

Get what you want: Designing Approvals Management Engine (AME) rules for your iProcurement approvals

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Agenda

- Introduction
- What is AME?
- Factors which impact AME design
- AME Installation and Enabling AME responsibilities
- Designing AME rules for requisition approval
- Configuration options available in AME
- AME Implementation: Go Live Challenges
- Conclusion

Introduction...

- Zero workflow customizations for your organization's complex document approvals?
- Can AME really do it?
- What challenges follow an AME implementation?
- Are they functional or technical?

Introduction

This presentation intends to:

1. Guide iProcurement users and business analysts on the necessary prerequisites for designing AME
2. Explain specific setups performed in the modules of Inventory, Purchasing and HR
3. Define rules configuration alternatives in AME for requisition approvals

What is AME?

- AME is a separate module and can be integrated with Purchasing / iProcurement modules
- From an end user's perspective, they always work in iProcurement screens without having to navigate or know setups performed in AME
- The business rules and exception scenarios form the basis of rules configuration in AME
- A business analyst translates the business rules in 'AME rules'
- Rules govern the behavior of transactions for requisition approvals, performed in iProcurement

Factors which impact AME Design

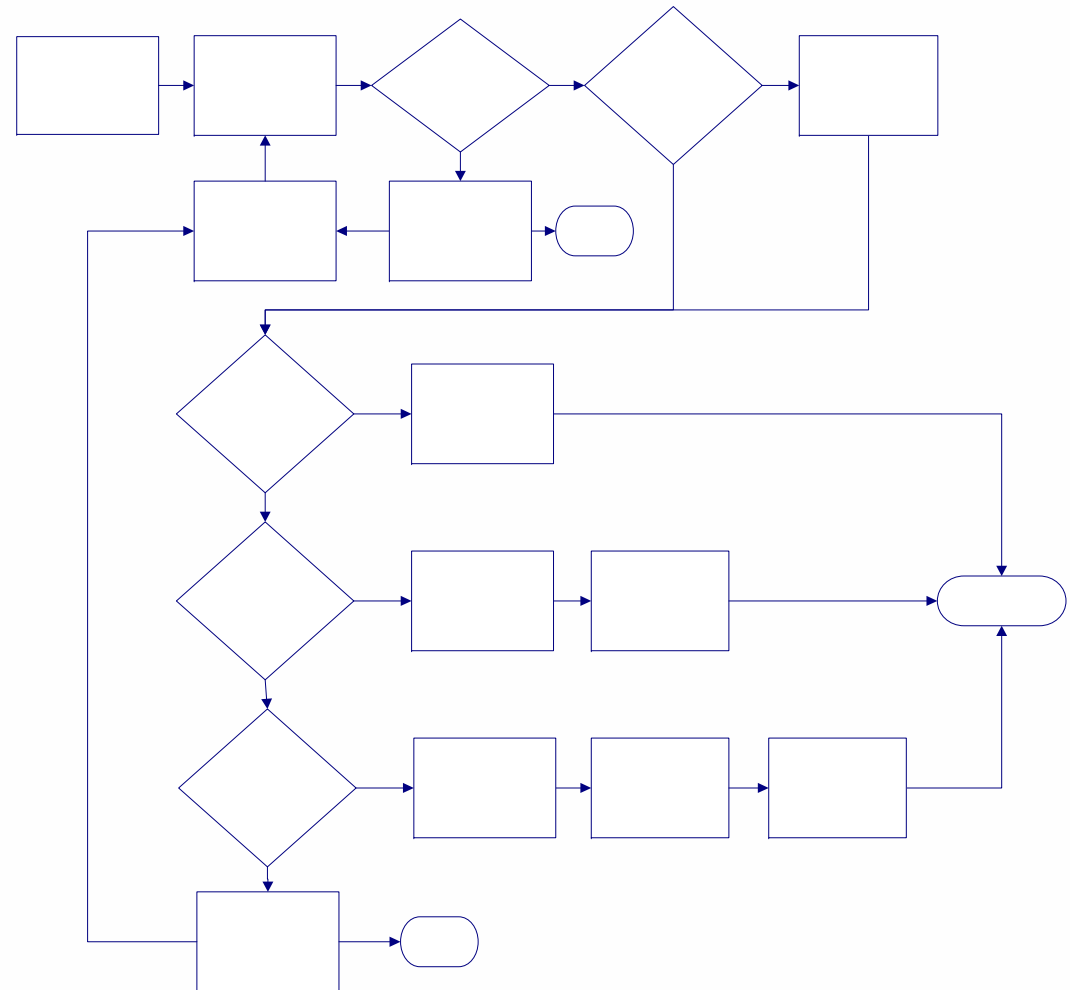
- White boarding requirements for requisition approvals (Functional flowchart)
- Business Process definition
- Inventory and Purchasing setups
- HR Setups and implementation considerations
- Integration requirements with other modules

Functional flowchart

- Business process owners and business analyst develop a functional flow of the approval process
- Advantages are:
 1. Clear definition of business rules in AME
 2. Uncovers any exception rules
 3. Less time is spent in actually constructing the rule in AME

Functional flowchart

- You can have one process flow depicting all business scenarios or multiple process flows based on the transaction type



Business Process Definition

Sub-tasks	Implications / Risks
<ul style="list-style-type: none"> ▪ Inadequate definition of business process by the process owners ▪ Business Process may be complex due to organization policies ▪ Business Processes not standardized across the organization 	<ul style="list-style-type: none"> ▪ Lack of understanding of the process by business end users ▪ Inability to identify all exception rules / conditions during AME approval rules design

Business Process Definition

Approach	Benefits
<ul style="list-style-type: none"> ▪ Clear definition of Business Process ▪ Standardization ▪ Breakdown a process into multiple sub-processes ▪ Document procedures for each sub-process 	<ul style="list-style-type: none"> ▪ All documentation readily available for future references and easier identification of Control Points ▪ Standardization facilitates during audits and other compliance measures ▪ All exception rules / identified during AME design

Purchasing Setups

Sub-tasks	Implications / Risks
<ul style="list-style-type: none"> ▪ Operating Unit / Inventory Org considerations ▪ Setup structure of Key flex fields like Item/ Item Category ▪ Descriptive flex fields in Purchasing Module ▪ Define values for Item / Purchasing Categories ▪ Document Type setup for Requisitions 	<ul style="list-style-type: none"> ▪ Setups determine module behavior and impacts end user experience during transactions ▪ Setups done with limited understanding will not be scalable for future growth ▪ Can limit the alternatives for rules configuration in AME

Purchasing Setups

Approach	Benefits
<ul style="list-style-type: none"> ▪ Subject Matter Experts ▪ Attention to detail while setting key flexfield structures ▪ Understand /visualize implications of setups considering future use of the system 	<ul style="list-style-type: none"> ▪ Setups are scalable ▪ Effective use of AME attributes during the rules definition ▪ Avoids major changes/disruptions after Go Live

Human Resources Setup

Sub-tasks	Implications / Risks
<ul style="list-style-type: none"> ▪ Defining FND Users Employee / Contingent worker ▪ Changes in Job / Position assignment ▪ Associate supervisor with an employee ▪ Maintenance of HR data on a regular/daily basis ▪ Define Cost Center Managers/ Approvers 	<ul style="list-style-type: none"> ▪ Requisitions not getting approved and remain In Process ▪ Default approval list built by AME is not correct if the setups in HRMS are not updated ▪ iProcurement users cannot save /submit requisitions

Human Resources Setup

Approach	Benefits
<ul style="list-style-type: none"> ▪ Updated Setup Documentation should reflect actual module configuration ▪ Business scenarios testing during CRP's rather than module testing ▪ Document exception scenarios ▪ Effective Change Management 	<ul style="list-style-type: none"> ▪ Effective CRPs covering all possible test scenarios ▪ Identify workarounds for exception scenarios for document approvals ▪ Early identification of specific training needs for end users

Integration Requirements Purchasing / iProcurement

- The AME integrates with iProcurement by providing the value for Approval Transaction Type for the following type of documents:
 - Purchase Requisition (PURCHASE_REQ)
 - Internal Requisition (INTERNAL_REQ)
 - Change Order Request: Requisition (RCO)
- The setup is performed in the Document Type screen in core Purchasing module and can be turned on or off for each of the Operating Units

Integration Requirements Purchasing / iProcurement

The screenshot displays the Oracle Purchasing interface. On the left, a 'Document Types' table lists various document types. The 'Requisition Purchase' row is highlighted with a red box. An 'Update Document Type' dialog box is open in the foreground, titled 'Update Document Type: Requisition Purchase for Vision Operations'. The dialog shows the 'Document Name' as 'Purchase Requisition'. Under the 'Approval' tab, the 'Approval Transaction Type' is set to 'PURCHASE_REQ', which is highlighted with a red box. Other settings include 'Approval Workflow' as 'PO Requisition Approval', 'Workflow Start Process' as 'Main Requisition Approval', 'Forward Method' as 'Direct', and 'Default Hierarchy' as 'Materials'. The 'Control' tab shows 'Security Level' as 'Public', 'Access Level' as 'Full', and 'Autocreate Workflow' as 'PO Create Documents'. The 'Autocreate Workflow Start Process' is 'Overall Document Creation/Launch'. The 'Use Contract Agreements for Auto-Sourcing' checkbox is checked. The dialog has 'Cancel' and 'Apply' buttons.

Type	Name
Auction Buyer Auction	Sourcing Buyer
Change Order Request Requisition	Change Order R
Purchase Agreement Blanket	Blanket Purchas
Purchase Agreement Contract	Contract Purcha
Purchase Order Planned	Planned Purcha
Purchase Order Standard	Standard Purch
Quotation Bid	Bid Quotation
Quotation Catalog	Catalog Quotati
Quotation Standard	Standard Quota
Release Blanket	Blanket Release
Release Scheduled	Scheduled Rele
Requisition Internal	Internal Requisi
Requisition Purchase	Purchase Requisition

Enable AME responsibilities

- AME uses the Role Based Access Model to provide access to the AME functions to users of the application
- Use the Sysadmin login and User Management responsibility to assign AME roles for specific users
- Data access is provided to the users from Functional Administrator responsibility
- The two seeded responsibilities which can be enabled after completion of above steps are:
 1. Approvals Management Business Analyst
 2. Approvals Management Administrator

Design of AME Rules for Requisition Approvals

- Once the prerequisites described in the earlier slides are completed, a business analyst can start the actual process of rules definition in AME
- AME module has various components which are used for complete definition of rules
- Use responsibility 'Approvals Management Business Analyst'
- The process starts with the selection of the appropriate transaction type on the Business Analyst Dashboard

Transaction Type

- This refers to the type of business process transactions for which approval rules have to be implemented
- For example, to implement 'Purchase Requisition Approval' transaction type, it needs to be selected on the Business Analyst Dashboard
- All other components which will be set up or defined and the rules created are referenced to the transaction type selected
- Each transaction type will have its own set of rules to govern the approval process of those transactions

Transaction Type

ORACLE Approvals Management
Diagnostics Home Logout Preferences

Business Analyst Dashboard

This table displays the transaction types in the order you accessed them.

Transaction Types

Previous 1-5 Next 5

Name	Application	Rules	Test	Setup
Purchase Requisition Approval	Purchasing			
AMW Audit Procedure Approval	Internal Controls Manager			
AMW Control Approval	Internal Controls Manager			
AMW Risk Approval	Internal Controls Manager			
BOM ERES Bill of Materials Creation	Bills of Material			

Recently Updated Rules

This table displays the rules whose definition and usages has changed.

Since number of days

Name	Rule Type	Transaction Type	Action	Date	User	Update
No results found.						

Future Active Rules

Future Inactive Rules

Approval Process Setup

- Select the transaction type**
- Define the components**
 Approvals Management uses these components within the approval rules.
[Attributes](#)
 Define attributes to fetch business facts for a specific transaction.
[Conditions](#)
 Define conditions to evaluate attributes within rules. If all conditions in a rule are true then the rule is active for the transaction.
[Action Types](#)
 Enable action types to specify the action to take if a rule is active for a transaction.
[Approver Groups](#)
 Define approver groups to contain approvers who are usually members of peer groups such as payroll or expenses department.
- Define the approval rules**
 Approval Rules determine the approvers or FYI notification recipients required for a business transaction.
[Rules](#)
- Test Workbench**
 Define test cases or test real transactions to verify the approval setup, rules and associated approvers.
[Test Workbench](#)

Quick Links

- [Configuration Variables](#)
- [Setup Report](#)

Diagnostics Home Logout Preferences

Action Type

- Action type, by definition, is a collection of actions having similar functionality
- In most cases, the existing or predefined action type provided by AME can be used
- Depending on the complexity of document approvals scenarios, some iterative testing is required for different Action types enabled
- Enabling certain Action Types also enables a set of required attributes
- The value of these required attributes actually determine the first approver or sequence of approvers when AME builds the default approver list

Action Type

ORACLE Approvals Management [Return to Dashboard](#) [Diagnostics](#)

Setup: Action Types > Use Existing Action Type: Select Action Types >

Action Type: Absolute job level

Rule Type	Chain Of Authority
Name	Absolute job level
Description	Chains of authority based on absolute job level
Handler	ame_absolute_job_level_handler
Allowed Approver Types	HR People
Required Attributes	INCLUDE_ALL_JOB_LEVEL_APPROVERS JOB_LEVEL_NON_DEFAULT_STARTING_POINT_PERSON_ID TOP_SUPERVISOR_PERSON_ID TRANSACTION_REQUESTOR_PERSON_ID

[Return to Use Existing Action Types](#)

[Return to Dashboard](#) [Diagnostics](#)

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Attributes

- Attributes represent business variables with a single value for a particular transaction
- Attribute use can either be 'Static' or 'Dynamic'
- Most of the flexibility which AME offers while defining the rules is based on its Attributes
- AME derives the value of these attributes at the run time (when a transaction is initiated) and applies AME rules to the transaction for routing it to appropriate approvers

Attributes

- The key attributes which are used in the rules formulation for requisition approvals are provided in the next few slides

Sr #	Attribute	Description	Usage Type	Item Class	Data Type
1.	REQUISITION_TOTAL	Requisition Total	Dynamic	Header	Currency
2.	PO_COST_CENTER	Cost Center	Dynamic	Line Item	String
3.	PO_NATURAL_ACCOUNT	Natural Account	Dynamic	Line Item	String
4.	SUPERVISORY_NON_DEFAULT_STARTING_POINT_PERSON_ID	person ID of non-default supervisor approver for the supervisory-level approval type	Static/Dynamic	Header	Number
5.	JOB_LEVEL_NON_DEFAULT_STARTING_POINT_PERSON_ID	Person ID of non-default first approver for job-level authority approval types	Static/Dynamic	Header	Number

Attributes

- Predefined attributes can be leveraged and effectively deployed in the rules definition based on the core application setups

Sr #	Attribute	Description	Usage Type	Item Class	Data Type
1.	COMMODITY	Commodity	Dynamic	Line Item	String
2.	DELIVER_TO_LOCATION	Deliver To Location	Dynamic	Line Item	String
3.	ITEM_CATEGORY	Item Category	Dynamic	Line Item	String
4.	ITEM_NUMBER	Item Number	Dynamic	Line Item	String
5.	TRANSACTION_ORG_ID	Org Id in which transaction occurred	Dynamic	Header	Number

Attributes

- Several new attributes can be defined which can map to
 - descriptive flexfields on the requisitions
 - particular segment in the item category flexfield if you have multiple segment category structure
 - a particular segment from your chart of accounts structure

Sr #	Attribute	Description	Usage Type	Item Class	Data Type
1.	REQ_HDR_DFF_ATTRIBUTE_1	Descriptive Flexfield created at the Requisition header level	Dynamic	Header	Number
2.	ITEM_CATEGORY_SEGMENT_1	Segment 1 from multiple level item category structure	Dynamic	Line Item	String
3.	COMPANY	Company segment from chart of accounts	Dynamic	Line Item	String

Attributes

ORACLE Approvals Management
Transaction Type: Purchase Requisition Approval

Return to Dashboard Diagnostics

Rules Test Workbench Setup

Attributes Conditions Action Types Approver Groups

Attributes
This page enables you to view attributes present in your transaction type, such as total amount, a percent discount, and a person's salary.

Search

Attribute Category: All
Item Class: All
Data Type: All
Name:
Go Clear

Create Use Existing Attribute

Attribute

[ITEM NUMBER](#)

[JOB LEVEL NON DEFAULT STARTING POINT PERSON](#)

[NON DEFAULT POSITION STRUCTURE ID](#)

[NON DEFAULT STARTING POINT POSITION ID](#)

[PO COST CENTER](#)

[PO NATURAL ACCOUNT](#)

[REJECTION RESPONSE](#)

[REPEAT SUBSTITUTIONS](#)

[REQUESTOR USER NAME](#)

[REQUISITION TOTAL](#)

Create Use Existing Attribute

ORACLE Approvals Management
Transaction Type: Purchase Requisition Approval

Return to Dashboard Diagnostics

Rules Test Workbench Setup

Attributes Conditions Action Types Approver Groups

Setup: Attributes >

Create New Attribute
You can select an approver type for Number data type and a value set that contains business-specific data for Number, String, and Currency data types.
* Indicates required field

Cancel Create Another (1) Apply

* Name:
Item Class: Header
* Description:
Data Type: Number
Approver Type:
Value Set:
Usage Type: Dynamic
* Value:
Enter SQL query for dynamic attributes. Validate

rules on Surrogates and ad-hoc Insertees							
Requestor User Name	Required	Static	Header	String			
Requisition Total	Others	Dynamic	Header	Currency			

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Conditions

- Condition is one of the components within the approval rules ('If' part), which can either be true or false for a given transaction
- For the rule to be active, all conditions specified in the rule definition have to be true

ORACLE Approvals Management
Transaction Type: Purchase Requisition Approval

Return to Dashboard Diagnostics

Rules | **Test Workbench** | Setup

Attributes | **Conditions** | Action Types | Approver Groups

Setup: Conditions >

Create New Condition

* Indicates required field

Condition Type: Ordinary

* Attribute: ITEM_CATEGORY

String Values

String Value	Delete
SUPPLIES.FACILITIES	

Add Another Row

Cancel Create Another (1) Apply

Rules Test Workbench Setup Return to Dashboard Diagnostics

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Actions

- Action is the component within approval rules which forms its 'Then' part
- Each predefined Action Type has a set of Actions associated with it
- Actions are responsible for modifying the approvers based on the conditions ('If' part) which the transaction satisfy

Approver Groups

- From a business perspective, approver groups contain functional approvers outside a transaction's chain of authority
- Typically, approver groups are used either for 'pre-approvals' or for 'post-approvals'
- AME also allows the use of 'chain of authority' approval groups
- Approver groups can be dynamic or static and can be nested

Approver Groups

ORACLE Approvals Management Return to Dashboard Diagnostics

Setup: Approver Groups > Use Existing Approver Group >

Create New Approver Group

* Indicates required field

* Name

* Description

Usage Type

Query

Dynamic Approver Group requires a SQL.

Group Members

Enter members for the static approver group.

Approver Type	Approver	Order Number	Delete
HR People	Limaye, Harshavardhan	1	

Rules

- AME rules decide the default approver list for a transaction, and it is in the form of 'If- Then' statement
- This is the last step in the AME configuration
- All previous steps and implementation considerations are put to use when defining rules in AME
- Defining and testing AME rules is an iterative process
- However, following the methodology and visualizing any exception scenarios for approvals, should provide a good foundation of rules in the first pass of testing.

Rules Configuration Options in AME...

1. Is business policy documented for dollar limits for each level of approver?
2. Supervisory level Vs. Job level approvers
3. Identification of special approval requirements (Capital Purchases, IT purchases)
4. Define the need for parallel approvals

Rules Configuration Options in AME

5. Determine starting point for the approval chain
6. Custom approval hierarchy (not maintained in HR application)
7. Identification of exception scenarios for Sr. Management approvals
8. Changes/additions required to the data or setup in HR/Purchasing applications
9. Providing access to iProcurement to organization employees (and contract labor)

Rules created in AME

ORACLE® Approvals Management
Transaction Type: Purchase Requisition Approval

Return to Dashboard Close Window Preferences Help Diagnostics

Rules Test Workbench Setup

Enter Rule Details Add Conditions Add Actions Review

Create New Rule: Review

Cancel Back Step 4 of 4 Finish

Name Approval Rule for REQ
TOTAL > 100K
End Date 31-Dec-4712

Rule Type List Creation
Item Class Header
Start Date 13-Feb-2008

Conditions

Condition	Condition Type	Item Class
REQUISITION_TOTAL is greater than 100000,USD	Ordinary	Header

Actions

Action Type	Action
absolute job level	Require approvals up to at least level 5.

Cancel Back Step 4 of 4 Finish

Rules Test Workbench Setup Return to Dashboard Close Window Preferences Help Diagnostics

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Rules created in AME

ORACLE® Approvals Management
Transaction Type: Purchase Requisition Approval

Return to Dashboard Close Window Preferences Help Diagnostics

Rules Test Workbench Setup

Enter Rule Details Add Conditions Add Actions Review

Create New Rule: Review

Cancel Back Step 4 of 4 Finish

Name Approval rule for Capital Purchases End Date 31-Dec-4712
 Rule Type Post List Approver Group
 Item Class Header
 Start Date 13-Feb-2008

Conditions

Condition	Condition Type	Item Class
ITEM_CATEGORY in (SUPPLIES.FACILITIES)	Ordinary	Line Item

Actions

Action Type	Action
post-chain-of-authority approvals	Require post-approval from Capital Purchases

Cancel Back Step 4 of 4 Finish

Rules Test Workbench Setup Return to Dashboard Close Window Preferences Help Diagnostics

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AME Implementation: Go Live Challenges

- Once the AME business rules are implemented, it is equally important to monitor the AME application and review exception logs
- It may take a few weeks to stabilize the system and tighten the business processes
- While most of the issues can be addressed by a business analyst, some fine tuning may be required for the dynamic SQL queries used in the attributes or approver groups
- Some of the common issues which cause a disruption in the default approval list built by AME while performing transactions are provided below

AME Implementation: Go Live Challenges

- Maintain valid FND user for approvers
- AME rules are not set for Transaction Type
- Supervisor related changes
- TOP_SUPERVISOR_PERSON_ID attribute is blank
- Changes or modifications to purchasing commodities/categories

AME Implementation: Go Live Challenges

- Since the error messages displayed to the iProcurement users are generic, business analyst should have a good understanding of the integration aspects of AME with iProcurement before these challenges are resolved
- Responsibility ‘Approvals Management Administrator’ is a good starting point for analyzing or troubleshooting issues related to AME rules or attributes.

AME Implementation: Go Live Challenges

The screenshot shows the Oracle Approvals Management Administrator Dashboard. The top navigation bar includes 'Diagnostics', 'Home', 'Logout', 'Preferences', and 'Help'. The main content area is titled 'Administrator Dashboard' and contains a description of the page's purpose and a note about required fields. Below this is a section for 'Transaction Types'. An inset window shows the 'Exception Log' page, which includes a search form with fields for 'Transaction Type' (set to 'Purchase Requisition App') and 'Transaction ID'. The 'Exception Log' table displays the following data:

Log ID	AME Application ID	Transaction ID	Package Name	Routine Name	Exception Number	Exception String
92640	-275	-434	ame_position_handler	handler	-20001	This transaction's requestor lacks a position ID, so AME cannot begin the chain of authority.
92639	-275	134800	ame_api2	getAllApprovers7	-20001	ORA-20001: The approver identified by the following parameters is invalid: originating system PER originating-system ID PER_ID. Please delete or replace this approver wherever they occur in AME data, including approval groups, list-modification conditions, and substitution actions. This approver does not have an entry in wf_roles. (ORG_SYSTEM_ID=28311)

On the right side of the Exception Log page, there is a 'Quick Links' menu with the following items:

- Configuration Variables
- Exception Log
- Setup Report
- Approver Types

Below the table, there are 'Update' and 'Delete' icons for each row, and a 'Clear Log' button. The bottom of the page shows navigation controls for the table, including 'Previous 10', '21-30', and 'Next 10'.

Conclusion...

- AME is capable of providing multiple alternatives while designing business rules
- The flexibility in rule definition depends on the core application setups of purchasing and HR
- Most of the customization in AME is related to the use of dynamic attributes and its usage in the rules
- Technical expertise is required to the extent of constructing SQL queries for use in any new dynamic attributes defined

Conclusion

- Once this component is finalized, a business analyst can perform the other tasks in AME with user intuitive 'Business Analyst Dashboard' and 'Administrator Dashboard'
- It is important to monitor and review AME exception logs during the initial period after Go Live
- A structured approach for designing of AME rules and key implementation factors discussed in this white paper will help the business analysts and procurement managers to address unique requirements for managing requisition approvals

Q & A

Thank You !!