



Lessons learnt using IBM BPM v8 with SAP

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Agenda

- **Introduction**
- **The business case**
- **Solution's architecture**
- **Challenges and lessons learnt**
- **Q&A / discussions**

Introduction

About Ascendant

- **600 People Worldwide across 4 Continents**
 - Europe – London, Stockholm, Belgrade
 - US – Austin, Denver, and San Francisco
 - India – Chennai
 - Brazil - Florianopolis
- **Expertise in both Creative and Technical Consulting**
- **Part of the AVNET Group**
- **500 IBM Certifications, 21 IBM Redbooks**



About the presenters – Todor Mollov

- **In the software industry for 10 years. Using IBM software for the past 5 years.**
- **With Ascendant since 2008. Working on BPM and SOA solutions using Websphere Process Server/IBM BPM.**
- **Providing consultancy services for the Bank, Insurance and Retail sectors.**
- **Role in this project – BPM expert and technical lead**



About Compass Group

- **World's largest foodservice company**
 - Revenues **£16 billion**, Operating Profit of **£1.1 billion**
 - 50 countries, 400,000 employees, Chertsey HQ
 - FTSE 100 – strong performer

- **UK and Ireland Business**
 - Revenue **£1.9 billion**, Operating Profit **£114m**
 - Serves over **1 million** meals a day
 - Increasingly a multiple service provider



About the presenters – David Hall

- **20 years in IT development, 13 of which are at Compass**
- **Implemented numerous systems across a range of clients**
- **Head up multi-disciplinary development team**
- **15 years SAP experience**
- **New into BPM!**



The business case

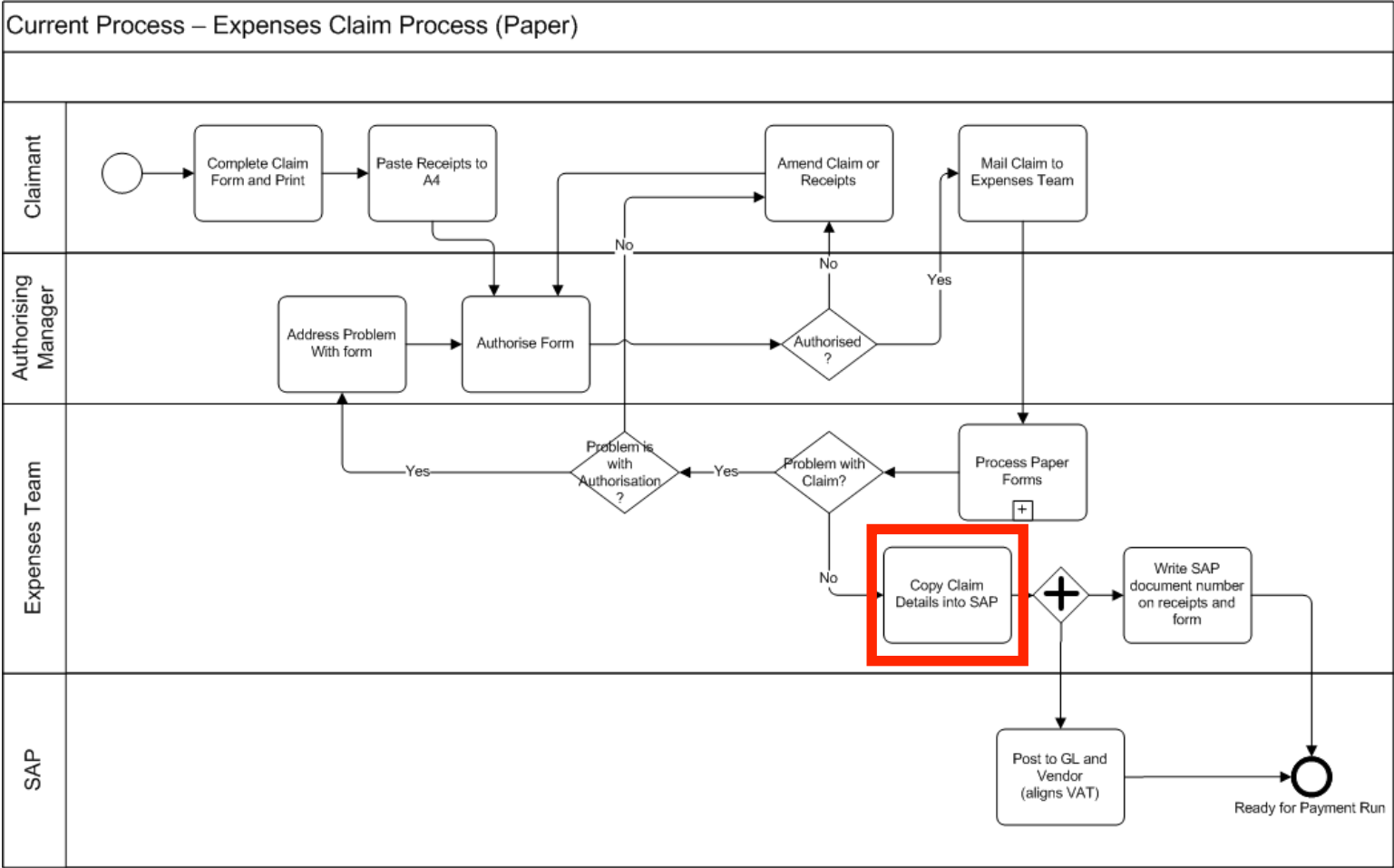
Expenses Automation

- **80,000+ employees working on 5,000+ sites, any of whom might need to submit expense claim**
- **5,000+ active claimants with 2,000+ claims submitted as Excel sheets rich in macros with mini DB.**
- **Excels sheets printed / emailed to an approver (Line Manager) and then hardcopy stapled with receipts and posted to the Finance team.**
- **3 FTE's to process expenses into SAP**
- **Expenses paid outside of payroll cycle**
- **Risk of non-compliance with P11D and tracking taxable benefits**

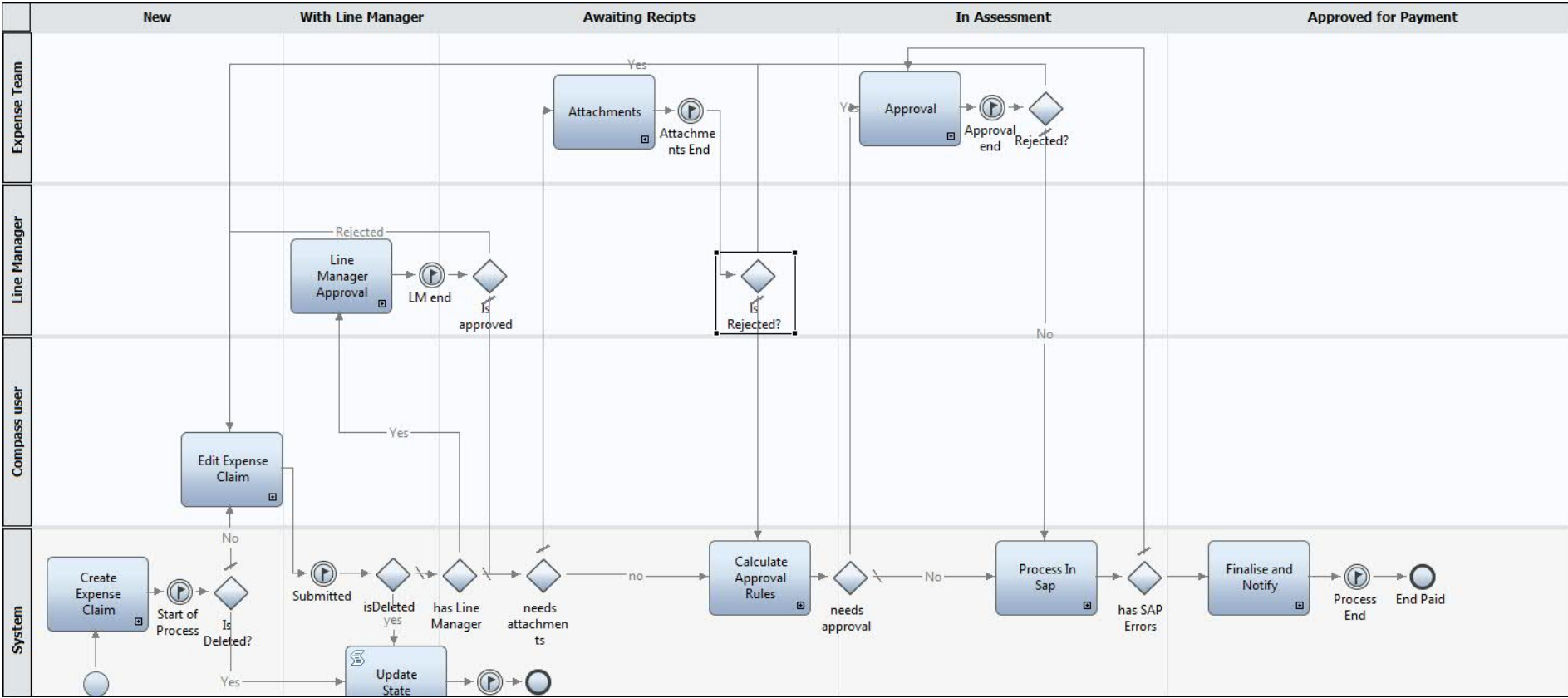
Further requirements

- **Scanned receipts stored in SAP and related to the claim**
- **Multi-currency capability – GBP / EUR**
- **Integration with payroll and recording of PSA and P11D liabilities**
- **Procurement card receipting / reconciliation functionality**
- **Accessible from the Internet as well as Compass Intranet.**

As-Is Process



To-Be Process



Project management

- **Project delivered by a team of:**
 - Business analyst - Compass
 - Technical lead - Ascendant
 - 2 BPM developers – off-shore – Ascendant
 - 1 BPM developer – Compass
 - Part-time SAP / WMB – Compass
 - 2 testers – Compass
- **10 weeks including testing**
- **Light project management but good communication, daily scrums, approachable BA and testers.**
- **Artifacts:**
 - BRD and functional spec
 - UI specs – Excel
 - Blueworks process diagrams

Guiding principles

- **Intuitive solution with minimal deployment costs**
- **Compliant with HMRC legislation around VAT, PSA and P11D reporting**
- **Use SAP to provide master / lookup data and SAP organisation structure to determine approval route**
- **Minimise ongoing running costs**

Project Timeline

	Sep 12	Oct 12	Nov 12	Dec 12	Jan 13
Scope & Plan	Active	Light	Light	Light	Light
Design / Development	Light	Active	Active	Light	Light
Testing	Light	Light	Active	Active	Light
Cutover & Deploy	Light	Light	Light	Light	Active
Communication Plan	Light	Light	Light	Active	Active

Change Management

LDAP

- Self registration functionality added

Web

- Compass expenses micro-site

Email

- Notification of new process

People

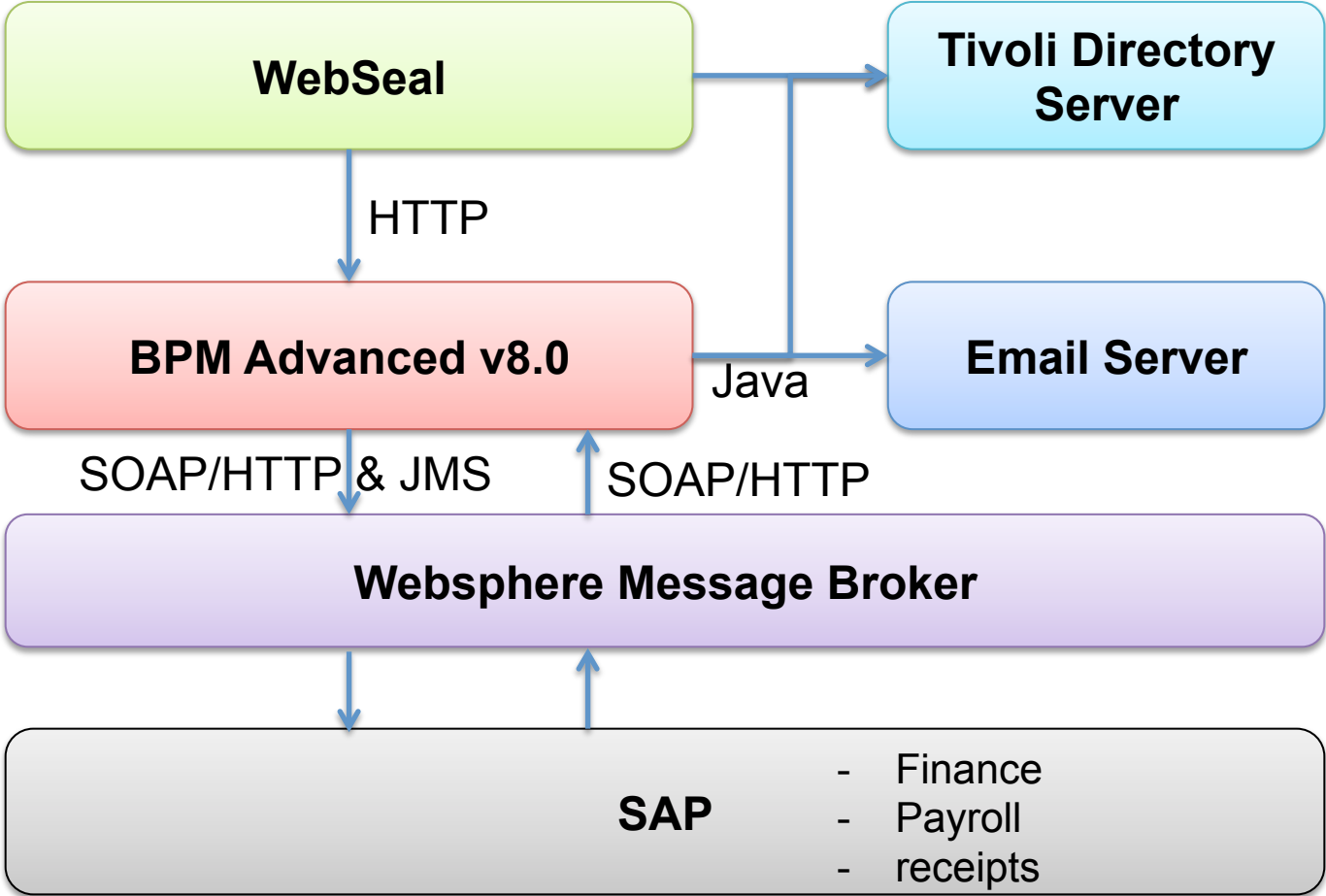
- IT and HR helpdesks briefed
- FAQ documentation

Solution architecture

Architectural decisions

- **SAP for employee and system configuration data. No additional DBs.**
- **SAP updated with financial and payroll postings at end of process.**
- **SAP exposed through WMB web services.**
- **Attachments temporarily stored in the process DB. Then moved via JMS to SAP.**
- **Integration with LDAP and WebSeal.**
- **Integration with Email server. Emails looked up from LDAP.**

Solution diagram

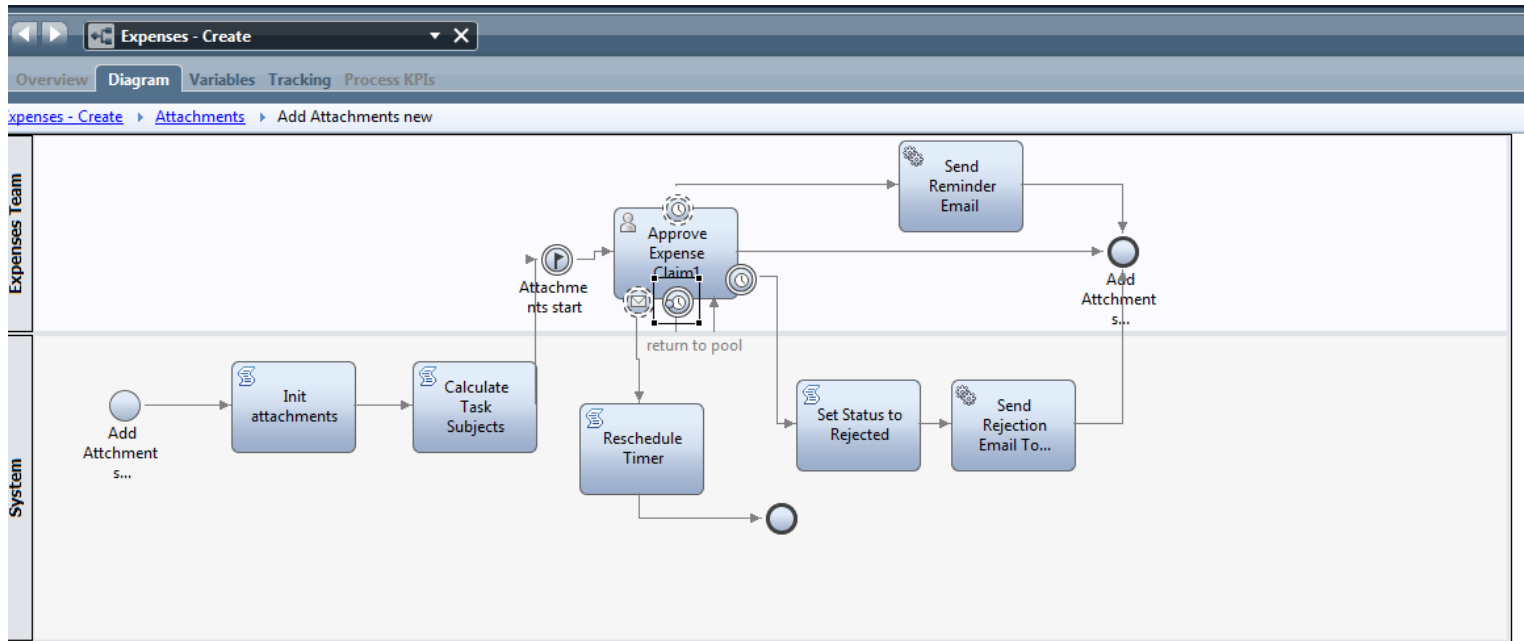


Design decisions

- **Legacy Document Attach Widget**
 - [For v8.0](#)
 - [For v8.0.1](#)
- **Custom JDBC code for managing attached documents content**
- **[Coach-validation toolkit](#)**
 - Ajax requests to server-side validation scripts.
- **Email via WAS toolkit [from the BPM wiki](#) for sending emails**
- **Using code ideas from [VMM LDAP toolkit](#) to make LDAP queries**
- **Use OOTB JMS integration (teamworks.JMSMessage) to send receipts to SAP**

Return to pool pattern 1/3

All claims must be completed within 2 hours or else any changes done in the meanwhile will be lost and the task will be re-assigned to the group.



Properties Validation Errors Where Used

General

Simulation

Implementation

Data Mapping

Pre & Post

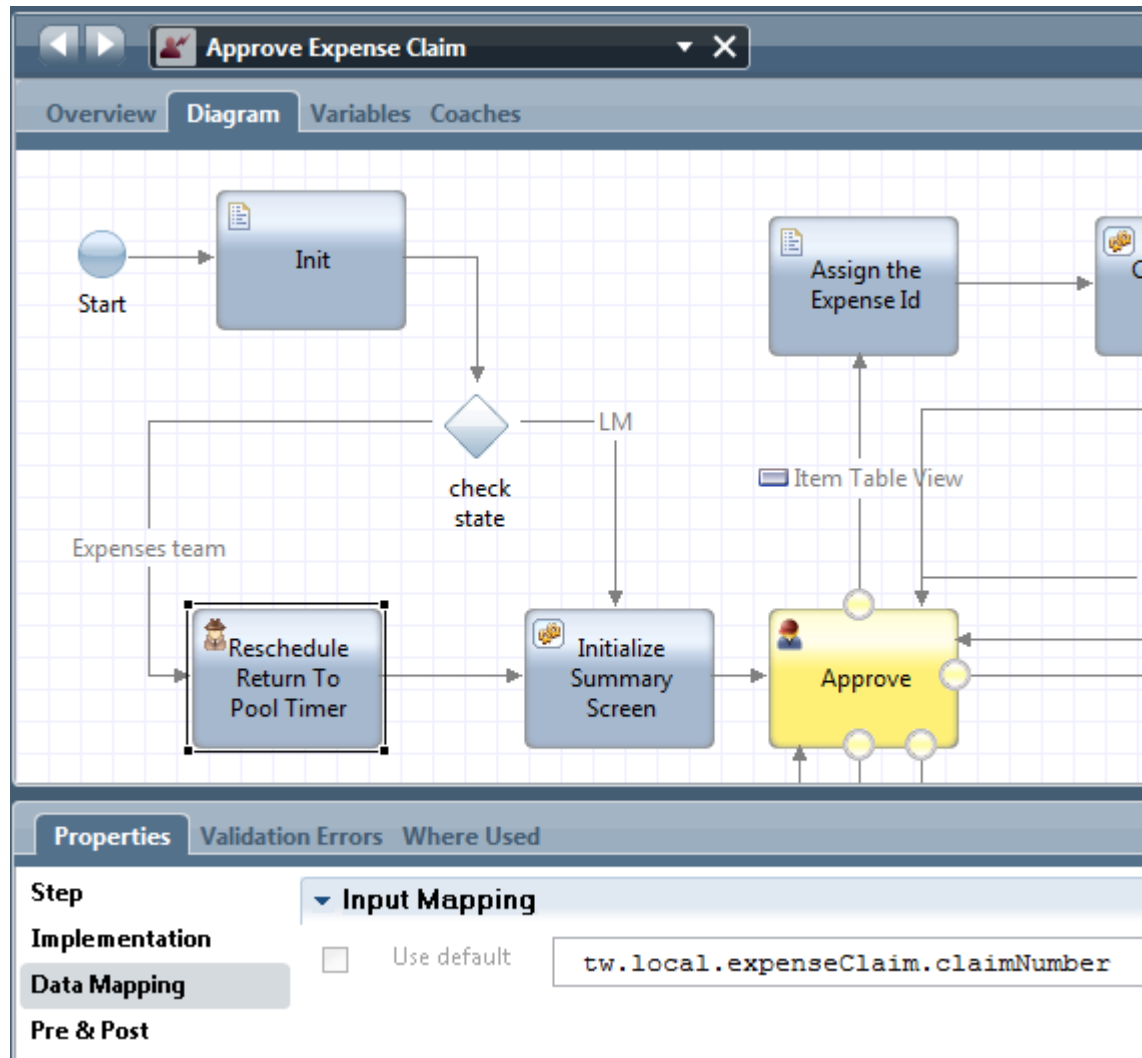
Pre Assignments

tw.local.timerID

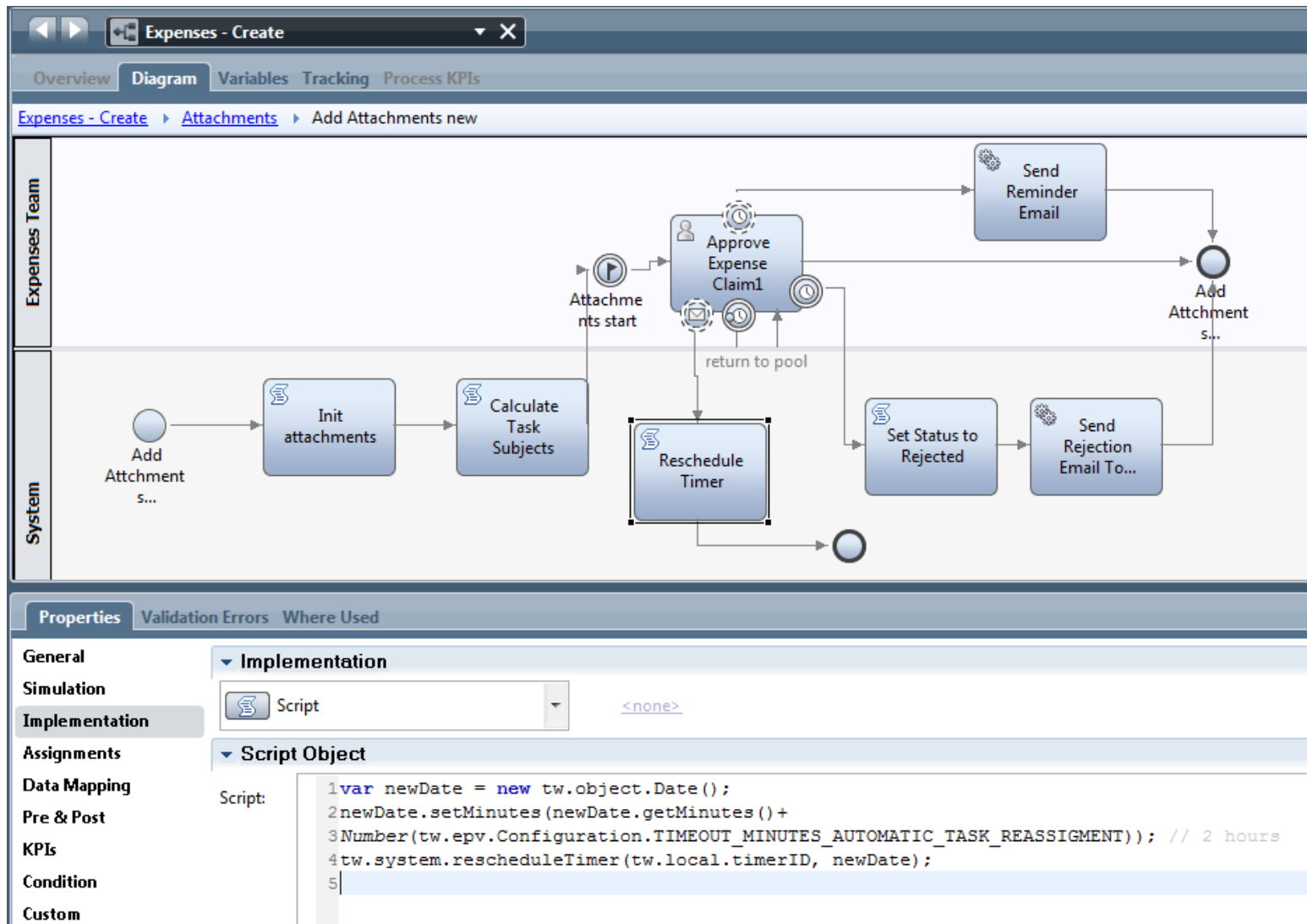
tw.system.step.timer.id

Post Assignments

Return to pool pattern 2/3

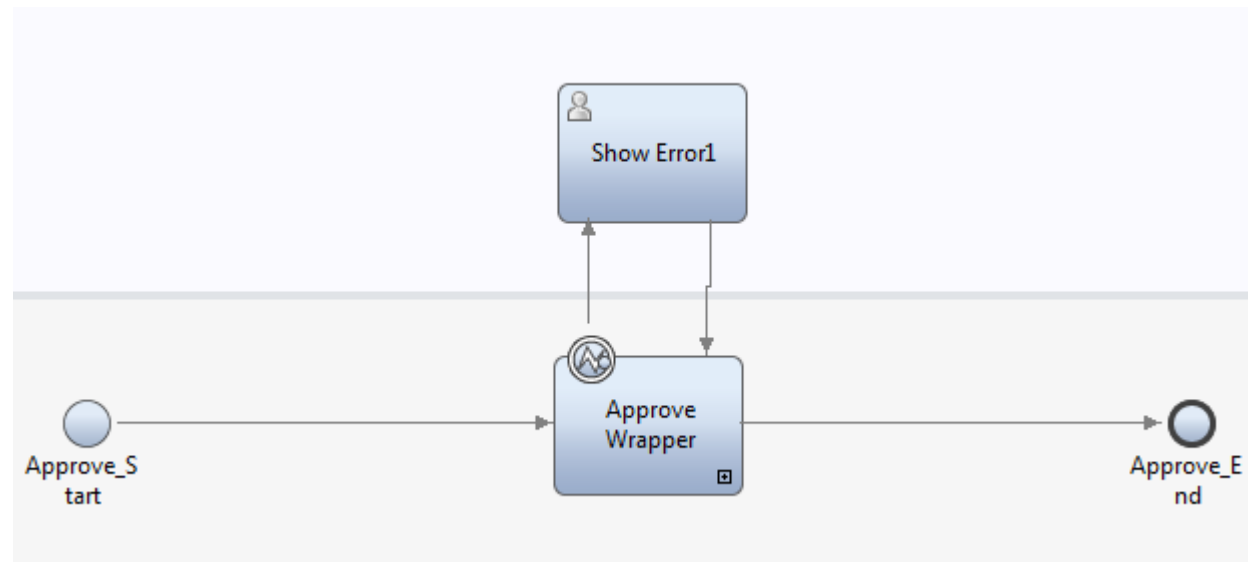


Return to pool pattern 3/3



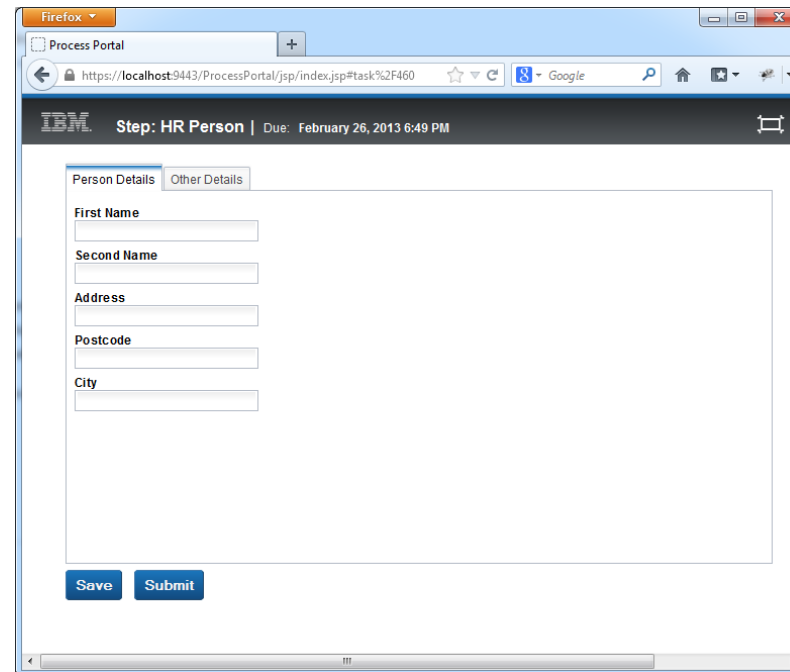
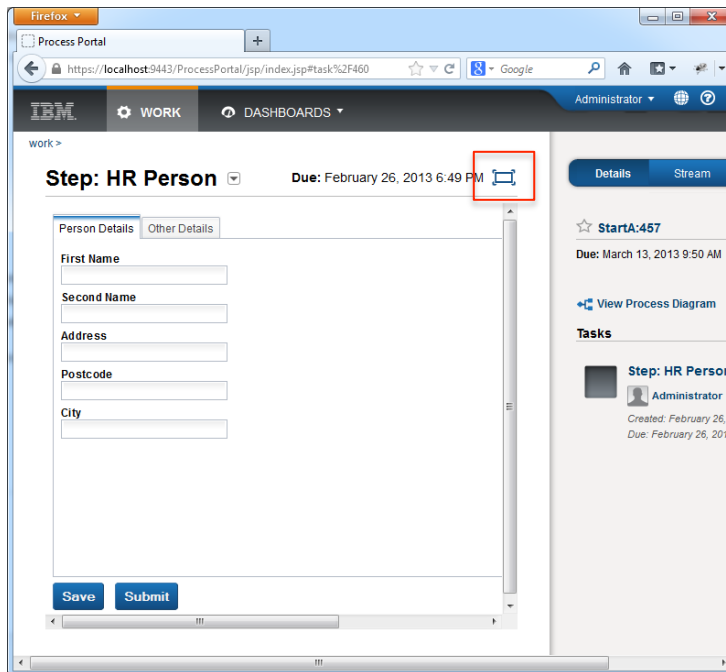
Error handling

- **Wrappers for each main process steps.**
- **Allows repeating the step.**
- **Consider carefully when wrapping system steps for atomic transactions.**



Other features

- Customised look and feel for Process Portal.
- Full screen mode for coaches



- Print coach view
- Escalations triggered by configurable SLA. Generated emails.

Challenges and lessons learnt

Challenges

BPM

- In the first wave of BPM 8 implementations
- Support multiple devices and browsers

SAP

- Solution reliant on quality of SAP master data
- Required new archiving solution
- Expenses paid via payroll

Ascendant

- Adopted onshore / offshore resource model

Compass

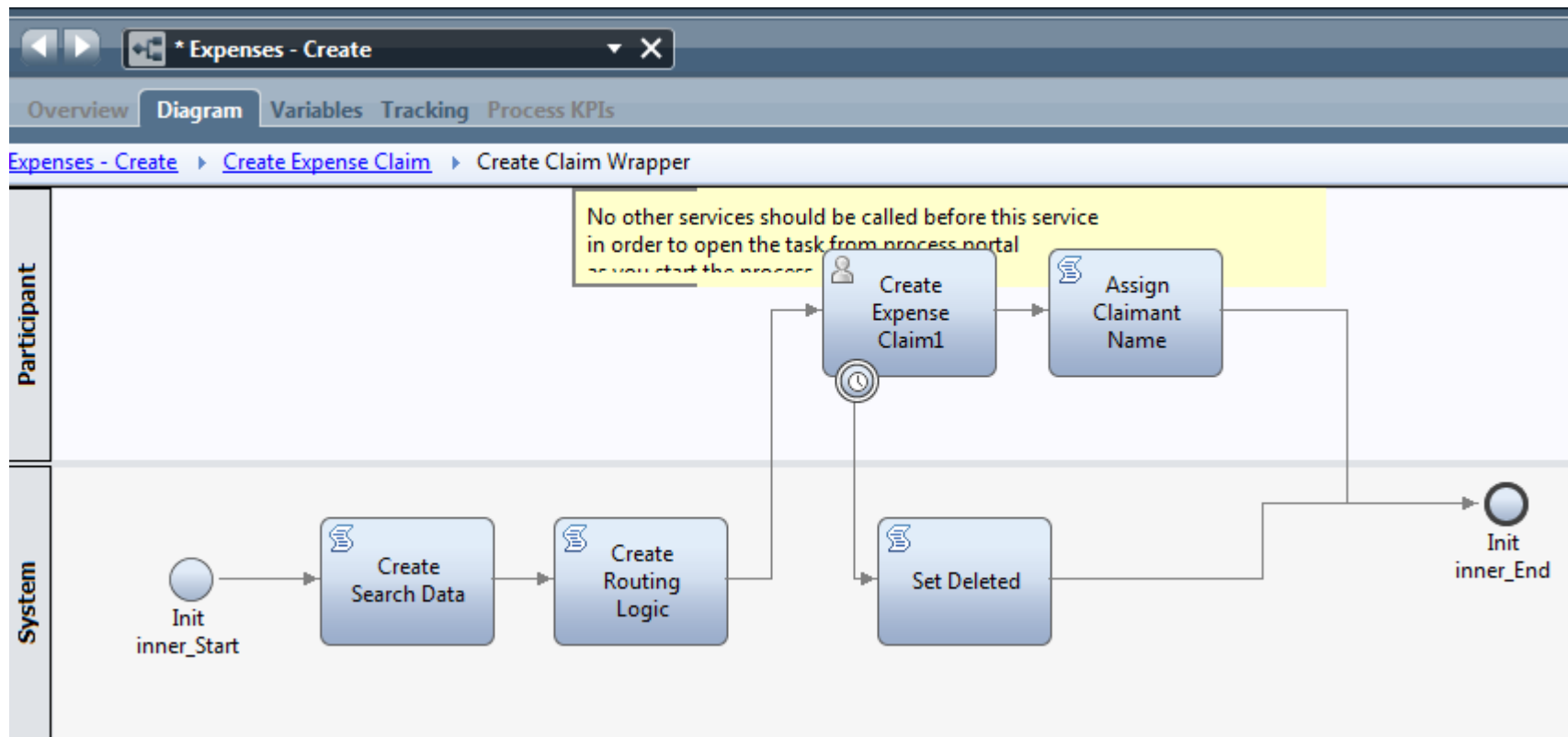
- Limited BPM knowledge
- Manage changing requirements
- Communicate to large user base

Small obstacles 1/2

- **When updating group membership, close all browser instances to clear the session. Otherwise the membership details are not being updated.**
- **SAP MIME types hardcoded against a single file extensions. Relationship is one to many** E.g. PDF - application/pdf, application/x-pdf, application/acrobat, applications/vnd.pdf, text/pdf, text/x-pdf
Decided to define allowed file extensions and BPM maps to SAP known MIME types.
- **File size check works only on HTML5 compatible browsers.**
- **Heritage coaches mixed with Coach views corrupt the BPM model – NullPointerException when saving a BO.**
- **WebDav on HTTPS is not supported in Win7 – third party WebDav client is required**

Small obstacles 2/2

- **Starting process from Process Portal and showing the coach of the first task.**
Workaround: call system services from the coach wrapper.



Other challenges

- IE performance and Java script - <http://www.webkit.org/perf/sunspider/sunspider.html>
- IE table rendering – solved with PMR. Fixed in 8.0.1.
- Delete row in a table - needs intermediate, “confirmation” coach
- Search JavaScript API – issues with search by date interval including end of year. Workaround: to split into two queries. Further issues and inconsistent behaviour.
- Session timeout error messages



Lessons learnt 1/2

- Javascript rounding - $0.1 + 0.2 = ? \dots$

Lessons learnt 1/2

- Javascript rounding - $0.1 + 0.2 = ? \dots 0.30000000000000004$

Lessons learnt 1/2

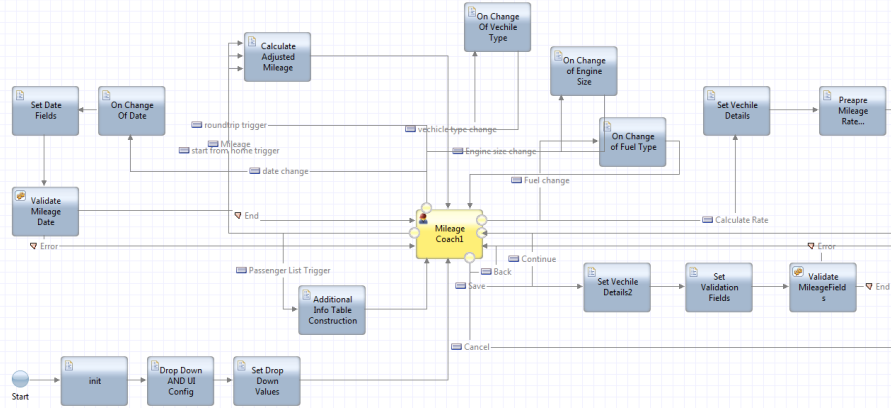
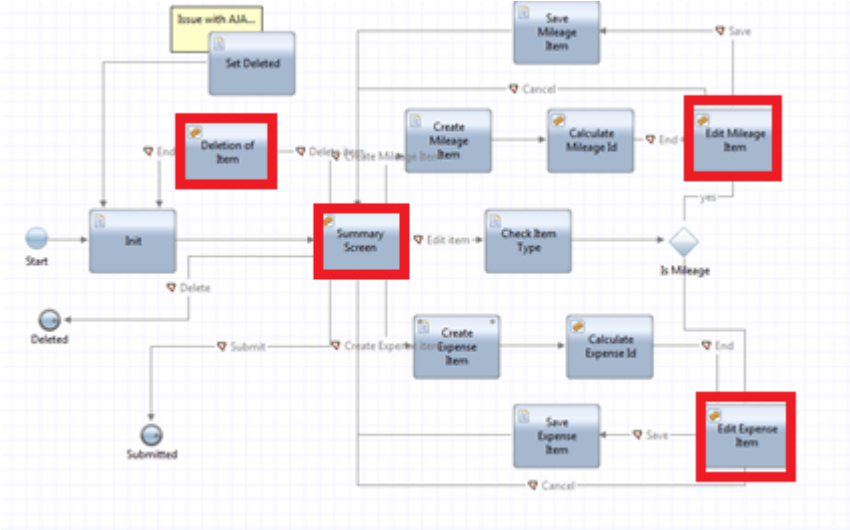
- Javascript rounding - $0.1 + 0.2 = ? \dots 0.30000000000000004$
Solution: `Math.round((X + Y)*100)/100 ;`

Lessons learnt 1/2

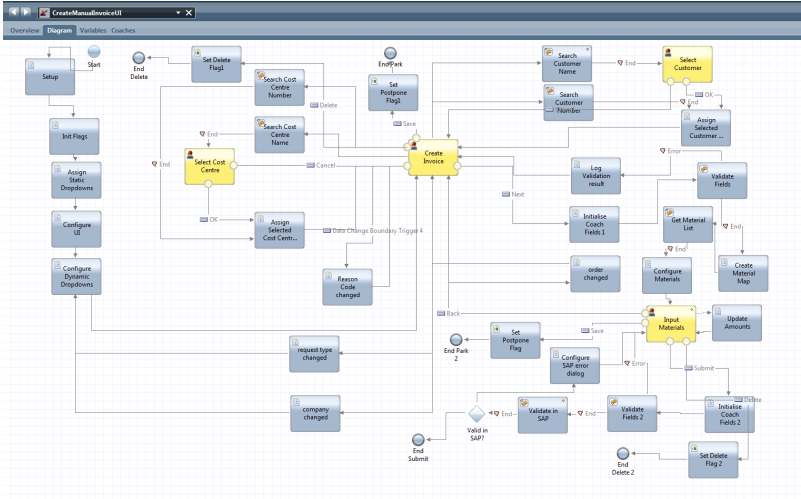
- Javascript rounding - $0.1 + 0.2 = ? \dots 0.300000000000000004$
Solution: `Math.round((X + Y)*100)/100 ;`
- Web Service integration vs “Call Webservice Via SOAP”
- Reporting – consider as a core requirement.
- Test escalations using EPV values in minutes.
- Write rules in decisions services using scripts. Decision tables and BAL Rules does not support EPVs.

Lessons learnt 2/2

- One coach per service



VS



Key messages

- **BPM integrates easily with SAP**
- **Web services fast, challenge is speed of browser**
- **Time in testing to run through all scenarios**
- **Understand value of MI and how it can be delivered**
- **Agree method and content of employee communication**



Thank You

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Hello Subsection

Insight Driven Engineering Approach

