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BPM Assessment
What BPM Suite adds to SOA Suite
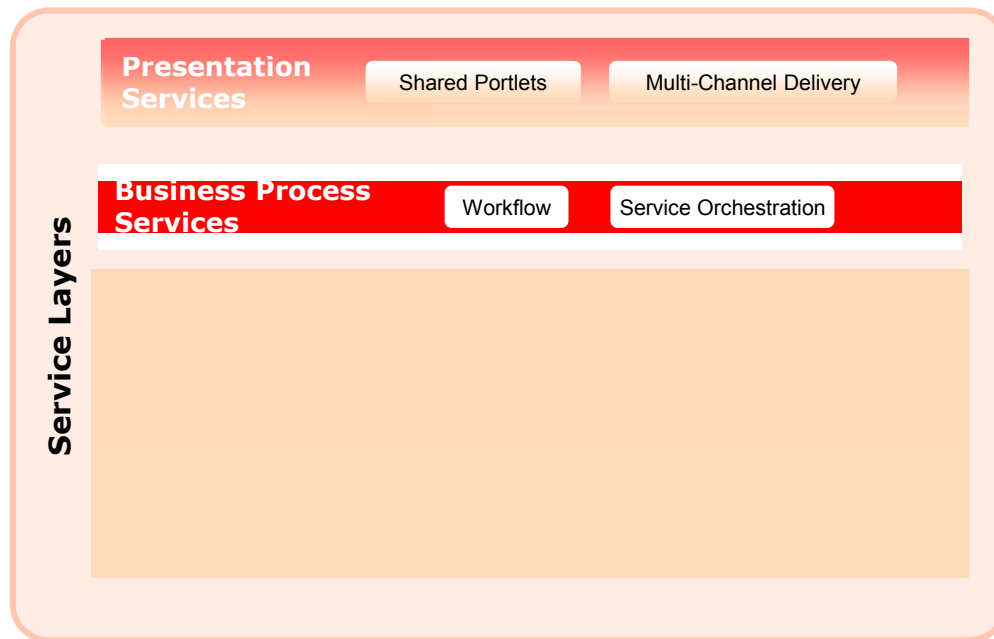
What BPM adds to SOA Suite
Questions : What, Wich, When, Where and How

- Organisations who have been using Oracle SOA Suite (and BPEL) for several years now sometimes ask us.

  - **What** extra value Oracle BPM Suite adds to the already rich SOA platform they are used to ?.

  - The process analysts and integration developers often ask about the relative strengths of BPEL and BPMN –

  - **Which** to use **when, where**, and **how** they complement each other.

What BPM adds to SOA Suite
Where ? (Business Process Services)

- Represent reusable business processes or process fragments
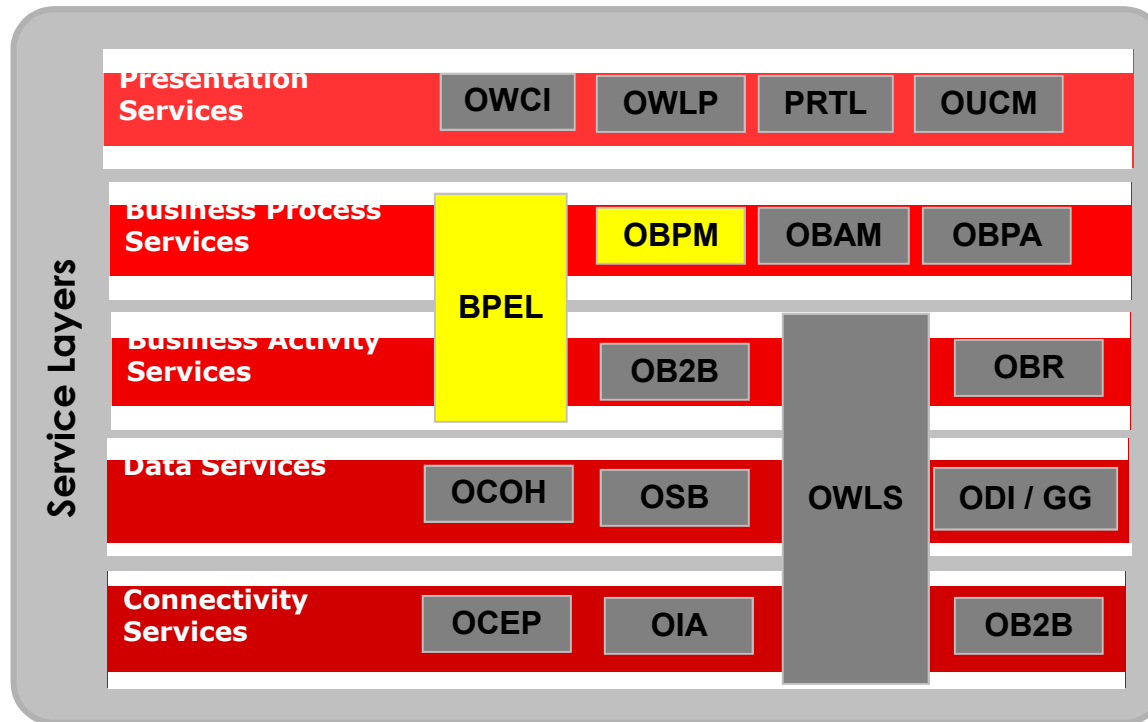- May be system-centric or human-centric

Service Layers

Presentation Services

| Shared Portlets | Multi-Channel Delivery |

Business Process Services

| Workflow | Service Orchestration |

Characteristics:

- Course grained
- Process oriented
- Short or long running processes
- Lower level of reuse
- Can be stateless or stateful

What BPM adds to SOA Suite
Business Process Services

Service Layers

Presentation Services	OWCI	OWLP	PRTL	OUCM
Business Process Services		OBPM	OBAM	OBPA
Business Activity Services	BPEL	OB2B		OBR
Data Services	OCOH	OSB	OWLS	ODI / GG
Connectivity Services	OCEP	OIA		OB2B

- OWCI - *Oracle Web Center Interaction*
- PRTL - *Oracle Portal*
- OWLP - *Oracle WebLogic Portal*
- OUCM - *Oracle Universal Content Mangement*
- **BPEL - BPEL Process Manager**
- **OBPM - Oracle Business Process Management**
- OBAM - *Oracle Business Activity Monitoring*
- OBPA - *Oracle Business Process Analysis Suite*
- OBR - *Oracle Rules*
- OWLS - *Oracle WebLogic Server*
- ODSI - *Oracle Data Services Integrator*
- ODI - *Oracle Data Integrator*
- OGG – *Oracle Golden Gate*
- OCOH - *Oracle Coherence*
- OCEP - *Oracle Complex Event Processing*
- OIA - *Oracle Integration Adapters*
- OB2B - *Oracle B2B Integration*

What BPM adds to SOA Suite

- The strong BPM capabilities really complement the SOA foundation.

- It's hard to 'do BPM' well without SOA, and you could argue that SOA lacks a real purpose without BPM.

- Organisations with a significant investment in Oracle SOA Suite should see Oracle BPM Suite as an upgrade which provides additional value

What BPM adds to SOA Suite
The right tool for the right job

- BPEL and BPMN are both 'languages' or 'notations' for describing and executing business processes. Both are open standards.
- Most business process engines will support one or the other of these languages.
- Oracle however has chosen to support BOTH and treat them as equals.
- You have the freedom to choose which language to use on a process by process basis.
- You can freely mix and match, even within a single composite (SCA).
- Why support both?
  - Well it turns out that BPEL is really well suited to modeling some kinds of processes and BPMN is really well suited to modeling other kinds of processes.
- Which language is more suited for various kinds of processes ?
- Two common approaches – these both provide high level guidance and are not meant to be exhaustive or mutually exclusive.
- A small 'proof of concept' modeling activity to validate which is right in your environment with your people and skills.

What BPM adds to SOA Suite
The right tool for the right job (Cont.)

Complex Orchestration	*Stateful, Enrichment, sync -> async-> sync*	**BPEL PM**
Integrated BAM	*Built-in instrumentation*	**BPEL PM / BPM**
Dashboard	*Indicadores de negocios*	**BAM**
Human Workflow (Simple pattern)	*Manual task workflow support*	**BPM**
Human Workflow (Complex pattern)	*Manual task workflow support*	**BPM and BPEL PM**

What BPM adds to SOA Suite
Skills

- If the process models are going to be shared with business people, e.g. process participants, process owners or sponsors, I would tend to use BPMN (BPM Suite),

- If the people who are doing the process modeling are coming from a business background, e.g. process analysts or business analysts, I would tend to use BPMN (BPM Suite),

- If they were coming from an IT background, e.g. developers or technical architects, I would tend to use BPEL,

- If the people who are going to be doing the modeling have extensive skills and experience in one language, I would probably be inclined to use that language, unless there was a good reason to introduce the other.

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What BPM adds to SOA Suite
Type of process

- If the process involves 'PEOPLE' or 'PAPER,'
  - I would lean towards BPMN.

- If it involves systems or applications integration,
  - I would lean towards BPEL.

- If the 'process' is really an 'integration' or a 'service,' I would tend to use BPEL

- To use BPMN for higher level, more 'business'-oriented processes.

- To use BPEL for lower level, more 'system'-oriented processes.

What BPM adds to SOA Suite
Business process or Business services

- The natural result of both of these approaches tends to be a pattern where the higher level processes –

    The ones that business users interact with – are modeled in BPMN

    and these in turn call other processes that are also modeled in BPMN which in turn call 'services' that are implemented in BPEL.

- If it involves systems or applications integration,

    - I would lean towards BPEL.

- If the 'process' is really an 'integration' or a 'service'

    - I would tend to use BPEL

- To use BPMN for higher level, more 'business'-oriented processes.

- To use BPEL for lower level, more 'system'-oriented processes.

What BPM adds to SOA Suite
Structure

- BPEL is a 'structured' language

  - It has 'control structures' like

    - sequence (one activity follows another), decisions (called switches),
    - looping (using a 'while' loop) and 'scopes' which set boundaries for exception handling.
    - Exceptions are handled in a 'try/catch' style like many modern programming languages.
    - A scope in BPEL can 'throw' and exception to it's parent scope where it may be handled or 'rethrown' to a higher scope still.
    - As a result of this, BPEL feels very natural to people from a programming background
    - Exceptions are handled in a 'try/catch' style like many modern programming languages.
    - A scope in BPEL can 'throw' and exception to it's parent scope where it may be handled or 'rethrown' to a higher scope still.

  - BPEL feels natural to people from a programming background

What BPM adds to SOA Suite
Structure (Cont.)

- BPMN on the other hand is a 'directed graph.'
  - it allows you to arbitrarily move around the process.

- We often find that real world business processes are able to be modeled directly using directed graphs, that is we don't need to do a lot of analysis to work out how to structure the process in such a way as to make it 'fit' into the language.

- Now of course there is a healthy overlap where many of the processes that you could model in BPEL could also be modeled in BPMN and vice versa.

What BPM adds to SOA Suite
Structure (Cont.)

- There are some processes that can be model very simply in BPMN which are quite difficult to model in BPEL.

- Take for example the following hypothetic 'flight booking' process.
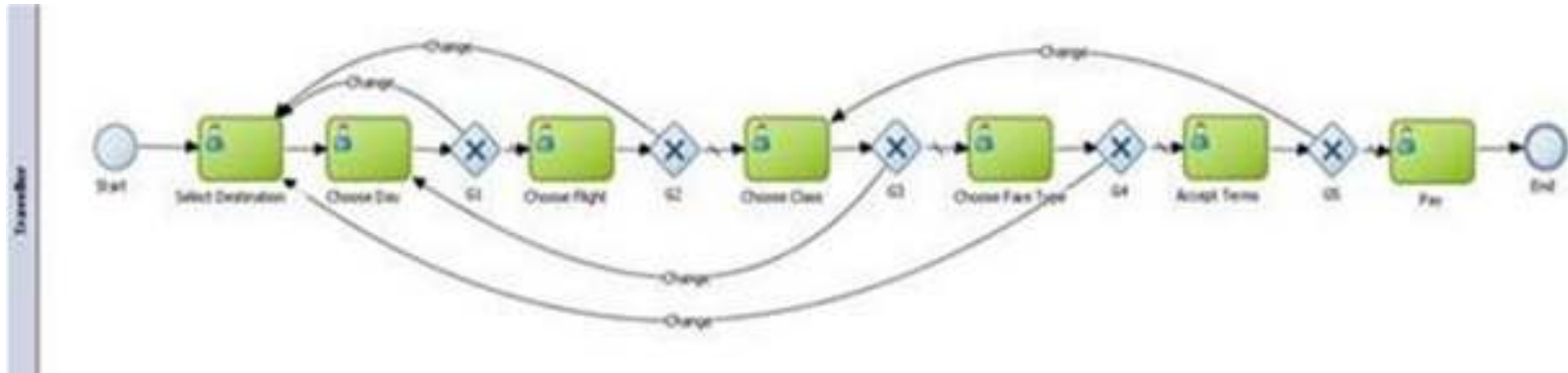
- For whatever reason (probably the way the 'legacy' system works) there are only certain points where the customer can go back to an earlier step and, depending on where they are in the process, it is a different point they can return to.

- This process can be modeled very simply in BPMN however it would be quite difficult to model in BPEL.

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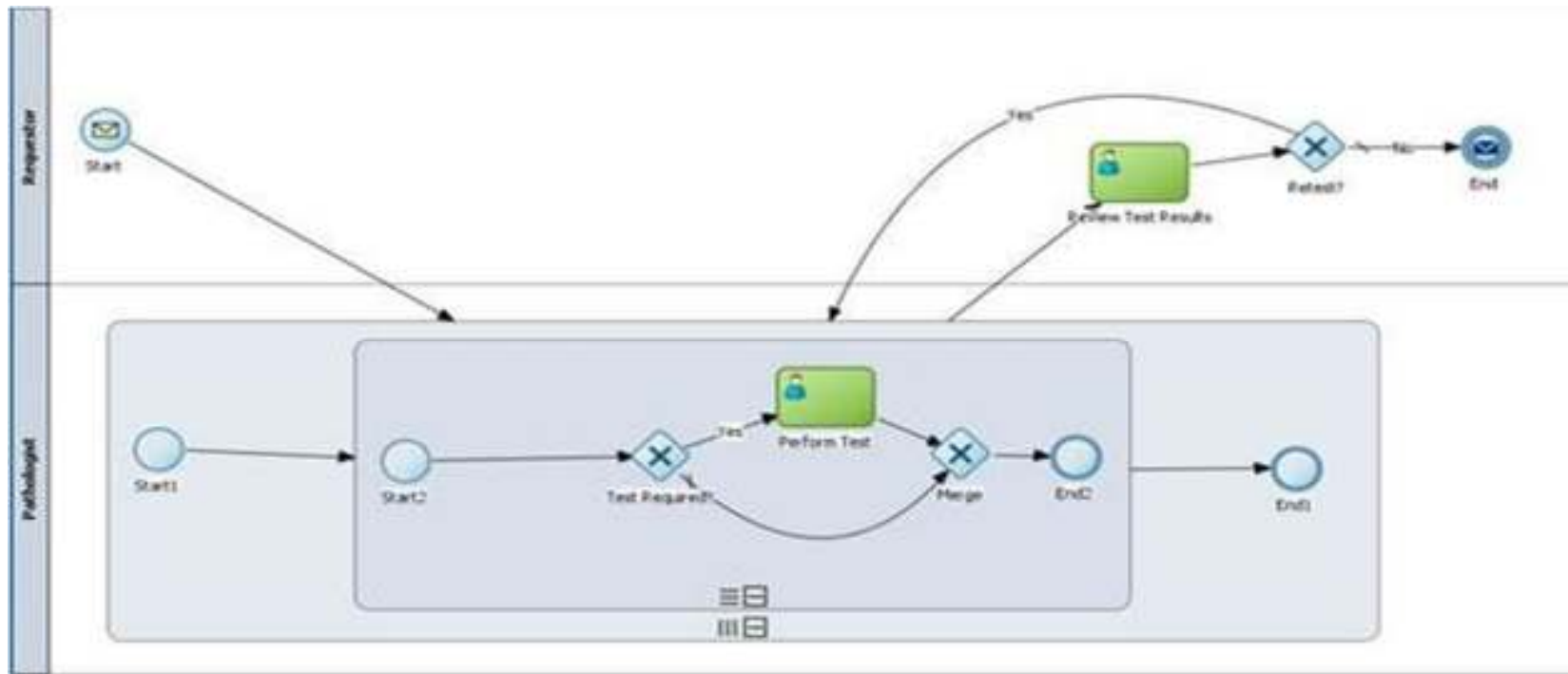# What BPM adds to SOA Suite
Sub-Process

- BPMN includes an 'embedded sub-process' activity that allows for looping, parallel execution and iterating over members of collections (like arrays.)

- Embedded sub-process

  - Runs in the same instance, so it does not incur the overhead of starting a new process instance.

  - Can be nested and you can choose to execute the iterations sequentially or in parallel.

  - Very elegant modeling of processes that involve looping through collections (and nested collections).

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What BPM adds to SOA Suite
Sub-Process (Cont.)

- The example below shows a BPMN process that processes a set of pathology test series in parallel, each of which may contain multiple individual tests which are processed sequentially, before consolidating the results for review and the possible repeating of some or all.

What BPM adds to SOA Suite
Interruption

- Often we have a part of a process that will take some time to execute but which may be cancelled during that time.

- For example, while fulfilling and order (picking, packing, shipping, etc.,) we may receive an order cancellation from the customer.

- BPMN includes a concept called a 'boundary event' which can be used to model this kind of situation.

What BPM adds to SOA Suite
Interruption (Cont.)

- The example below demonstrates such a process.
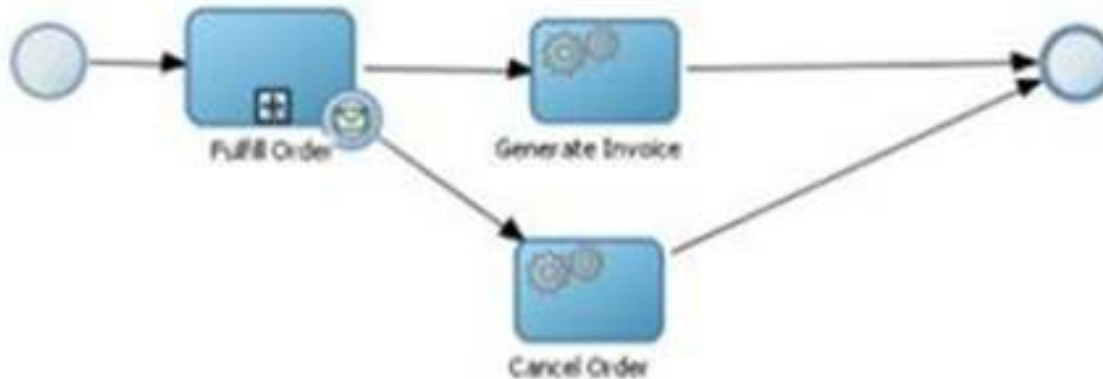
- The 'Fulfill Order' activity is actually an embedded sub-process (shown in its 'minimised' form to reduce clutter.)
- The sub-process has a 'message boundary event' attached to it.
- If the matching message is received at any time while the sub-process is still executing, the sub-process will be interrupted and the exception path (to 'Cancel Order') will be followed immediately.

What BPM adds to SOA Suite
## Conditional Flow (Rich set of 'Gateways')

- BPM provides a rich set of 'gateways' that allow for modeling of different kinds of decisions in a process.

- These include the ability to follow exactly one path, some paths, or all paths and then to join the paths back together when one or all or completed.
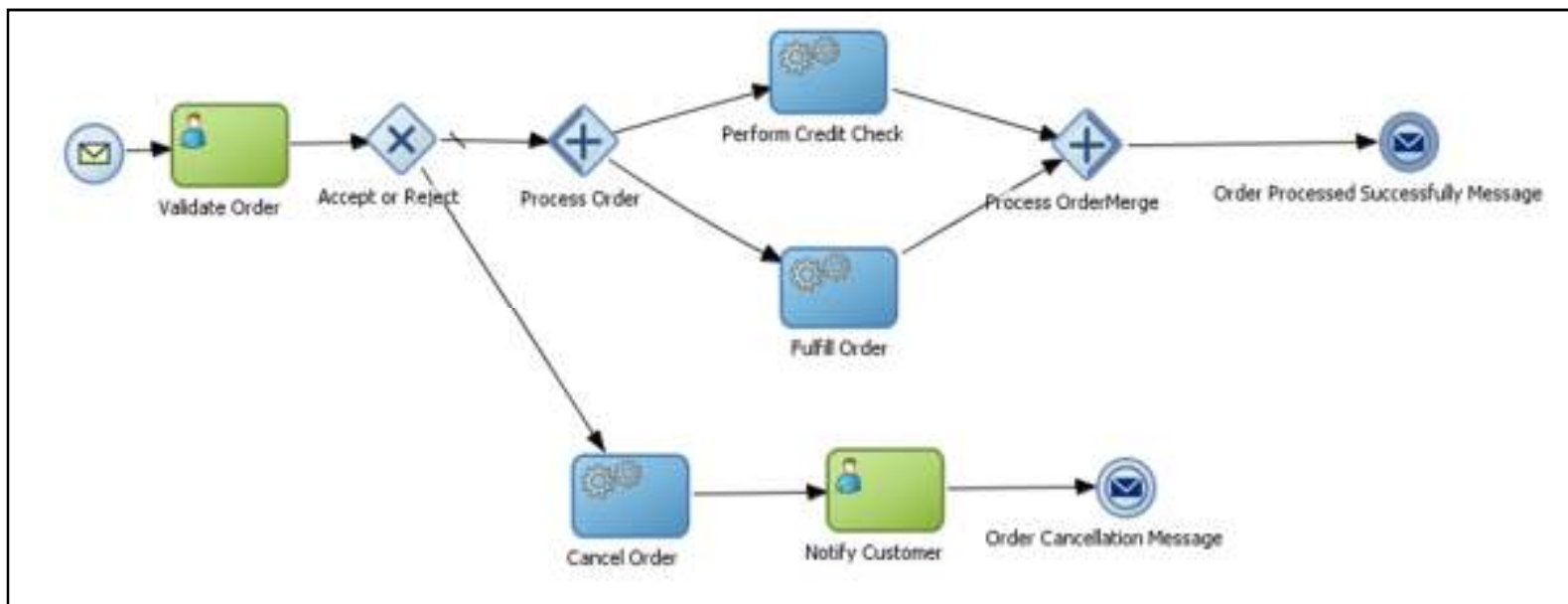
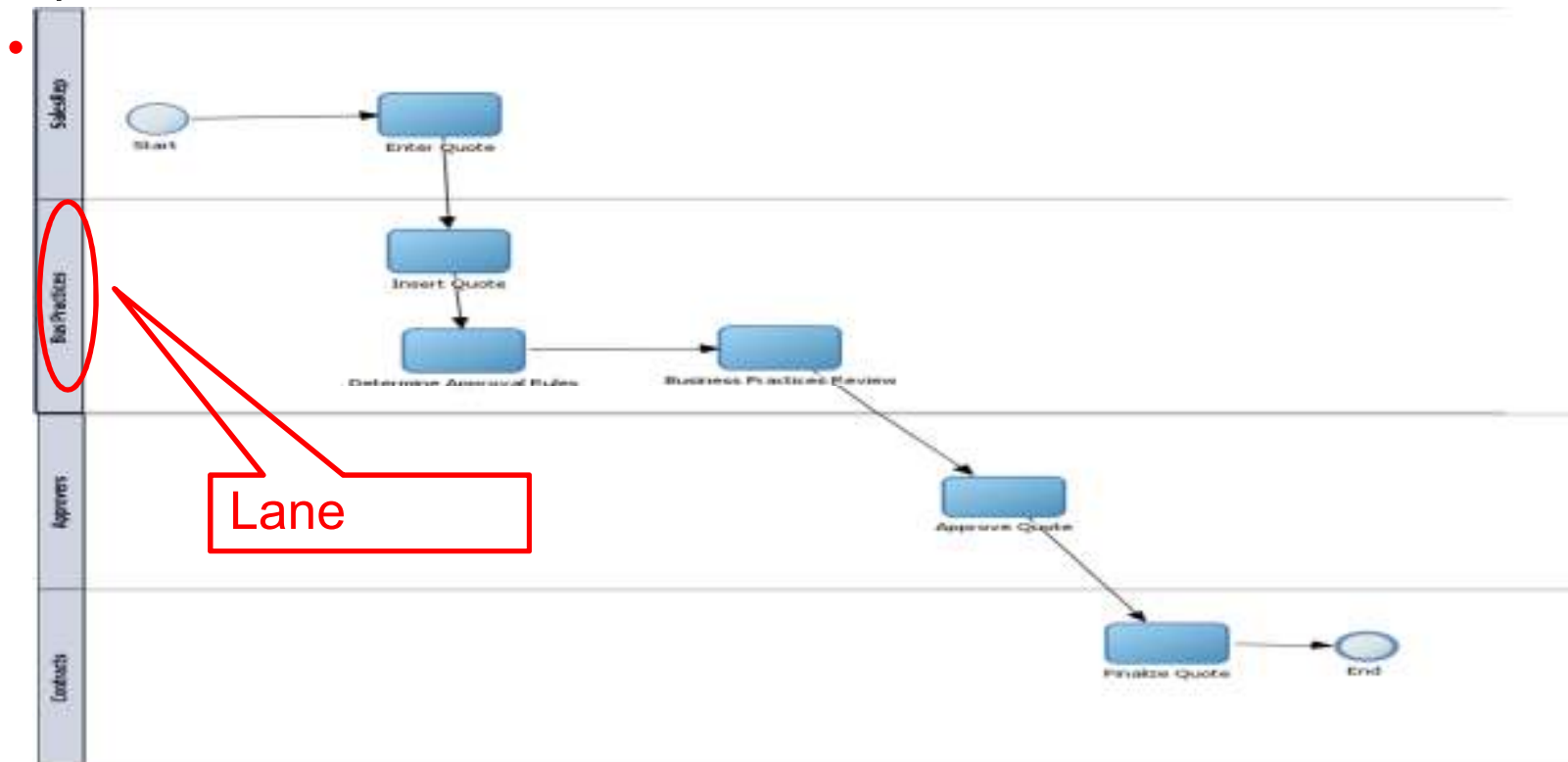# What BPM adds to SOA Suite
Simulation

- Oracle BPM Suite, specifically the 'design time' environment in JDeveloper (sometimes called 'BPM Studio,') adds the ability to simulate a process before actually implementing and deploying it.
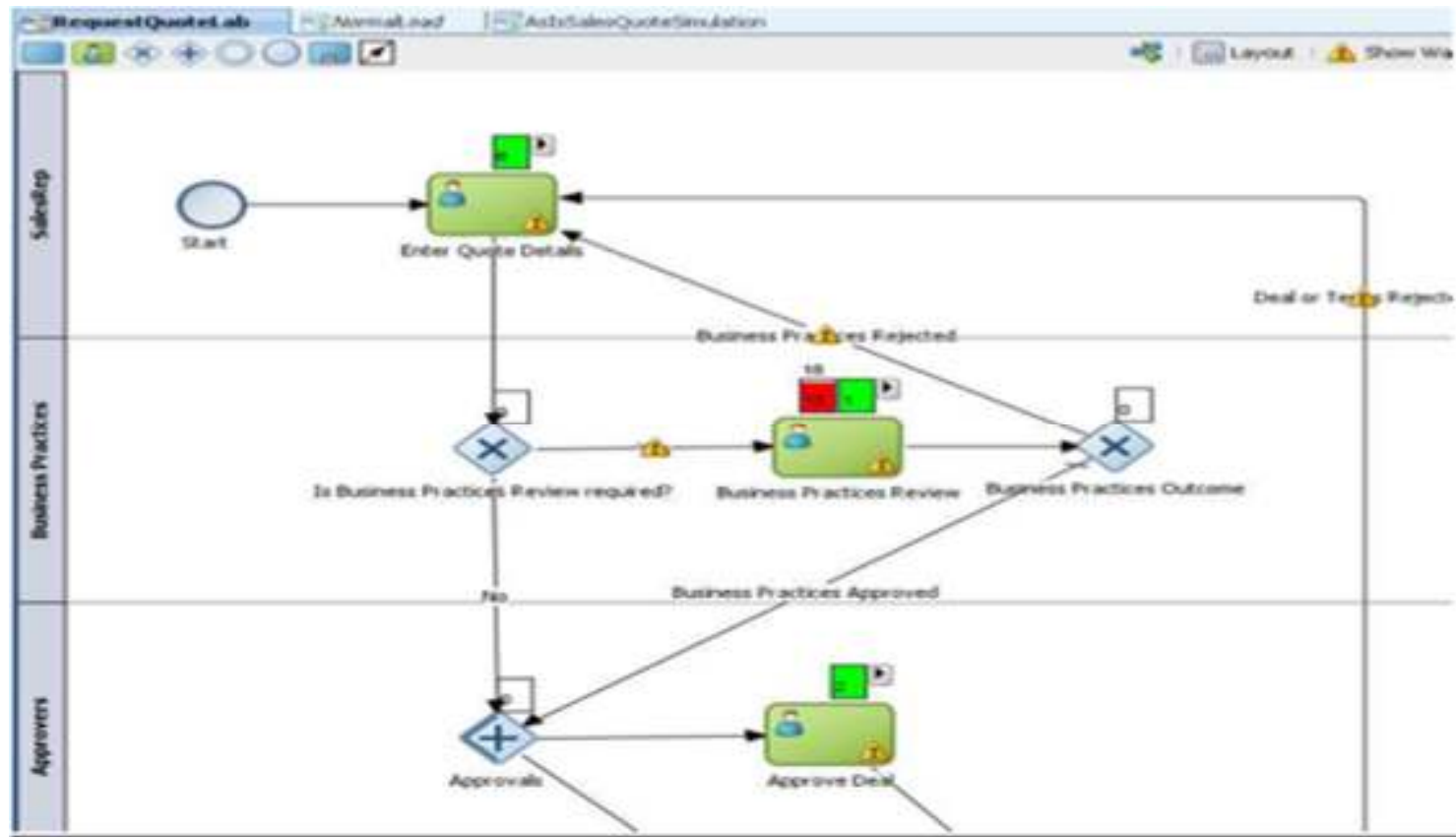
What BPM adds to SOA Suite
## Organisation modeling & Calendar

- BPMN processes are modeled in 'swim lanes.' Swim lanes represent participants' roles in the process. They provide a clear visual representation of who carries out each activity in the process.

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What BPM adds to SOA Suite
Built on a solid foundation

- There is only actually one process engine which can run both BPEL and BPMN processes.

- Oracle SOA Suite, and by extension Oracle BPM Suite, is based on the Service Component Architecture (SCA) standardwhich provides a language independent way of assembling 'service components' to create a 'composite application'.
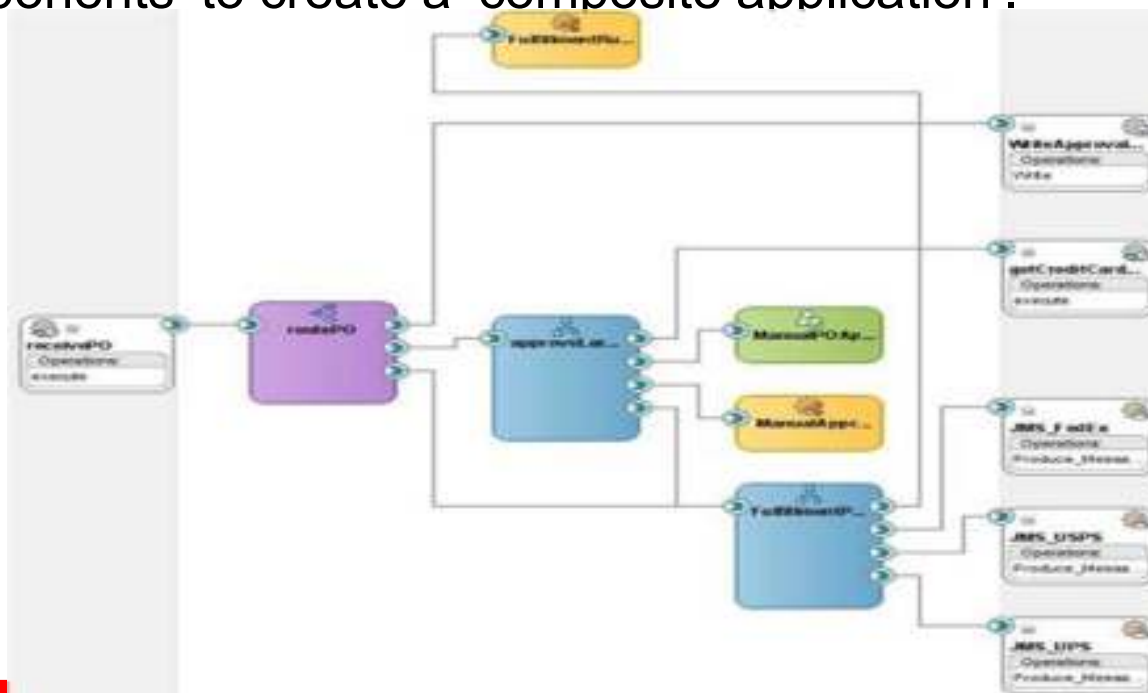
What BPM adds to SOA Suite
Built on a solid foundation. The best of both worlds
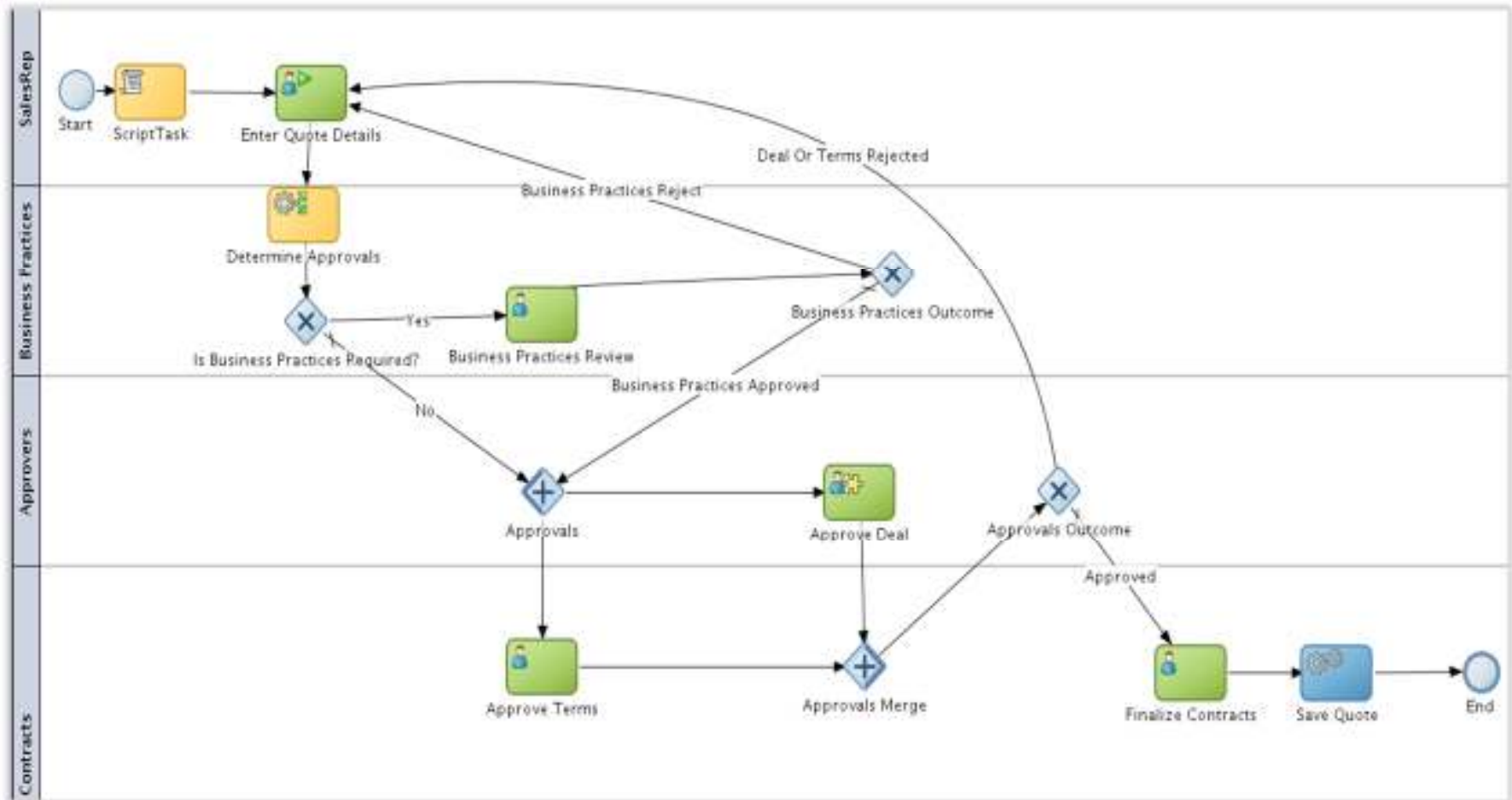
What BPM adds to SOA Suite
Asynchronous. Invocation using Send & Receive Tasks

- *Send and Receive Tasks* are used for asynchronous communication.
- *Send Task* sends a "Message" and *Receive Task* "receives" a Message.
  - *Send Task* in the middle of the process is the same as the *Message Intermediate Event* of "throw" type.
  - *Receive Task* at the beginning of the process is the same as the *Message Start Event*.
  - Note : You cannot use Send and Receive Tasks for asynchronous communication between 2 BPMN processes in BPM 11gR1. You will have to use throw Message Intermediate Event and catch Message Intermediate Event.
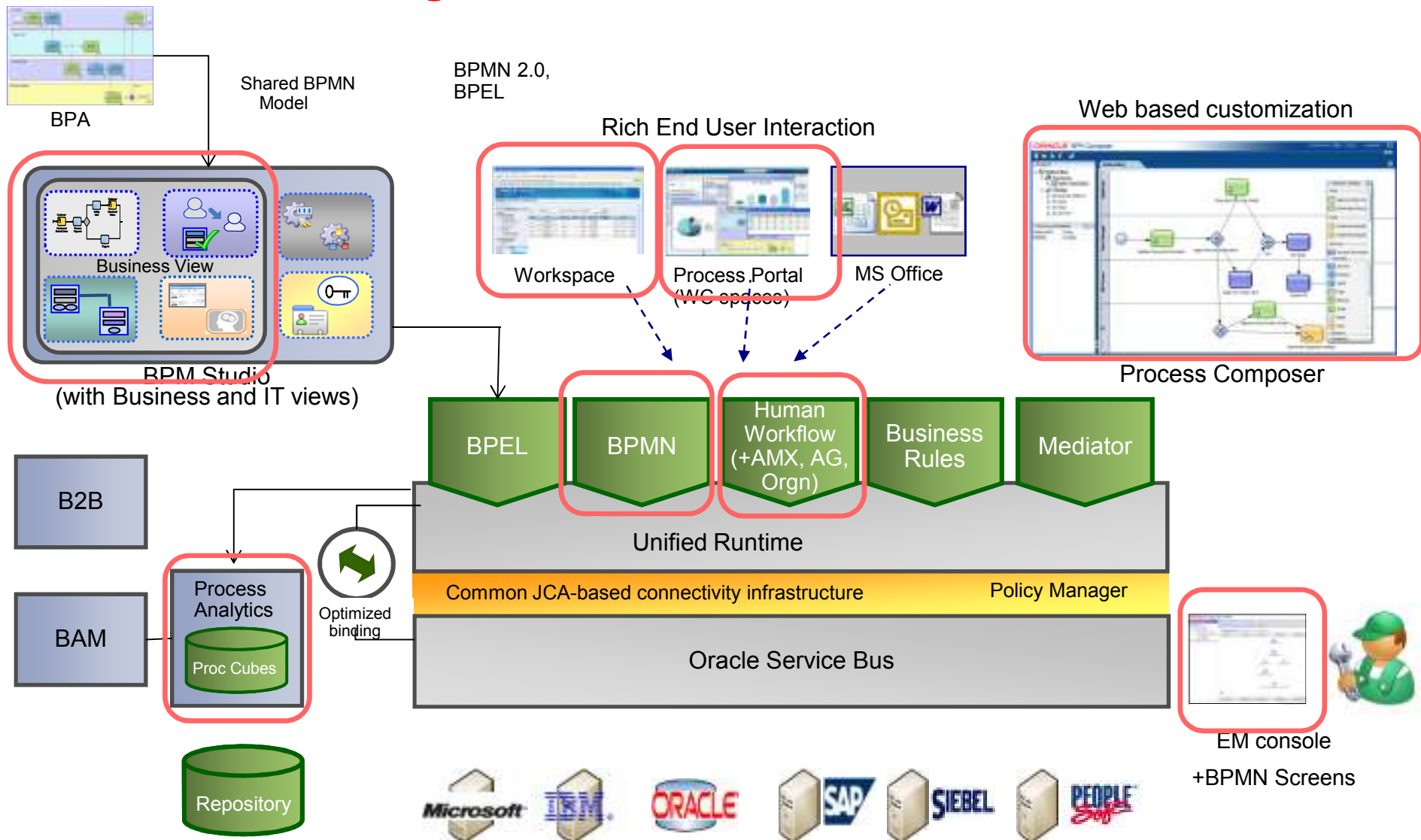
What BPM adds to SOA Suite
Asynchronous. Invocation using Message Event
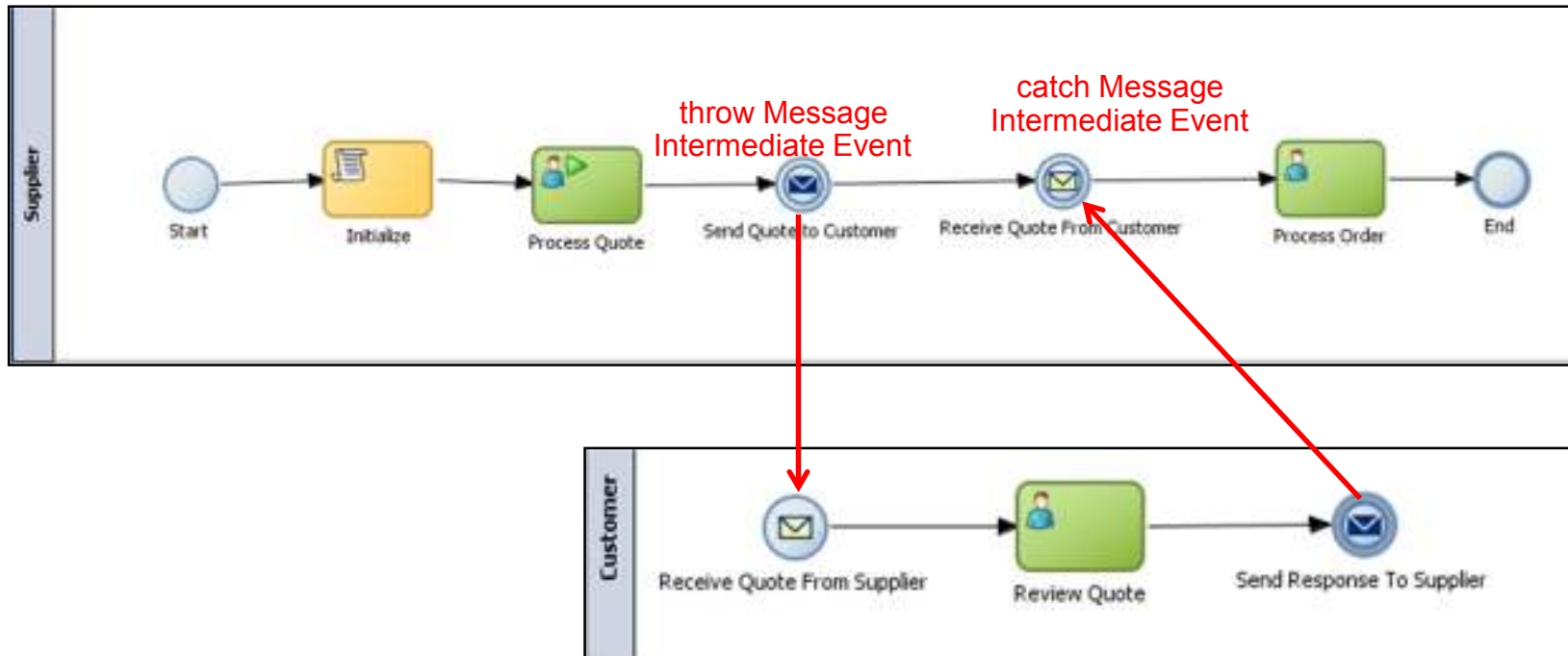
- A *throw Message Intermediate Event* (send) followed by catch Message Intermediate Event (receive) is asynchronous request-response scenario.
- A *catch Message Intermediate Event* (receive) followed by throw Message Intermediate Event (send) is receive-reply scenario.

What BPM adds to SOA Suite
BPM Suite 11g Architecture

BPA

Shared BPMN Model

Business View

BPM Studio
(with Business and IT views)

BPMN 2.0, BPEL

Rich End User Interaction

Workspace

Process Portal (WC spaces)

MS Office

Web based customization

Process Composer

| BPEL | BPMN | Human Workflow (+AMX, AG, Orgn) | Business Rules | Mediator |

Unified Runtime

Common JCA-based connectivity infrastructure   Policy Manager

Oracle Service Bus

B2B

BAM

Process Analytics

Proc Cubes

Optimized binding

Repository

Microsoft   IBM   ORACLE   SAP   SIEBEL   PEOPLE

EM console
+BPMN Screens

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