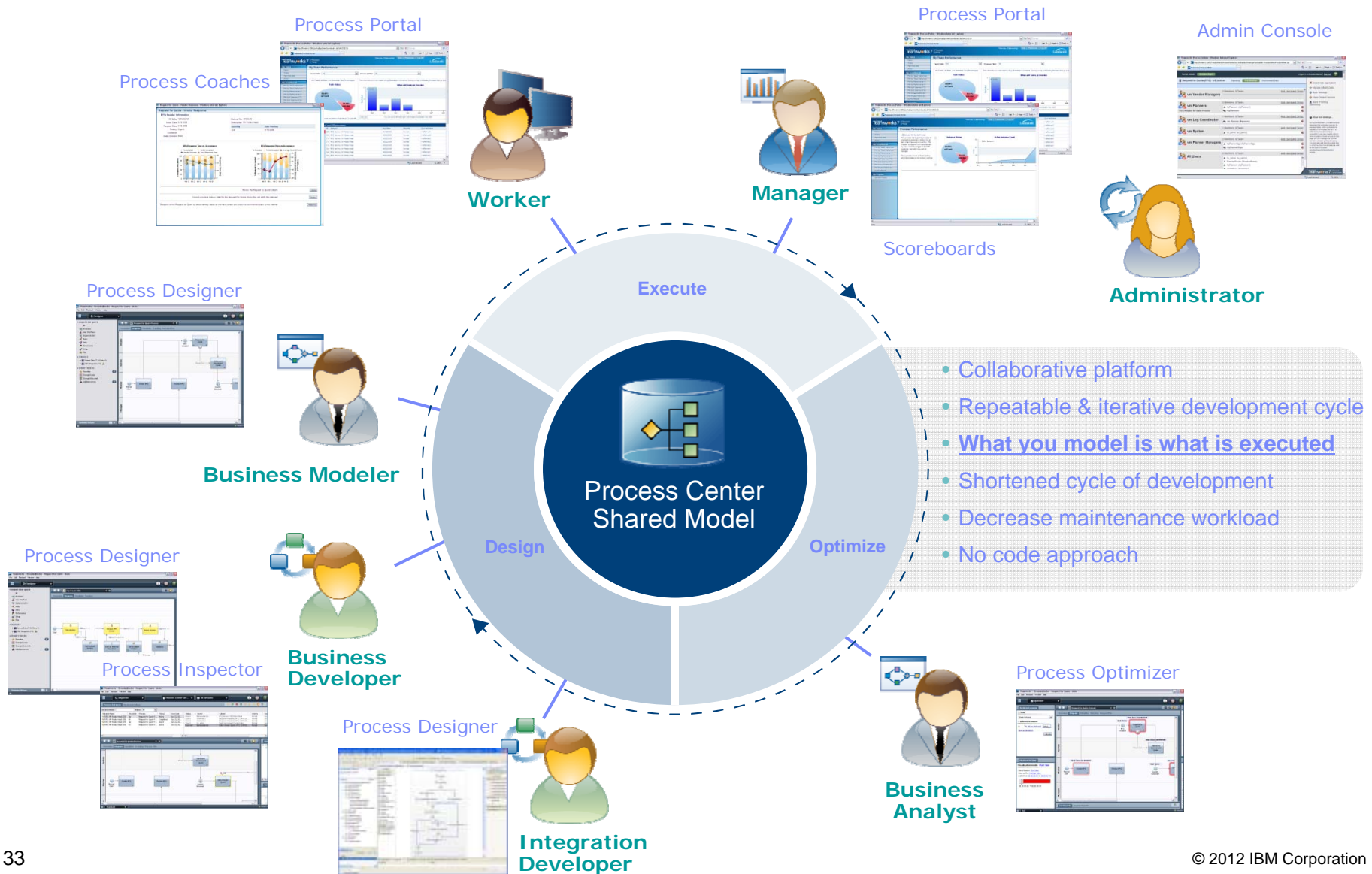
- **BPMN supports a Round Trip: modeling, implementation, deployment, execution, monitoring, and back to modeling**

- **Business people are eligible to monitor the execution of processes (and the KPIs)**

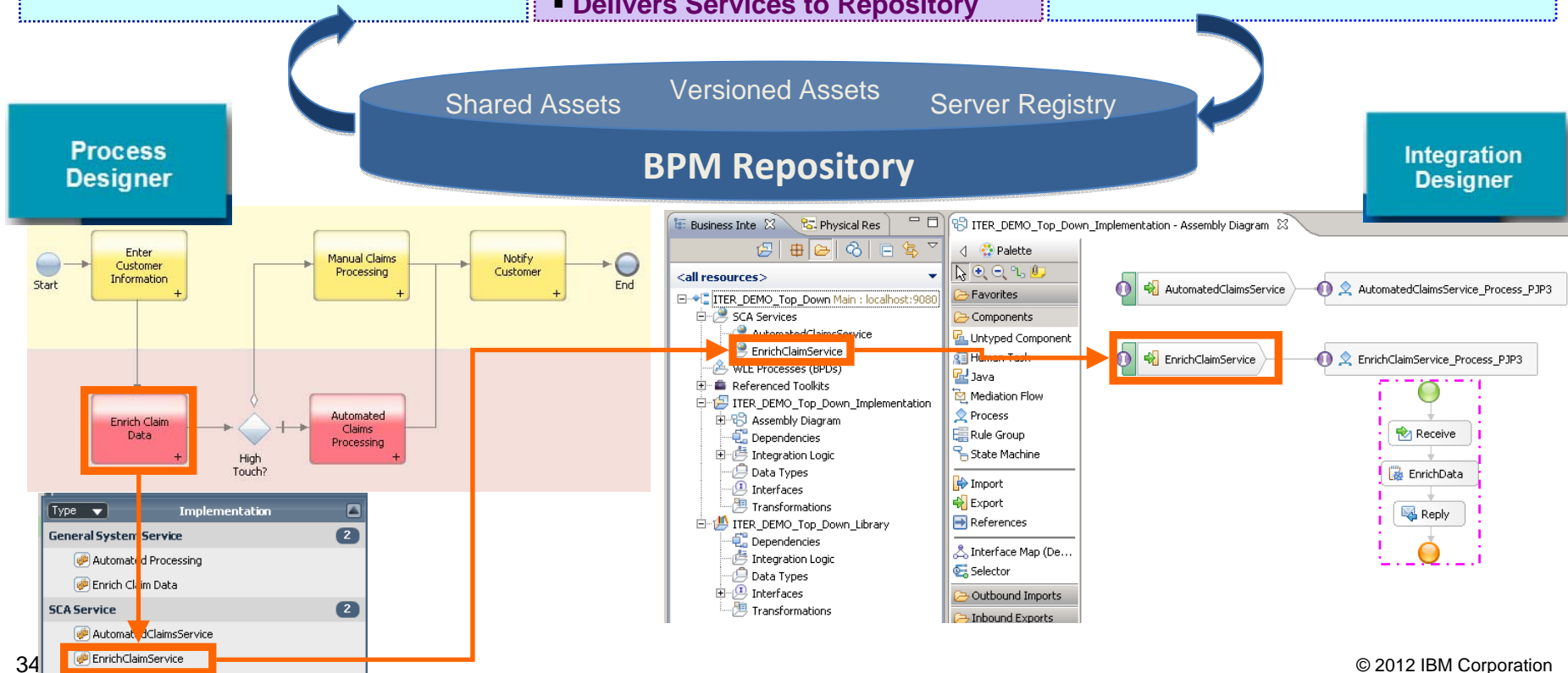
Business Process Management is a Team Sport ...



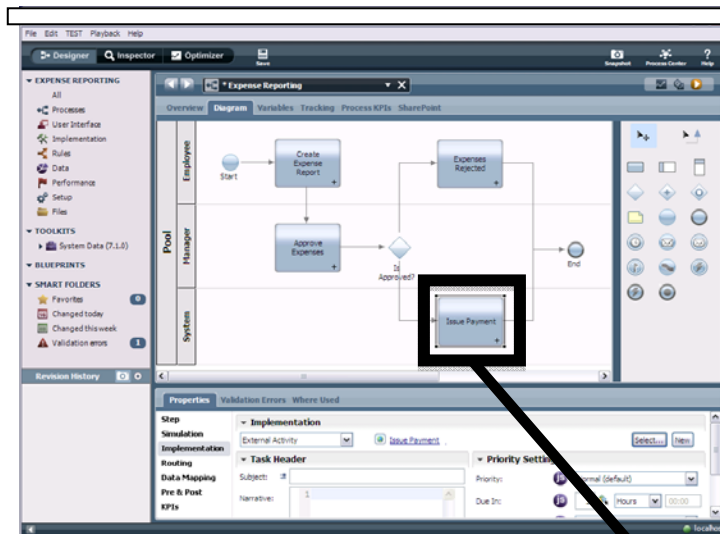
Shared Model within a BPM Architecture



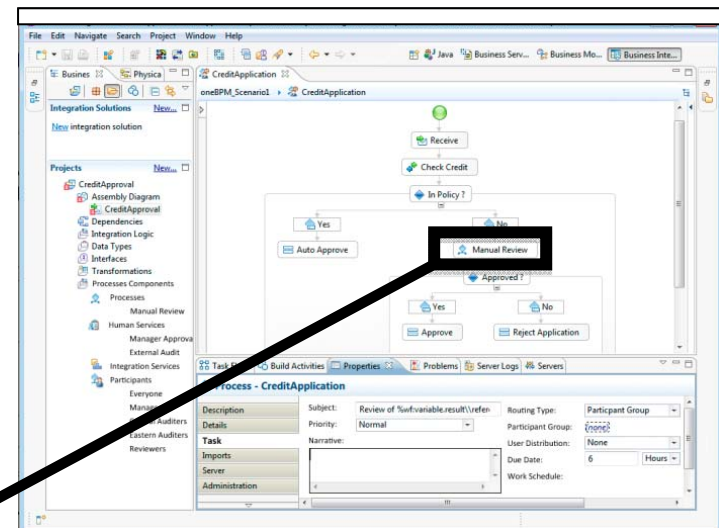
Seamless Collaboration Across Roles



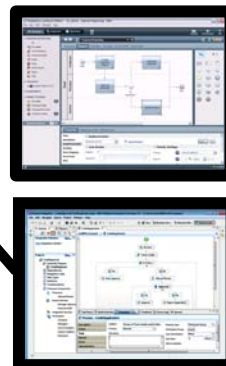
Development Collaboration Business – IT (Based on IBM BPM 7.5)



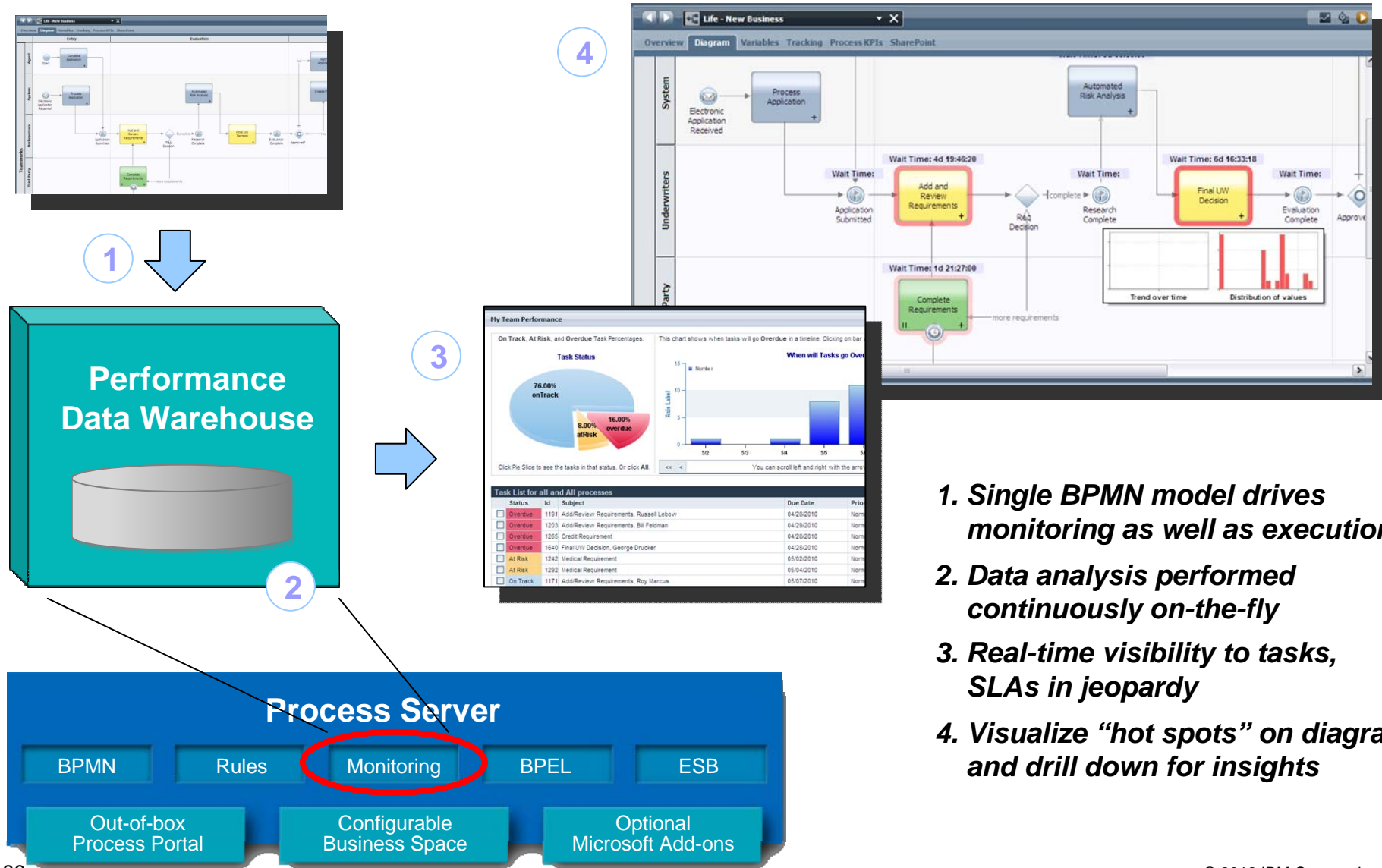
Business Author requires a back-end integration for an Expense Reporting process that he is building



Integration Developer is building a straight-through Credit Check process that has a business exception path requiring human interaction

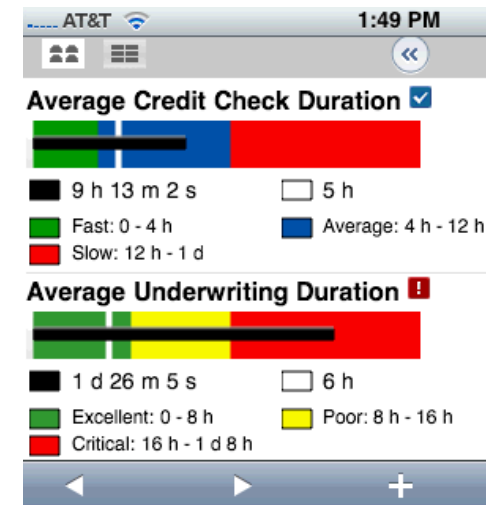
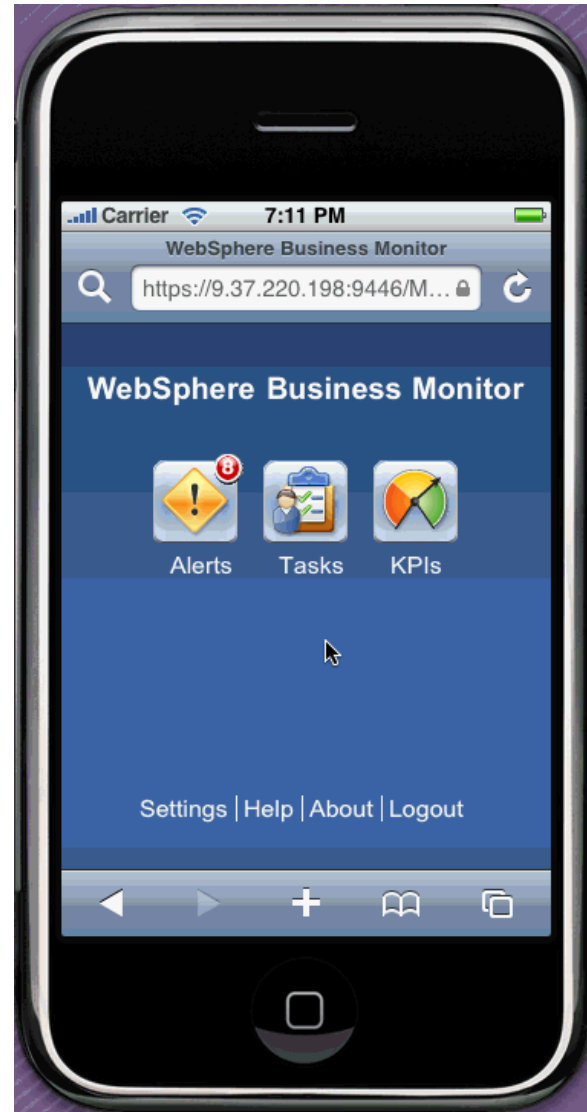


Built-in Monitoring for Visibility



1. Single BPMN model drives monitoring as well as execution
2. Data analysis performed continuously on-the-fly
3. Real-time visibility to tasks, SLAs in jeopardy
4. Visualize “hot spots” on diagram and drill down for insights

Experience Monitor through your iPhone – Process Control





Exercise: Watch 15 min video demoing a BPM environment

▪ BPM Demo

– Videos on

<http://IBMBPMDemos.com>

or <http://BPMwebDemos.com>

– Recommendation

watch

**BlueworksLive.com & IBM BPM End-2-End -- SHORT 15 min Demo
mit Bill Hahn**



Questions

