SAS Workflow Overview

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Business Process Management and Workflow

- SAS Workflow Technology
  - Generalized Workflow Engine for SAS Solutions and Products
  - SAS Workflow Components
    - » SAS Workflow Studio
    - » SAS Workflow Engine

- Process Flexibility and Integration
  - Graphical Process design environment
  - Leverage Common Mid-Tier Services
 - Supports External Touch Points

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SAS Middle Tier Architecture

- Built on SAS Middle Tier Services
- Middle Tier includes Workflow
  - Workflow reuses other services including Notifications, Web Services, Scheduling, Content
- SAS Metadata support
- Provides flexible integration through web services and SAS Code execution
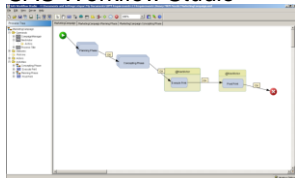- Reliability and Scalability through Application Server technologies
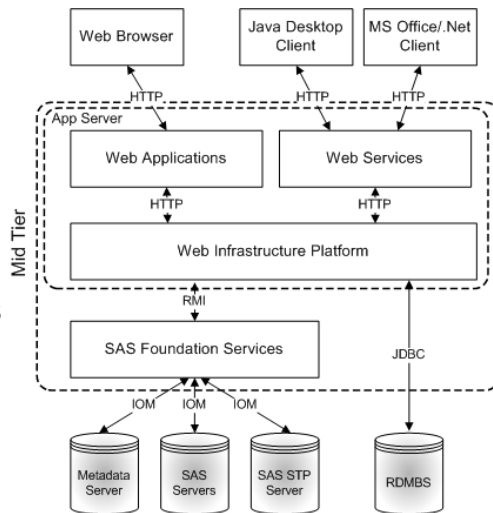
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SAS Workflow Component Interaction

SAS Workflow Studio

SAS Solution

1. Template Uploaded

2. Workflow Instantiation
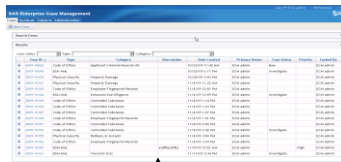
3. Process-Driven

SAS Workflow Engine
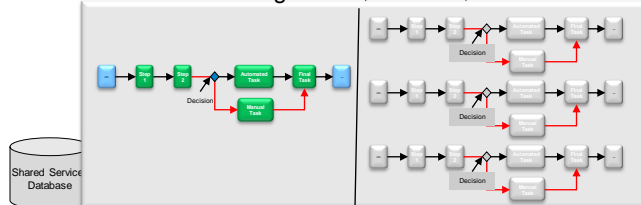
Shared Service Database

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SAS Workflow Engine Interaction Approaches

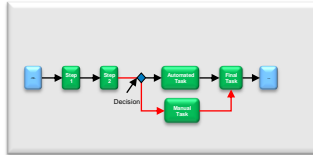Example SAS Solution

External Event Signal

3rd-Party Application

1. User-Application Launch

2. Signal-Driven Launch

3. Services-Driven Launch

SAS Workflow Service

Decision

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SAS Workflow Capabilities
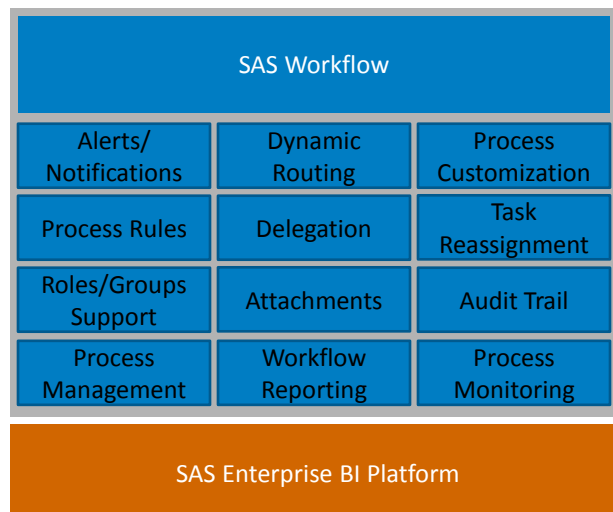
SAS Workflow

Alerts/ Notifications	Dynamic Routing	Process Customization
Process Rules	Delegation	Task Reassignment
Roles/Groups Support	Attachments	Audit Trail
Process Management	Workflow Reporting	Process Monitoring

SAS Enterprise BI Platform

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SAS Workflow Integration Touch Points

- SAS Workflow Policies
  - Support for Event → Action within Workflow
  - Flexible approach for integration with applications
  - Call outs (off ramps) to external touch points
- SAS Workflow Policies provide:
  - Web Service Application Integration
  - Reuse of existing SAS code
  - Application to Application integration
  - Send Notifications upon specified events
  - Timer-based Events drive Actions

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SAS Workflow Policies - Examples

Policy: *InvokeWebService*
Purpose: Access touch point through
                 Web Service calls
Result: Provides generalized
                 application integration

Policy: *InvokeSASCode*
Purpose: Access and reuse SAS code
Result: Data returned for use within
                 business process

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SAS Workflow Studio – Example Screenshot

- •Sub Processes
- •Supports Flexible and Modular Processes
- • Process Modifications implemented with Studio
- • Graphical Design with drag and drop
- • Reusable Process Designs
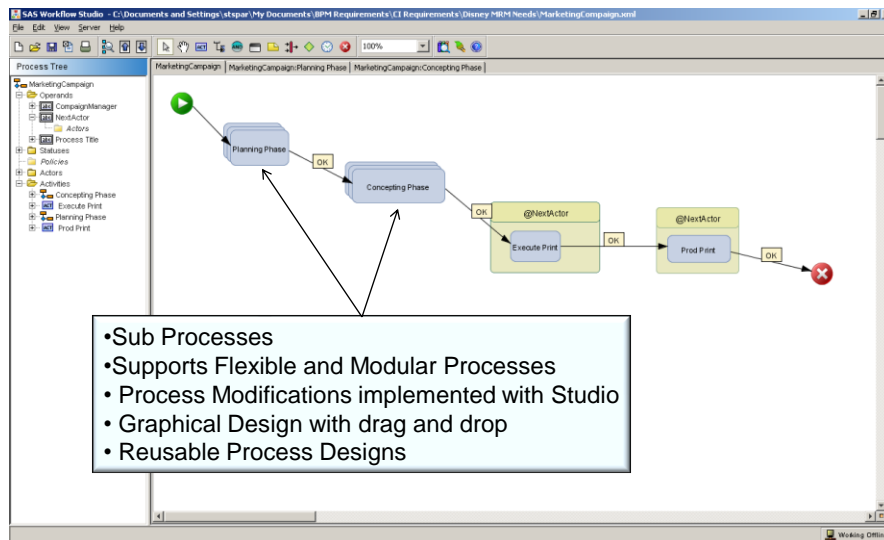
ECM – Example Workflow Design

Complete Investigation and Close Case are statuses that effectively "route" the record at the Investigator Review step

ECM – Example Workflow Design

Case 2009-10299

Status: Unedited   Save | Case Notes   Attachments | Web Search   Return to List

Action Items

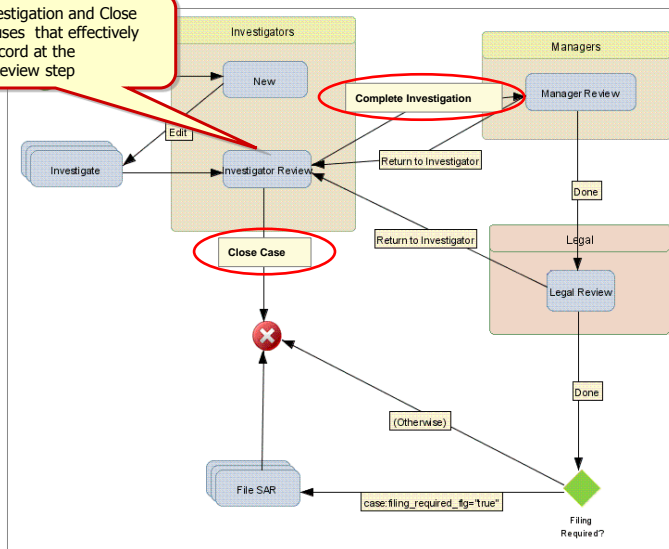| Activity	Completed date	Completed by	Status
Investigator review			
Select suspicious incidents	03/31/2009	Jill Major	Complete Investigation / Close Case
Request information from another financial institution	03/30/2009	Jill Major	
Add case narrative	03/28/2009	Steve Minor	Complete
Add case notes	03/20/2009	S	Complete

Commit Status Changes
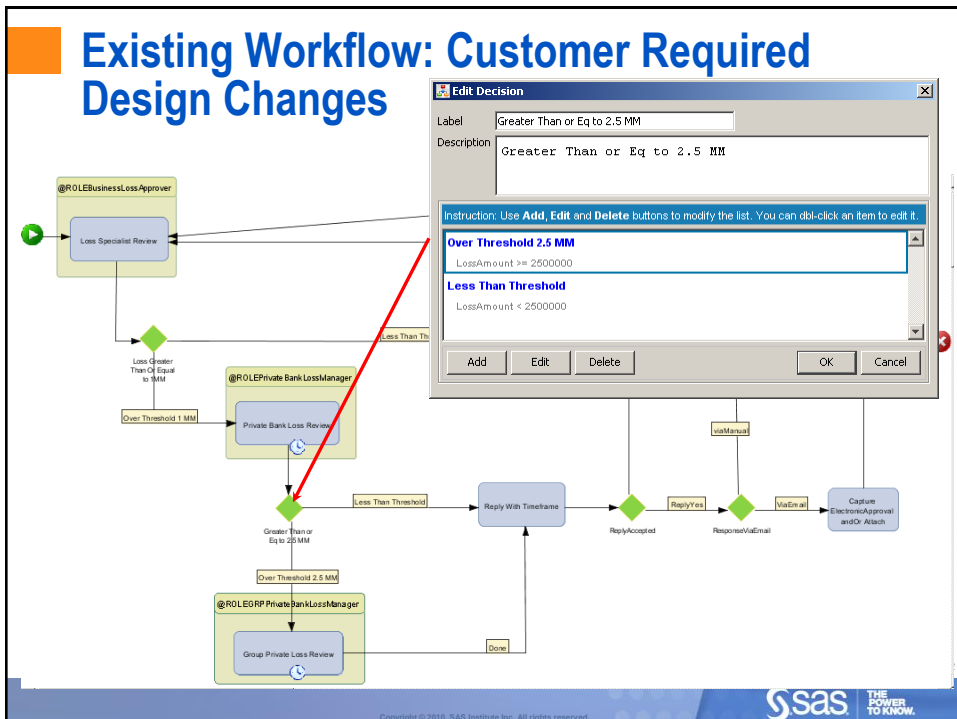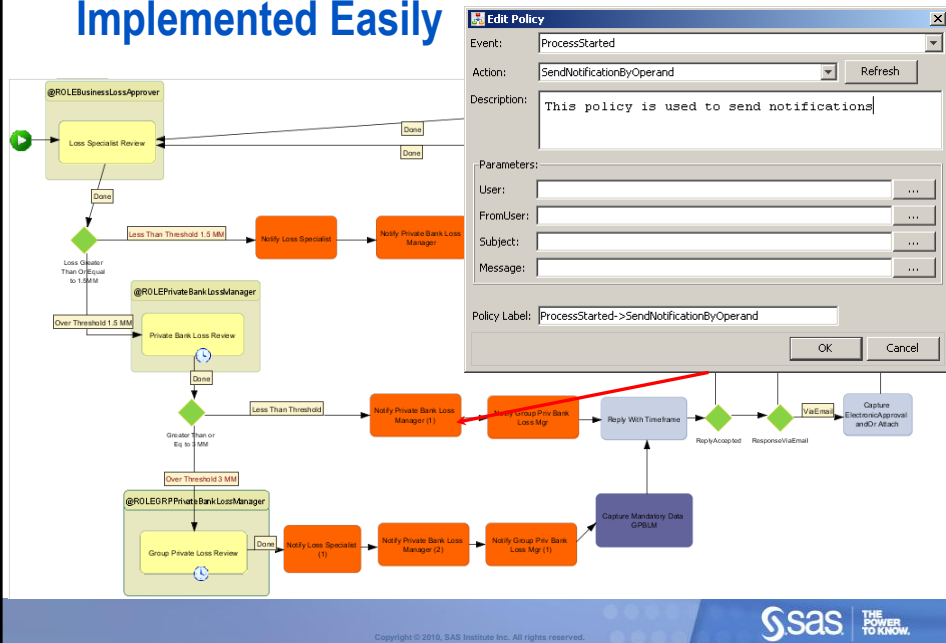
Scenario 1:
The next step in the workflow is final Investigator Review. The user reviews the changes and inputs in the record and then selects the appropriate status. In this example, selection of either status will route the case to another activity along the workflow path (once the change is committed)

Case Information

Case Details	Incidents	People/Or

Case ID:
Description:

Owner: Select...
Source system:
Case type:
Case category:
Case sub-category:
Priority:
Case group name:

Existing Workflow: Customer Required Design Changes

Edit Decision

Label: Greater Than or Eq to 2.5 MM
Description: `Greater Than or Eq to 2.5 MM`

Instruction: Use **Add**, **Edit** and **Delete** buttons to modify the list. You can dbl-click an item to edit it.

Over Threshold 2.5 MM
LossAmount >= 2500000
Less Than Threshold
LossAmount < 2500000

Add   Edit   Delete   OK   Cancel

@ROLEBusinessLossApprover
Loss Specialist Review

Loss Greater Than Or Equal to 1MM

Over Threshold 1 MM

@ROLEPrivate Bank LossManager
Private Bank Loss Review

Less Than Th

Greater Than or Eq to 25 MM

Less Than Threshold   Reply With Timeframe   ReplyYes   ViaEmail   Capture ElectronicApproval andOr Attach

viaManual

ReplyAccepted   ResponseViaEmail

Over Threshold 2.5 MM

@ROLEGRP PrivateBankLossManager
Group Private Loss Review

Done

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Enhanced Workflow: Design Changes Implemented Easily

Initial SAS Workflow Adopter Plans

SAS Offering	Proposed Workflow Usage**
SAS Enterprise Case Management 2.1	Case Management and Routing
SAS Governance Risk and Compliance (GRC)	Risk Form-Based Assessments, Notifications
SAS Retail Planning	Merchandise Planning (Review and Approvals)
SAS Social Media Analytics	Manage and Control Customer Social Media Interactions
SAS Drug Development	Program Development (Dev Test Prod)
SSO Fraud	Case Management and Tracking
SAS Model Manager 3.1	Analytical Model Lifecycle Management
SAS Manufacturing and Supply Chain	Quality Lifecycle Analysis
Demand-Driven Forecasting	Currently in use*
Financial Management 5.2	Currently in use*
Strategy Management (StM) Solutions (SPM, Profitability Management, HCM, ITRM, Warranty)	Strategy Review and Approvals Processes

*- Older Version of Workflow Engine only
** - All dates are proposed and subject to change. Respective PM's will issue final dates.

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Thank you