Process Remixes - Mixing Legacy with Process Orchestration

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Agenda

• Problem Statement
• Introduction of Process Remix
• Case Study 1
  – Order Provisioning System of a Telecom Company
• Case Study 2
  – Large Global IT Services Organization
• Related Technologies
Problem Statement

Need for quick turn-around time constantly changing processes to maintain competitive edge

- To capture more information
- To comply with ever changing regulations
- For improving the process efficiency

Need to monitor end to end process

Organizations have already invested in creating and maintaining systems over years, it is expensive or complex to update or replace those systems
What is Process Remix

Process remixes are achieved by using **process orchestration** capabilities with **non-intrusive monitoring** of the existing systems.

The process model in process remixes consists of two types of activities.

- Activities that are to be added to the current process related to information capture, approvals, etc, which are orchestrated by the Process Remix engine.
- Activities of the type ‘**monitored activity**’ which are functionalities that are executed in various other applications and monitored by the monitoring engine and tracked by the Process Remix engine.

Alternate version of the process is created that implements the requirements of the business users related to process visibility and business user productivity.

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**Process Remix Engine**

- **Enter Customer Details** → **Verify Customer** → **Create Customer** → **Create Account**

**Orchestration Engine** → **Web Service** → **CRM system** → **Legacy system** → **Monitoring engine**
Why Process Remix

Can monitor same process from perspectives of various stakeholders by changing the configuration.

- Provides higher abstraction of process information to top management
- Provides day to day operation dashboard to Operation Manager
- Provides data for process analytics for process improvement to process owner

Can extend/modify the process in the current systems with minimal IT effort
Process Remix

**How**
- The status of activities executing in existing systems is tracked while the new activities are orchestrated by the Process Remix engine.
- Any monitoring mechanism (intrusive/non-intrusive) can be used.
- Both type of activities can be allocated to users using the task allocation mechanism (similar to BPMS capabilities).

**Pros**
- Process variations can be created with almost no IT effort.
- Provides end-to-end view of the process instances.
- Can help organizations modify and monitor their process without changing code in existing applications.

**Cons**
- Process Remix may provide near real time status as compared to real time status.
- Process engine is dependent on a monitoring mechanism to track the activity status.
How Process Remix Works

**Model**
- Model the activities to be *orchestrated* as regular activities
- Model the activities executing in existing systems as *monitored* activities
- Allocate all manual activities including monitored activities to user using *task allocation rules*

**Deploy and Configure**
- **Deploy the process** on Process Remix engine
- Configure the monitored engine
- Set performance indicators for activities

**Execute**
- Process Remix engine *orchestrates* the regular activities and *maintains a waiting list* of monitored activities
- User Inbox is populated with the tasks waiting for his/her actions
- Monitoring engine *tracks the status* of monitored activities
- Process Remix engine *correlates the monitored activities* to the process instances

**Monitor**
- Process remix engine maintains the *process execution details* for both orchestrated and monitored activities
- *Alerts* are sent to users as configured
- Process managers are provided with *dashboard* to oversee the process progress
BPMS Vs. Process Remix

BPMS uses adaptors and availability of services to orchestrate process executing in existing heterogeneous systems while Process Remix uses process monitoring tools.

Existing systems and processes cease to exist once BPMS is implemented while Process Remix can co-exist with existing processes and systems.

![Graph showing comparison between Process Orchestration and Process Remix](chart.png)
Process Remix Building Blocks

- User Portal
- Dashboard
- Process Modeler
- Orchestrated Activities
- Rules Designer
- Configuration Portal
- Process Remix Engine
- Orchestration Engine
- Monitored Activity Tracker
- User Allocation
- Rules Engine
- Process Remix DB
- Monitoring Engine
- Polling Engine
- Monitoring Configuration
- JAVA
- JEE
- Web Service
- E-Form
- DB
- Illustrative
- DB2
- IMS
- Message Queue
- Flat Files
- Oracle
- Log File
- SQL Server
- Mainframe Application
- C++ Application
- JEE Web Application
- .NET Web Application
Case Study 1: Order Provisioning System of a Telecom Company
Case Study

Organization

- Large Telecommunication Organization

Process

- Order Provisioning System for Voice over IP for businesses

Current Technology

- Multiple types of systems - web enabled data entry systems, legacy order processing systems, etc.
- The integration across systems is manual.
## Current Process Details

1. **Enter Customer Details**
   - Customer System (CRM)

2. **Create Order**
   - Order Entry System (Web Application)

3. **Obtain and Enter Order Details**
   - Order Processing (Mainframe)

4. **Initiate Order**

5. **Ship Router**

6. **Notify Customer to Schedule PBX Vendor**

   - A

7. **Receive Fulfillment Order completion**

8. **Issue Switch Router**

   - A

9. **Check for Site Preparedness**
   - No
     - Postpone Activation
   - Yes
     - Activate Switch
     - Handoff to Billing and Maintenance

10. **Current Process Details**

## Process Requirements

- Traceability of order
- Eliminate need to login in to multiple systems
- Consolidated Inbox where all the activities to be performed by users are maintained
- Notification in case of delay in any activity
- Automated allocation of an order to an order manager who is responsible for order completion
- Reassign of an order in case an order manager is not available
- Business users want to capture additional details during the process execution.
  - In case there is a delay in activities ‘Receive Fulfillment Order completion’, ‘Ship Router’ and or in site readiness they wanted to capture the reason of delay.
- Stakeholders did not want to make changes in multiple systems
Available Options

BPMS implementation for the entire process

- All the participating system would need to change to implement BPMS

Partial BPMS implementation where process continues to execute in heterogeneous systems, BPMS is used to allocate tasks and maintains process logs

- Once the task is completed by the user, user comes back and update the BPMS about the completion of task
- New activities can be added to the process with ease, e.g., activity to capture reason for delay can be added easily
- No change needed in existing systems
- The process execution data would corrupt in case user does not update the BPMS immediately after the completion
How We Implemented Process Remix
Process Remix Solution

Process model was created using Process Remix modeler, the model consists of:

- Orchestrated activities such as ‘Enter reason for Delay’
- Monitored activities such as ‘Receive Fulfillment Order Completion’

Task allocation rules for all manual activities such as ‘Ship Router’ assigned to ‘Order Manager’

New code was created for:

- UI screens of new orchestrated activities such as ‘Enter Reason for Delay’
- New automated services such as ‘Notify Customer to Schedule PBX Vendor’

For each monitored activity, the data event was identified and configured – ‘Enter Order’ mapped to ‘OrderDetails’ table in CRM system

SLA and alert configuration was done – ‘Activate Switch’

Advantages:

- New activities e.g. activity to capture the reason for delay was added to the process with ease
- IT team did not have to change the existing systems
- The order status is visible to all stakeholders
- Process monitoring is available from different perspectives i.e. Order Manager, Senior Management and Process Owner
Case Study 2: Employee On-boarding of a Large Global Organization
Case Study 2: IT Services Organization

**Organization**
- Large Global IT services organization with 100,000+ employees

**Objective**
- Streamline the employee on-boarding process

**Challenges**
- Employee has to complete lots of activities in systems of various functions and departments after joining, there is no defined process
- Some of these activities are dependent on actions by someone else
- HR needs traceability of what all activities completed by employee
Case Study 2: Process Remix Solution

Modeled the employee on-boarding process

- Added the order to the activities wherever needed
- Activities executed in various systems were modeled as monitored activities
- Activities were allocated using task allocation rules

Once deployed the process was configured to read the status of activities from various data sources

SLA configuration was done for process and individual activities
Case Study 2: Execution

- Process was started on the process remix engine for monitoring.
- Employees are provided with task list of all the tasks to be completed in various systems. Each task is provided with a link to go to the specific system to complete the task.
- As employees complete the task, the status is updated in process remix engine with the task completion timestamp.
- Alerts are sent to users in case SLA is breached.
- HR manager can see the status of on-boarding process for each new employee.
Other Related Technologies
Related Technologies

- Business Process Management System (BPMS)
- Service Oriented Architecture (SOA)
- Process Monitoring Solutions
- Business Process Mashup
- Using BPEL constructs (Receive/Pick)
Q n A!

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Business Process Management Systems (BPMS)

**What**
- Process and Rules is outside the applications
- What you model is what you execute

**Why**
- Need to change processes quickly
- Need to monitor processes as they execute
- Provide capability of changing business processes to process owners

**How**
- Use technologies like Workflow systems, EAI, SOA

**Pros**
- Increases the process flexibility and allows IT to respond quickly to process changes
- Enable process measurement and monitoring
- Complex task allocation rules can be used

**Cons**
- Need to reengineer the existing systems
- Existing systems need to be exposed as services
Service Oriented Architecture (SOA)

**What**
- Collection of reusable services
- The services are governed and have a life cycle

**Why**
- Low turn around time for any changes in business process
- Quick implementation of new business processes
- Quick to create variations of the process using various SOA patterns

**How**
- Collection of IT services are created which can be choreographed to create business services and processes

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- Enable process measurement and monitoring
- Complex task allocation rules can be used

**Cons**
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- Existing systems need to be exposed as services
Process Monitoring

**What**
- Enables process monitoring as process executes across systems
- Provides alerts and dashboard capability

**Why**
- Business users can improve the process based on the process reports
- Operation Manager can handle operations better with alert and dashboard capability

**How**
- Uses persisted data to find the process progress
- Uses probes in the middleware, network layer, etc to find process progress
- Provide data in format provided by tool vendor to generate reports

**Pros**
- Less effort and minimal code to use this method

**Cons**
- Does not provide process flexibility
Business Process Mashup

What
- Enables process monitoring as process executes across systems
- Provides alerts and dashboard capability

Why
- Business users can improve the process based on the process reports
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How
- Create: Business analysts compose business processes that combines existing content, applications, and services.
- Use: These business processes to Mashup server that executes the process by routing information between different people and systems

Pros
- Very easy to implement in case functionality is available as services
- Most tools provide UIs enriched with data from multiple sources, thus making decision making easy

Cons
- Extensively depends on availability of functionality as services to deliver its promise
- If services are not available, the effort is much higher
Using BPEL constructs (Receive/Pick)

What
- Use of BPEL functionality

Why
- Business user can view the process status as executed in BPMS and in external systems
- Business user can be alerted if there is a delay in execution of task in external systems

How
- Activities to be monitored can be modeled as Receive/Pick construct of BPEL
- Applications have to be modified to notify the process engine

Pros
- Provides end-to-end view of the process instances
- Process modeling is easy

Cons
- External systems need to be changed to send notification to the process engine
- The task modeled as BPEL constructs cannot be allocated to a users