

Oracle Approvals Management (AME) drives email approvals of Invoice images

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Agenda

- Goals of this Session
- Solution Overview
 - Business Pain Points & Improvement Opportunity
 - New Business Process Requirements
 - Business Process Solution
- The 9 Steps to Configure the Solution
 - Payables Options enabled
 - Workflow Modification
 - AME Rules Configuration
- Results: Business Benefits Attained

Goals of this Session

- Learn about a solution that uses email as the primary interface to approve Payables Invoice
- Review the steps to enable the viewing of the Invoice image sent from Oracle for approvals
- Learn tips and techniques to configure the solution using AME and Workflow integration

Solution Overview

- Equinix implemented an automated process to approve transactions via email that originated in Oracle Payables
- An email is delivered with an approval request along with the Invoice image stored in the Applications
- Oracle's Workflow and AME functions apply rules to determine the right approver for Invoice
- The user directly approves via email by viewing the Invoice image and responding accordingly
- The response is sent and updated within Payables for the specific invoice status

Business Process Pain Points – Invoice Approvals

- Manually intensive, paper based process
 - Non-scalable
- Invoice loss in transit
- Cost incurred for physical mailing of invoices
 - both ways
- Manual accrual at month-end

Business Process Improvement Opportunity – Invoice Approvals

- Manual process steps prior to solution
 - Original Invoices sent to Sites for approval
 - Site lead disperses the paper invoices
 - Site lead collects and sends to Accounts Payables
 - Accounts Payables releases the holds off the invoice
 - Invoice is paid

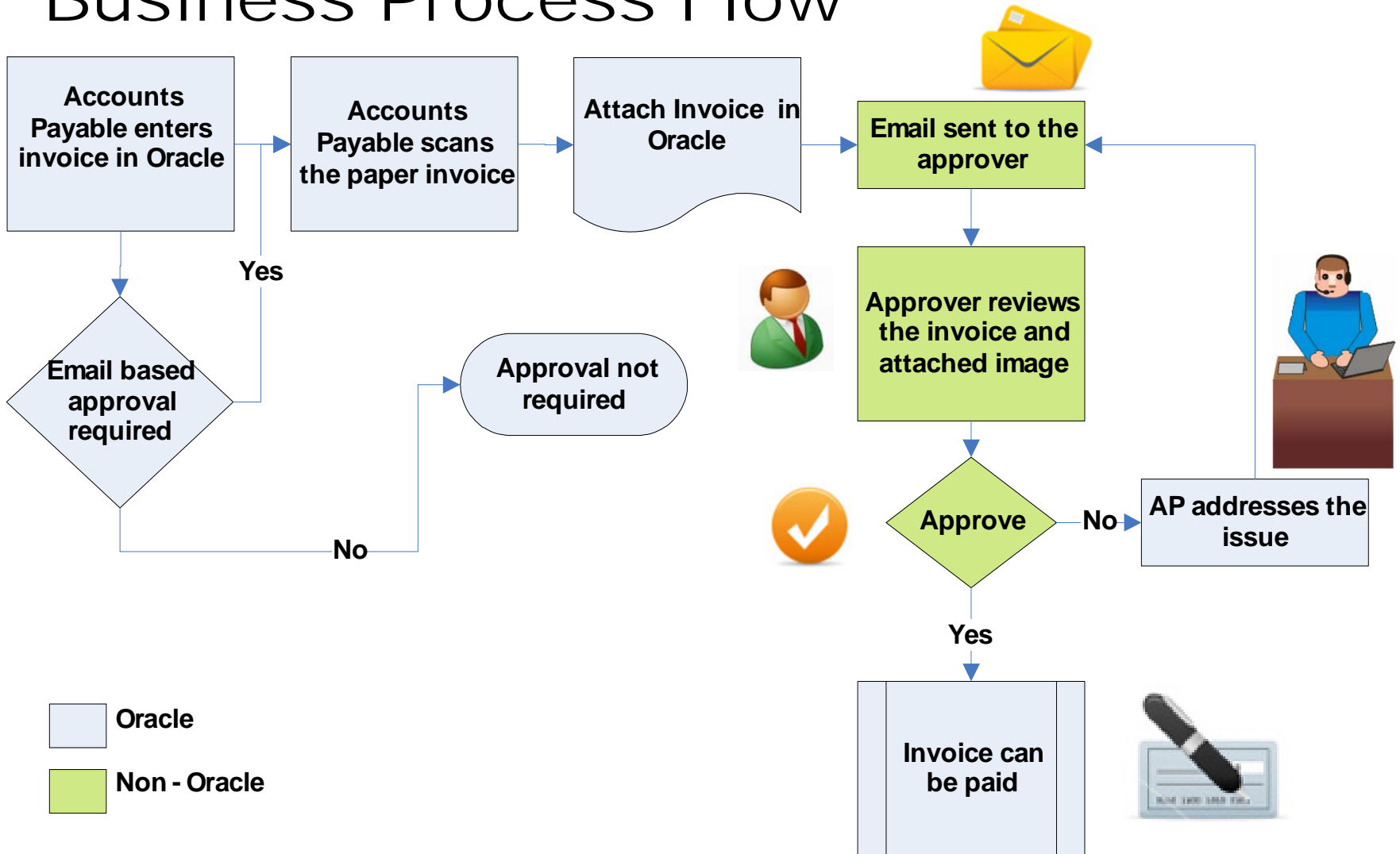
New Business Requirements for Invoice Approvals...

- Route invoices for approval after invoice validation and all invoice holds are resolved
- Send email to the Approver with the invoice image as an attachment
- System should determine Approvers based on business rules
- Approver should be able to approve, reject the invoice from email. Logging into Oracle workflow user screens not required

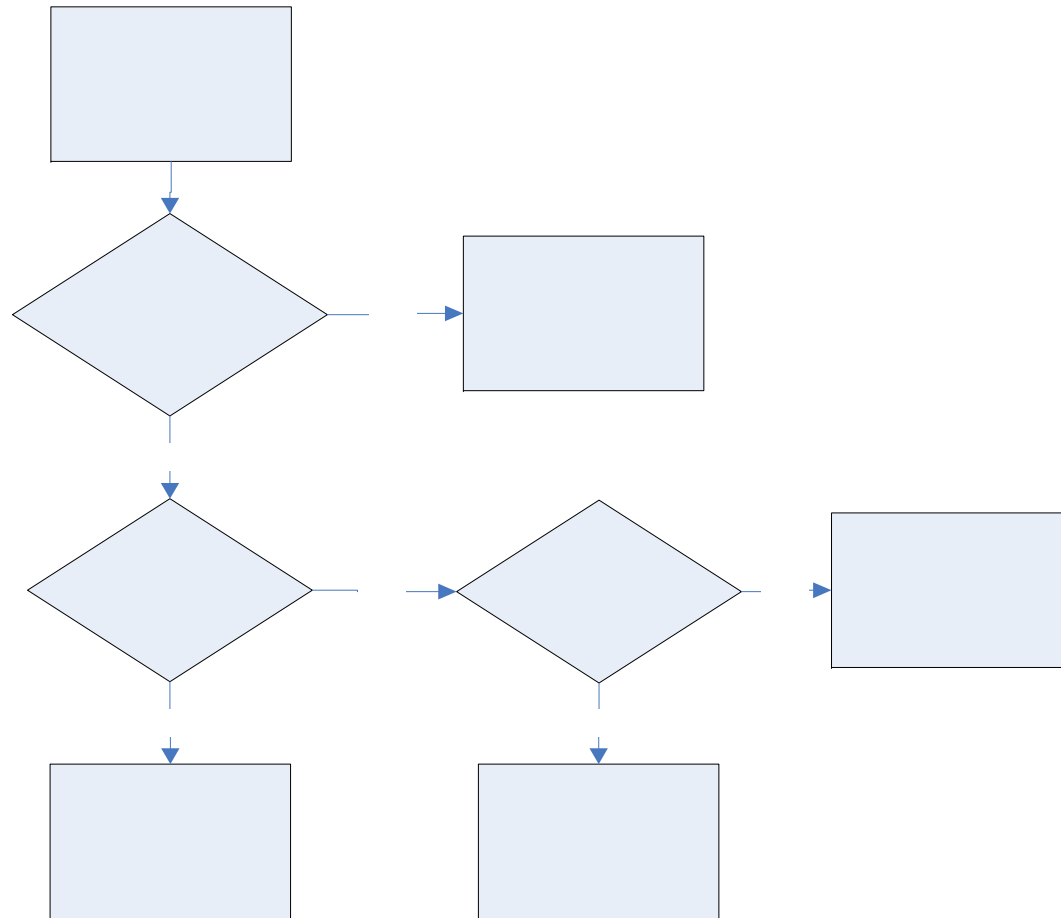
New Business Requirements for Invoice Approvals

- Invoice approval not required for 3-way match cases
(Currently requiring approvals until Receiving is enabled)
- Specific vendors are exempt from invoice approval
- Specific invoice types (e.g. Expense Reports) are exempt from invoice approval
- AP Analyst should be able to specify the approver name on the invoice for non PO Match invoices
- For PO match invoices, system should route to requester on the PO distribution line
- For Real Estate PO match invoices, a different approval flow is required

Business Process Flow



Process Flow to determine AME Rules



Payables Application Setup

Step 1: Define Custom profile Option for debugging purposes

Profiles

Name: **EQX AP SET DEBUG WORKFLOW**

Application: **Payables**

User Profile Name: **EQX: APINV Set Debug Workflow ON**

Description: **Enable/Disable debug mode for AP Invoice approval workflows**

Hierarchy Type: **Security**

Hierarchy Type Access Level

	Visible	Updatable
Site	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Application	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Responsibility	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Server	<input type="checkbox"/>	<input type="checkbox"/>
Server+Responsibility	<input type="checkbox"/>	<input type="checkbox"/>
Organization	<input type="checkbox"/>	<input type="checkbox"/>
User	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Active Dates

Start: **24-OCT-2007**

End:

User Access

Visible

Updatable

SQL Validation used for the Profile Option's List of Values

```
SQL="select lookup_code, meaning \"Set debug Workflow ON\"
into :profile_option_value, :visible_option_value
from fnd_lookups
where lookup_type = 'YES_NO'
Column=\"\"Set debug Workflow ON\"(*)"
```

Step 2: Fix Oracle Bugs and Apply Patches

- Clean up duplicate rows in oracle
 - Delete from wf_event_subscriptions where wf_process_name = 'APINV_M' and owner_tag='AP'
- Application of requisite patches
 - Patch4551936 - 11i.AP.O
 - 5948386
 - 5985780

Step 3: Setup Payables Options

Payables Options (EQUINIX - US)

Accounting M... Trans... Payme... Curre... Supplier Invoice Match... Interest Expen... Payment

Main

- Use Invoice Approval Workflow
- Allow Force Approval
- Require Validation Before Approval
- Allow Adjustments to Paid Invoices
- Recalculate Scheduled Payment
- Automatically Create Freight Distribution

Freight Account

- Confirm Date as Invoice Number
- Allow Online Validation
- Allow Document Category Override

GL Date Basis

- Invoice Date
- System Date
- Goods Received / Invoice Date (J)
- Goods Received / System Date

Prepayment

Payment Terms

Settlement Days

Build Prepayment Accounts when Matching

Step 4: Setup descriptive flexfield for Invoice Type

Descriptive Flexfield Segments

Application: **Application Object Library** Title: **Common Lookups**

Freeze Flexfield Definition Segment Separator: **Period (.)**

Context Field

Prompt: **Context Value**

Value Set:

Default Value:

Reference Field: **LOOKUP_TYPE**

Required

Displayed

Synchronize with Reference Field

Context Field Values

Code	Name
EQX_OM_TROUBLEROUTING	EQX_OM_TROUBLEROU
EQX_PRODUCT_HIERARCHY	EQX_PRODUCT_HIERAR
EQX_QOT_APPROVAL_SETUP	EQX_QOT_APPROVAL_
EQX_SR_NOTIFICATION_SETS	EQX_SR_NOTIFICATION
INVOICE TYPE	INVOICE TYPE
REQUEST_PROBLEM_CODE	REQUEST_PROBLEM_C

Segments Summary (Common Lookups) - INVOICE TYPE

Number	Name	Window Prompt	Column	Value Set	Enabled	Displayed
10	Approval Required	Approval Required	ATTRIBUTE1	AP_SRS_YES_NO_OPT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>

Value Set New Open

Example of Step 4

Payables Lookups

Type: **INVOICE TYPE**
 Meaning: **Invoice Type**
 Application: **Payables**
 Description: **Invoice types**

Access Level
 User
 Extensible
 System

Effective Dates: _____ Enabled

Code	Meaning	Description	Tag	From	To		
ADJUSTMEN	Adjustment	Adjustment document				<input checked="" type="checkbox"/>	
AWT	Withholding Tax	Withholding Tax Invoi				<input checked="" type="checkbox"/>	
CREDIT	Credit Memo	Credit Memo				<input checked="" type="checkbox"/>	
DEBIT	Debit Memo	Debit Memo				<input checked="" type="checkbox"/>	
EXPENSE RE	Expense Report	Employee Exp				<input checked="" type="checkbox"/>	No
INTEREST	Interest	Interest invoic				<input checked="" type="checkbox"/>	
MIXED	Mixed	Mixed type in				<input checked="" type="checkbox"/>	
PO PRICE AD	PO Price Adjustment	PO Price Adju				<input checked="" type="checkbox"/>	
PREPAYMEN	Prepayment	Prepayments				<input checked="" type="checkbox"/>	
QUICKDEFAU	PO Default	PO Default Standard i				<input checked="" type="checkbox"/>	

Common Lookups

Approval Required: ...

OK Cancel Clear Help

Step 5: Setup descriptive flexfield for Vendor Sites Exemptions

Descriptive Flexfield Segments

Application: **Purchasing** Title: **Vendor Sites**

Freeze Flexfield Definition Segment Separator: **Period (.)**

Context Field

Prompt: **Context** Required

Value Set: Displayed

Default Value:

Reference Field:

Context Field Values

Code	Name
Global Data Elements	Global Data Elements

Segments Summary (Vendor Sites) - Global Data Elements

Number	Name	Window Prompt	Column	Value Set	Enabled	Displayed
1	Transmission Type	Transmission Type	ATTRIBUTE1	EQUINIX_PRINT_FAX_EM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2	E-Mail Address	E-Mail Address	ATTRIBUTE2	AR_VARCHAR_150	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3	Invoice Approval Requi	Invoice Approval Requi	ATTRIBUTE8	AP_SRS_YES_NO_OPT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>

Value Set New Open

Step 6: Setup value set for Invoice Approver (prevents preparer to enter their own name)

The image shows two overlapping Oracle configuration windows. The background window is titled "Value Sets" and shows the configuration for a value set named "EQX AP US PERSON". The "List Type" is set to "List of Values". Under "Format Validation", the "Format Type" is "Char". Under "Value Validation", the "Validation Type" is "Table".

The foreground window is titled "Validation Table Information" and shows the configuration for a validation table. The "Table Application" is "Human Resources" and the "Table Name" is "per_people_f ppf, per_person_types". The "Table Columns" section contains the following table:

	Name	Type	Size
Value	ppf.full_name	Char	55
Meaning			
ID	ppf.person_id	Number	15

The "Where/Order By" clause is:

```
WHERE ppf.business_group_id +0 =
:$PROFILES$.per_business_group_id
AND ppf.person_id not in (select employee_id from fnd_user where
user_id = :$PROFILES$.USER_ID)
AND ppt.person_type_id = ppf.person_type_id +0
AND ppt.system_person_type in ('EMP','EMP_APL','EX_EMP','EX_EMP_APL')
```

There is a "Test" button at the bottom of the "Validation Table Information" window.

Step 7: Setup descriptive flexfield for Invoice Approver at Invoice Header

Descriptive Flexfield Segments

Application: **Payables** Title: **Invoice**

Freeze Flexfield Definition Segment Separator: **Period (.)**

Context Field

Prompt: **Context** Required

Value Set: Displayed

Default Value:

Reference Field:

Context Field Values

Code	Name
Global Data Elements	Global Data Elements

Segments Summary (Invoice) - Global Data Elements

Number	Name	Window Prompt	Column	Value Set	Enabled	Displayed
10	Approver Name	Approver Name	ATTRIBUTE1	EQX_AP_US_PERSON	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>

Value Set New Open

Step 8: Setup value set for Real Estate Approver

Descriptive Flexfield Segments

Application: **Payables** Title: **Invoice**

Freeze Flexfield Definition Segment Separator: **Period (.)**

Context Field

Prompt: **Context** Required

Value Set: Displayed

Default Value:

Reference Field:

Context Field Values

Code	Name
Global Data Elements	Global Data Elements

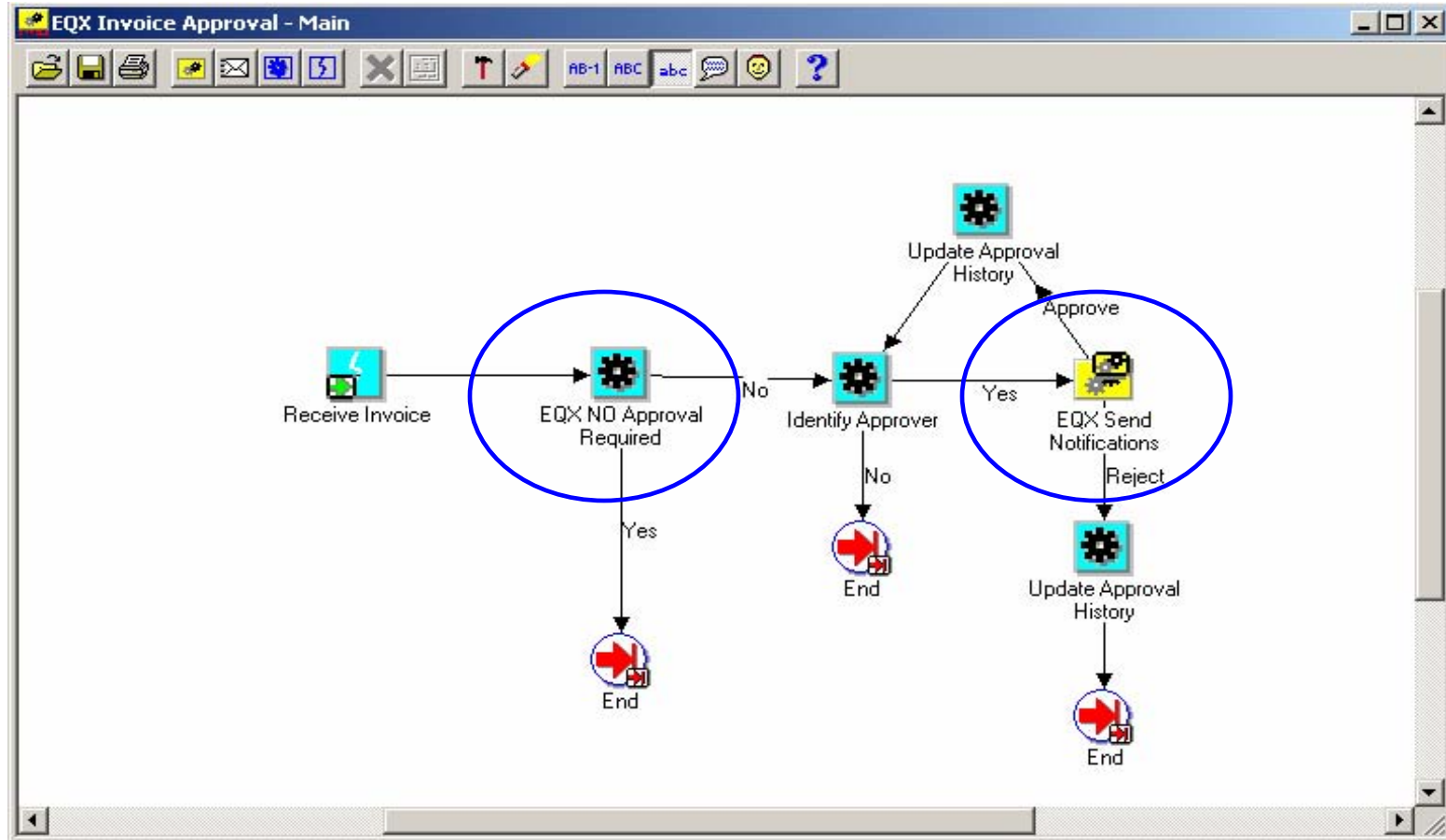
Segments Summary (Invoice) - Global Data Elements

Number	Name	Window Prompt	Column	Value Set	Enabled	Displayed
10	Approver Name	Approver Name	ATTRIBUTE1	EQX_AP_US_PERSON	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>

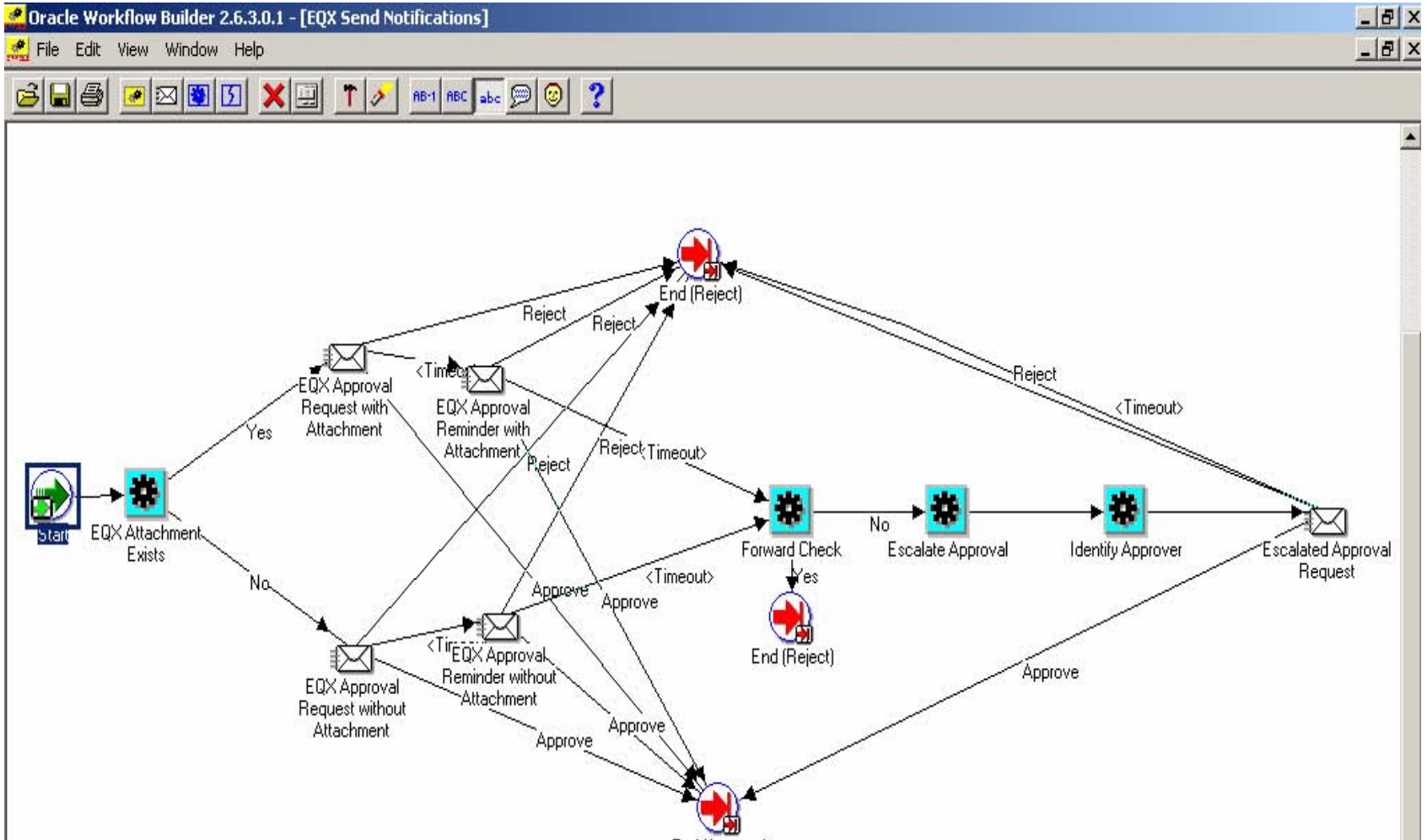
Value Set New Open

Workflow Modification

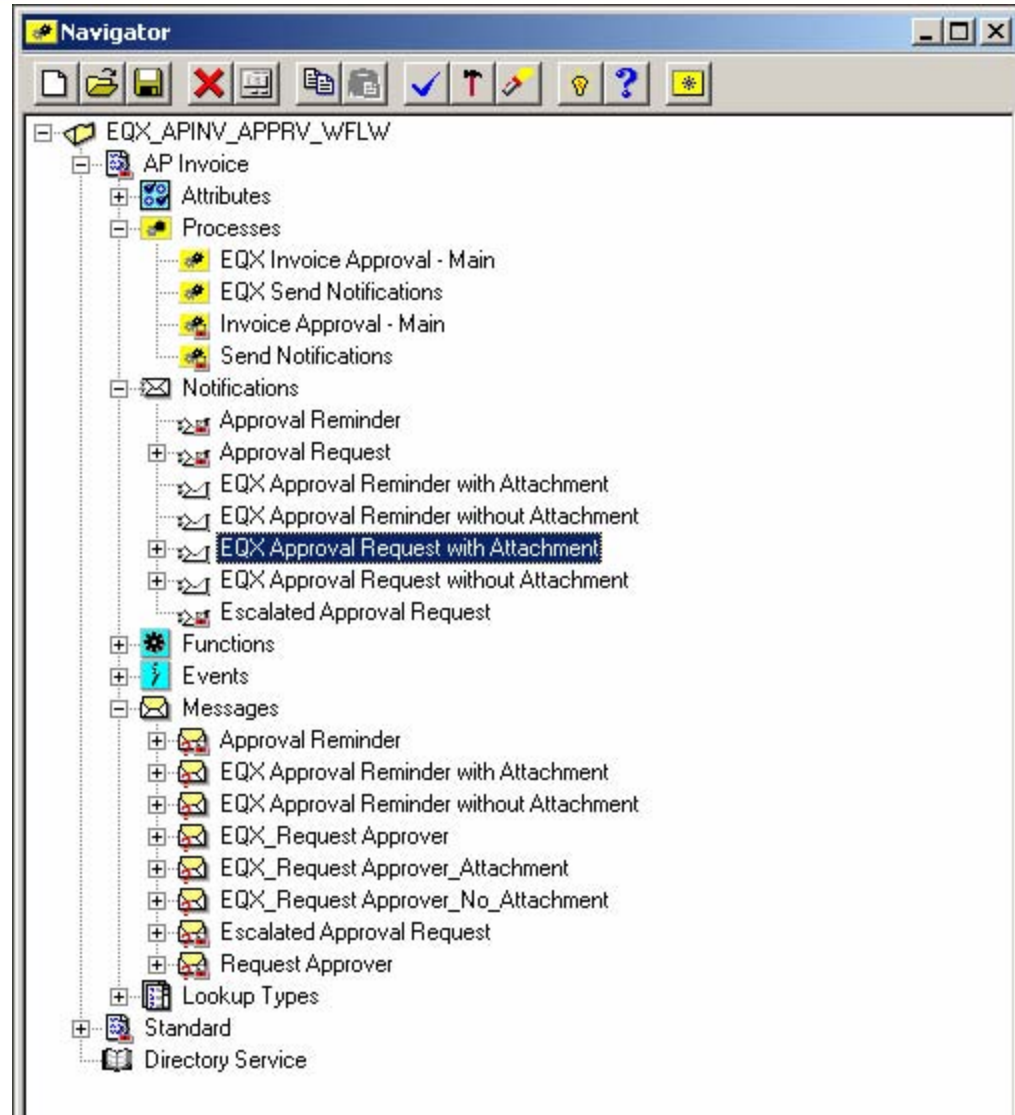
Step 9.1: Modify Invoice Approval Workflow...



Step 9.2: Modify Send Notification Workflow...



Step 9.3: View List of Workflow Modifications



Step 9.4: Key Feature - Add Attribute of Document Type

The screenshot shows the Oracle Workflow Builder 2.6.3.0.1 interface. The Navigator pane on the left displays a tree view of workflow elements, including Notifications, Functions, Events, and Messages. The 'EQX Approval Reminder with Attachment' message is selected, and its 'EQX Attachment' attribute is highlighted. The 'Navigator Control Properties' dialog box is open, showing the configuration for this attribute.

Navigator Control Properties

Attribute

Message: EQX Approval Reminder with Attachment

Internal Name: EQX_ATCH

Display Name: EQX Attachment

Description:

Type: Document

Source: Send

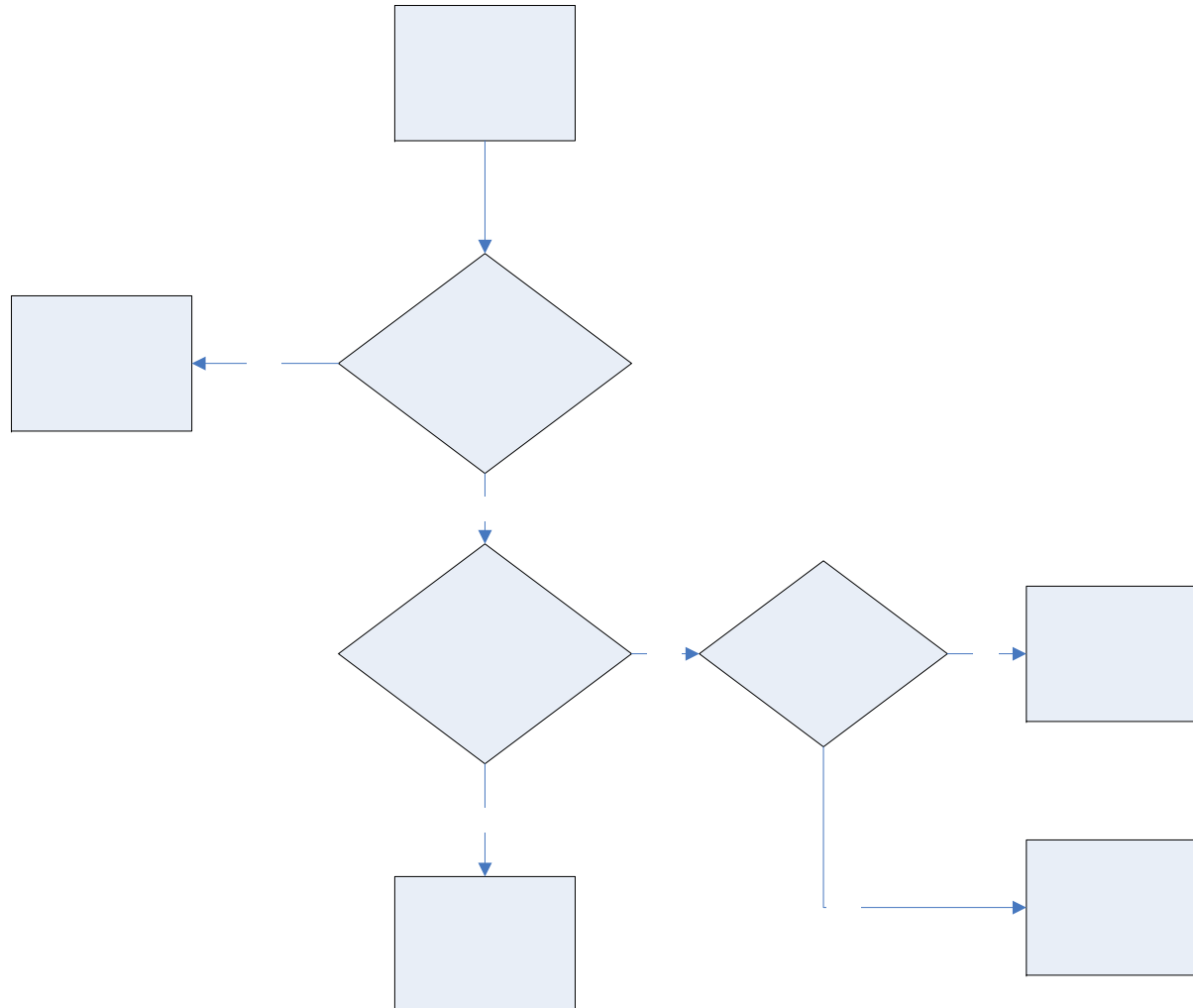
Frame Target: Full Window Attach Content

Default

Type: Item Attribute

Value: EQX Attachment

AME Rules Configuration Definition



AME Rules Configuration

- The option to enable a “Pre-Approver” is implemented using pipelined functions and requires the following changes:
 - Leverage the descriptive flex on HR Table holding the People information
 - Create a data structure to create a list object
 - Create a package procedure to generate the list of approvers

AME Rules Configuration Setups

- **Create Attributes**

- New attributes with dynamic usage type is created with SQL
- Create : AME Application Administrator -> Approvals -> Payables Invoice Approval -> Attributes

- **Create Conditions**

- Create : AME Application Administrator -> Approvals -> Payables Invoice Approval -> Conditions

- **Create Approver Group**

- Create : AME Application Administrator -> Approvals -> Payables Invoice Approval -> Groups

- **Create AME Rules**

- Create : AME Application Administrator -> Approvals -> Payables Invoice Approval -> Rules

Results: Business Benefits Attained

- **Saves Time**
 - Streamlines the business process with automated invoice routing
 - Saves time by reducing manual steps to obtain timely approvals
 - Provides an automated flexible solution to the business users
 - Enables the capability to automate month-end accruals
- **Reduces Costs**
 - Prevents loss of invoices in transit
 - Reduces Invoice mailing cost
- **Improves Accuracy**
 - Eliminates manual spreadsheets to track routed invoice approvals
 - Enables an audit trail available in the system for business review
 - Sends outlook email notifications to the managers and approvers with attachment and prompts them to take appropriate action

Appendix

- **Create Attributes:**

- New attributes with dynamic usage type is created with SQL queries as below.
 - Create : AME Application Administrator -> Approvals -> Payables Invoice Approval -> Attributes

Item Class	Name	Attribute Type	Description	Static Usage	Usage
Header Item	IS_APINVOICE_PO_MATCH	Number	Is AP Invoice matched to a PO	No	select EQX_AP_AME_PKG.eqx_is_po_match(transactionId) from dual
Header Item	IS_APINVOICE_REAL_ESTATE_PO	Number	Is AP Invoice matched to a Real Estate PO	No	select EQX_AP_AME_PKG.eqx_is_real_estate_po(transactionId) from dual

- **Create Conditions:**

- Create : AME Application Administrator -> Approvals -> Payables Invoice Approval -> Conditions

Condition Type	Item Class	Condition attribute	Lower Limit	Upper Limit	Lower Limit Include	Upper Limit Include
Ordinary	Header	IS_APINVOICE_P O_MATCH		0	N	Y
Ordinary	Header	IS_APINVOICE_P O_MATCH	1		Y	N
Ordinary	Header	IS_APINVOICE_R EAL_ESTATE_PO		0	N	Y
Ordinary	Header	IS_APINVOICE_R EAL_ESTATE_PO	1		Y	N

- **Create Approver Group:**

- Create : AME Application Administrator -> Approvals -> Payables Invoice Approval -> Groups

Name	Description	Order Number	Voting Regime	Active List	Query
EQX_APINV_INV_HDR_GROUP	EQX_APINV_INV_HDR_GROUP	Unique, 25	Serial	Dynami c	SELECT <u>column_value</u> from table (cast(EQX_AP_AME_PKG.GET_INV _HDR_APPROVER(:transactionId) as <u>eqx_apinv_aprvrs_list</u>))
EQX_APINV_REQUESTER_GROUP	EQX_APINV_REQUESTER_MGR GROUP	Unique, 26	Serial	Dynami c	SELECT <u>column_value</u> from table (cast(EQX_AP_AME_PKG.GET_REQ UESTER(:transactionId) as <u>eqx_apinv_aprvrs_list</u>))
EQX_APINV_REAL_ESTATE_GROUP	EQX_APINV_REAL_ESTATE GRO UP	Unique, 27	Serial	Dynami c	SELECT <u>column_value</u> from table (cast(EQX_AP_AME_PKG.GET_REA L_ESTATE_APPROVER as <u>eqx_apinv_aprvrs_list</u>))

- **Create AME Rules:**
- Create : AME Application Administrator -> Approvals -> Payables Invoice Approval -> Rules

SI No	Header List-Creation Rules	Lifespan	Category
1	<p>EQX_APINV_GET_INV_HDR_APPRVR</p> <p>Rule Key: EQX_APINV_GET_INV_HDR_APPRVR</p> <p>Conditions:</p> <p>1. IS_APINVOICE_PO_MATCH <= 0</p> <p>Actions:</p> <p>1. approval-group chain of authority: Require approval from EQX_APINV_INV_HDR_GROUP</p>	24-OCT-2007 onward	action
2	<p>EQX_APINV_GET_REQUESTER</p> <p>Rule Key: EQX_APINV_GET_REQUESTER</p> <p>Conditions:</p> <p>1. 1 <= IS_APINVOICE_PO_MATCH</p> <p>2. IS_APINVOICE_REAL_ESTATE_PO <= 0</p> <p>Actions:</p> <p>1. approval-group chain of authority: Require approval from EQX_APINV_REQUESTER_GROUP</p>	24-OCT-2007 onward	action
3	<p>EQX_APINV_GET_REAL_ESTATE_APPROVER</p> <p>Rule Key: EQX_APINV_GET_REAL_ESTATE_APPROVER</p> <p>Conditions:</p> <p>1. 1 <= IS_APINVOICE_PO_MATCH</p> <p>2. 1 <= IS_APINVOICE_REAL_ESTATE_PO</p> <p>Actions:</p> <p>1. approval-group chain of authority: Require approval from EQX_APINV_REAL_ESTATE_GROUP</p>	24-OCT-2007 onward	action