ENOVIA Costing and Analytics Foundation

Admin Guide

3DEXPERIENCE R2017x

Table of Contents

Chapter 1. Overview 4

About Using this Guide 5

Chapter 2. Pre-requisites for ENOVIA Costing and Analytics Foundation Installation 6

Installation Pre-requisites 7

Chapter 3. Installation Procedure 8

Installing an Application on UNIX 9

Installing an Application on Windows 10

Chapter 4. Cost Template Migration Patch 14

Steps to Apply Cost Template Migration Patch 15

Chapter 5. Setting up Environment for ENOVIA Costing and Analytics Foundation 16

Setting up Environment for ENOVIA Costing and Analytics Foundation 17

Pre-requisite for Viewing SVG Graphs 19

Chapter 6. Data Model 20

Data Model Layout 21

Type Inheritance in ENOVIA Costing and Analytics Foundation 22

Schema Definitions 22

Chapter 7. Policies 31

Cost Policy 32

EC Policy 33

Manufacturer Equivalent Policy 34

Intermediate Cost Policy 35

ECR Costing Holder Policy 35

Development Part Policy 36
Location Policy 37
Conversion Policy 37
Rate Period Policy 37
eService Object Generator Policy 38
Cost Part Policy 38
Cost Document Policy 39
Cost Report Policy 39
Change Request Policy 40
Change Action Policy 40
Cost Template Policy 40

Chapter 8. Programs & Triggers 42

Details of Triggers 43

Chapter 9. Configuring ENOVIA Costing and Analytics Foundation 44

Requirement to perform Administrative setup and Configuration tasks 45

Chapter 10. Configuring ENOVIA Costing and Analytics Foundation using properties 46

Configuration of ENOVIA Costing and Analytics Foundation using Properties 47

Chapter 11. Cost Template 60

Details About XML Files 61

1 Overview

The *ENOVIA Costing and Analytics Foundation Administrator's Guide* describes information that Business Administrators need to know about setting up and configuring ENOVIA Cost Analytics.

In this section:

- *About Using this Guide*

About Using this Guide

This Administrator's guide describes information the System Administrator needs to know about the installation of Cost Analytics on various Operating System i.e. Red Hat Linux, SUSE Linux and Windows. Business administrators who are building their own schema might also find the guide useful for getting examples and ideas. This guide enlists the enhancement made in the existing Engineering BOM Management schema and Data model.

This guide also describes information the System Administrator for the host company needs to know about the setting up and configuring ENOVIA Costing and Analytics Foundation. Most information that Administrators need is common to all suites in the ENOVIA applications and is described in the Business Process Services Guide.

2

Pre-requisites for ENOVIA Costing and Analytics Foundation Installation

This section describes the pre-requisites for the installation of ENOVIA Costing and Analytics Foundation.

In this section:

- *Installation Pre-requisites*

Installation Pre-requisites

Sr No	Application/Roles	Version
1.	Platform which includes: 3DPassport, Full-textSearchServer with Exalead, 3DSpace, Federated Search, BPS, EVP,ECM, MYA and CSG	3DEXPERIENCE R2017x
2.	ENOVIA Engineering BOM Management Foundation	3DEXPERIENCE R2017x

Note: Before installation of ENOVIA CostingandAnalyticsFoundation, it is mandatory to run the following mql commands:

MQL>modify store STORE fcs '';
MQL>modify store 'Image Store' fcs '';
MQL>modify store plmx fcs '';

Stores Settings

Before installation of ENOVIA Costing and Analytics Foundation, it is mandatory to configure a file or ftp store.

UI Based Installation

Installation of ENOVIA Costing and Analytics Foundation requires JRE.

3

Installation Procedure

This chapter includes the steps of installation of ENOVIA Costing and Analytics Foundation R2017x on various platforms.

This section includes:

- *Installing an Application on UNIX*
- *Installing an Application on Windows*

Installing an Application on UNIX

To install an application on UNIX you must:

1. Log in as a user who has the privileges to install the application (copy files to the Web server root directory, install on the database, run MQL.sh, etc.).
2. If installing from a CD, mount the CD so the operating system software can access the files contained on the disk.
3. Make sure you know the path where mql application script is located.

Installing an Application on UNIX for RedHat Enterprise Linux 6.2, SUSE Enterprise Linux 11

To install the ENOVIA Costing and Analytics Foundation on UNIX

1. Copy the .tar file from the CD or the ENOVIA Download page to the distribution directory.

2. Unzip the tar file to the distribution directory. Change to the directory named "install" under the distribution directory and run the setup script as follows:

```
cd /DISTRIB_DIR/install
./setup.sh
```

3. Choose the directories for the installation to use.

```
Choose Scripts Directories
------------------------------------------------------
Enter install directory path for ENOVIA Server Install
Platform[]? i.e. location of enovia.install
[/root/Builds_1049/cst]?
```

4. Tell the setup program the user name and password for a user that has Business and System Administrator privileges, such as creator. If the user has no password, accept the default.

```
Specify Administration Parameters
------------------------------------------------------
Enter Administrator user for ENOVIA Studio Modeling
```

```
Platform? [creator]?
Enter Administrator password for ENOVIA Studio Modeling
Platform? [NONE]
```

5. Tell the program the path of Java development Kit. If you do not enter any path then it accepts the default. Enter the directory where the Java Development Kit has been installed [/usr/java]?
6. After this the installation starts. Once the installation gets completed check the files named **ProductAnalyticsBuild.log, ProductAnalyticsBuild.err**, **ProductAnalyticsCheck.log and ProductAnalyticsCheck.err** present in your installation script directory to get details about errors and to see exactly what items were added and/or modified.

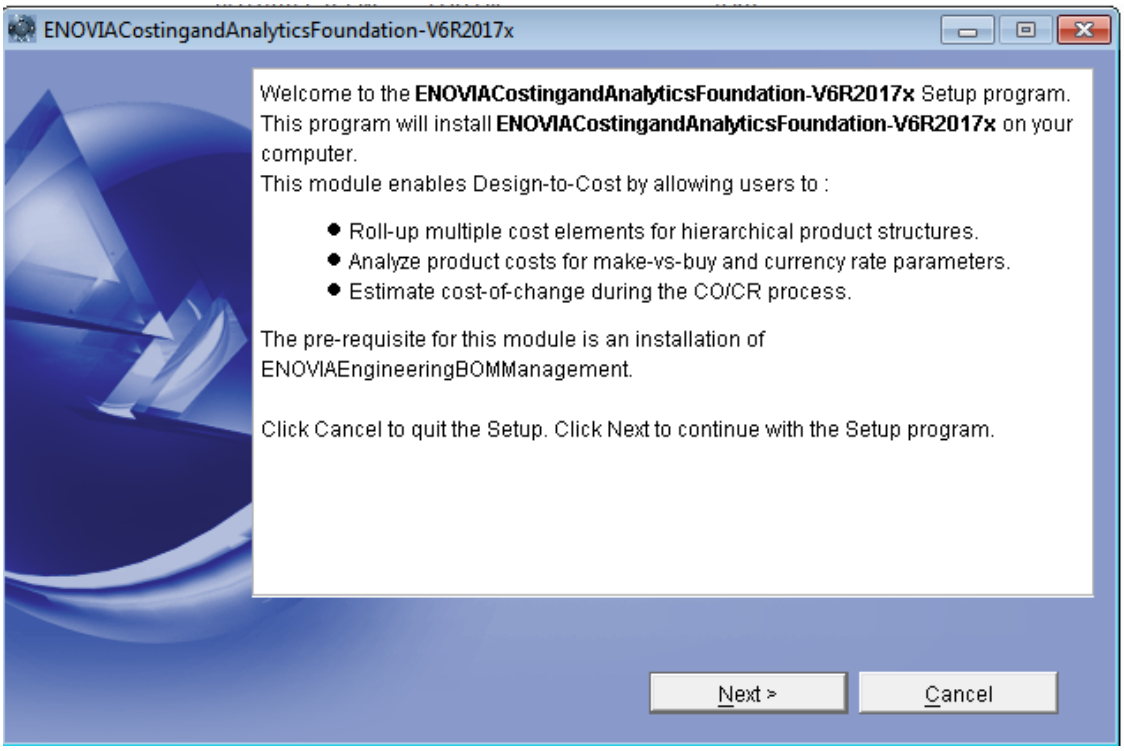
Installing an Application on Windows

1. Log into Windows as a person with Administrator privileges.
2. Insert the ENOVIA application CD-ROM into the CD drive.

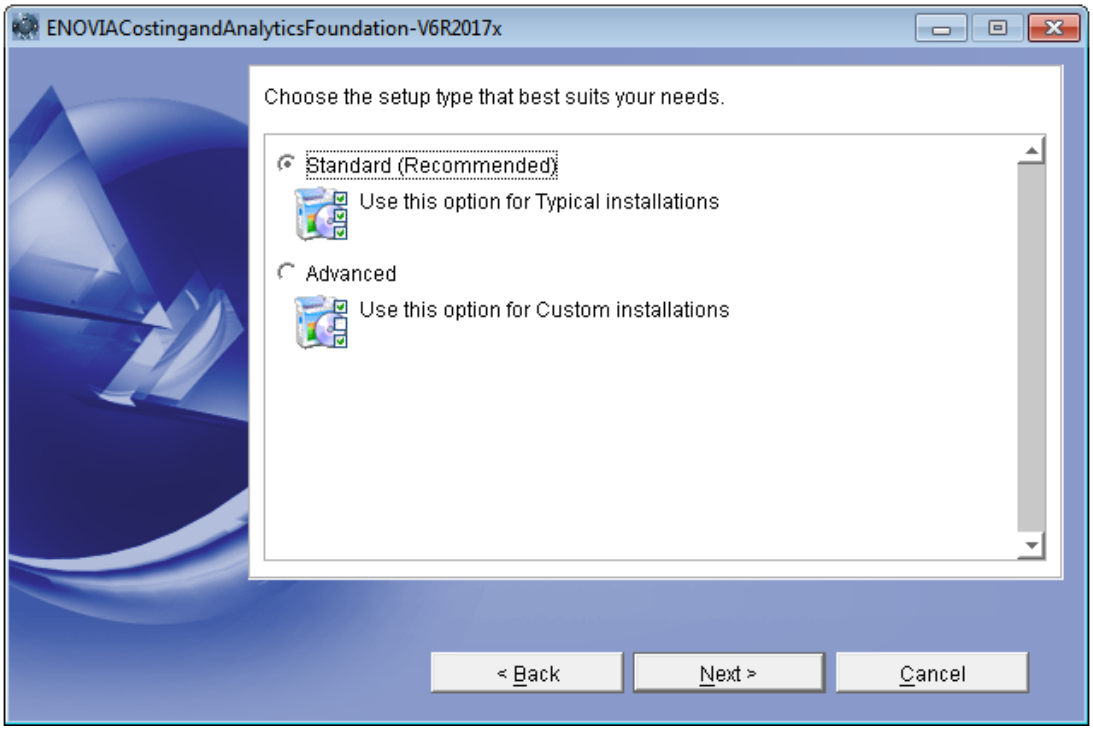
   From the Start menu, choose Run and browse to the CD drive. Run the program setup.exe.

   Or

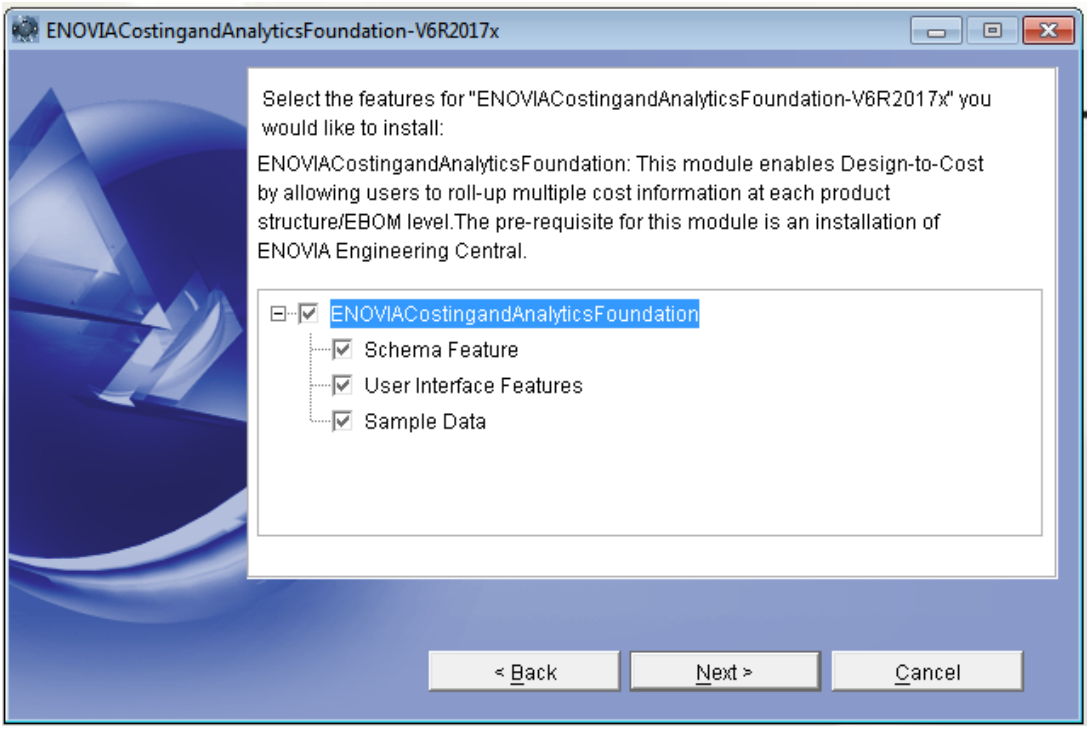
   Unzip the .zip file, and run setup.exe.
3. The Welcome frame is displayed; click "**Next**" to continue.



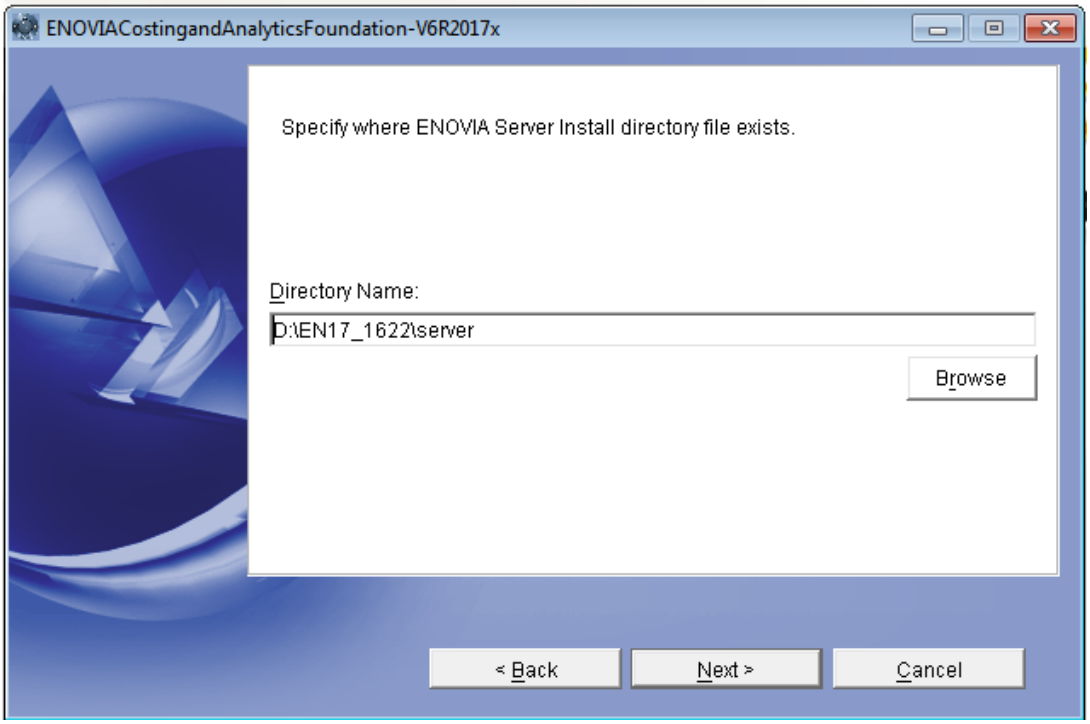
4. The next step allows you to choose the InstallationType



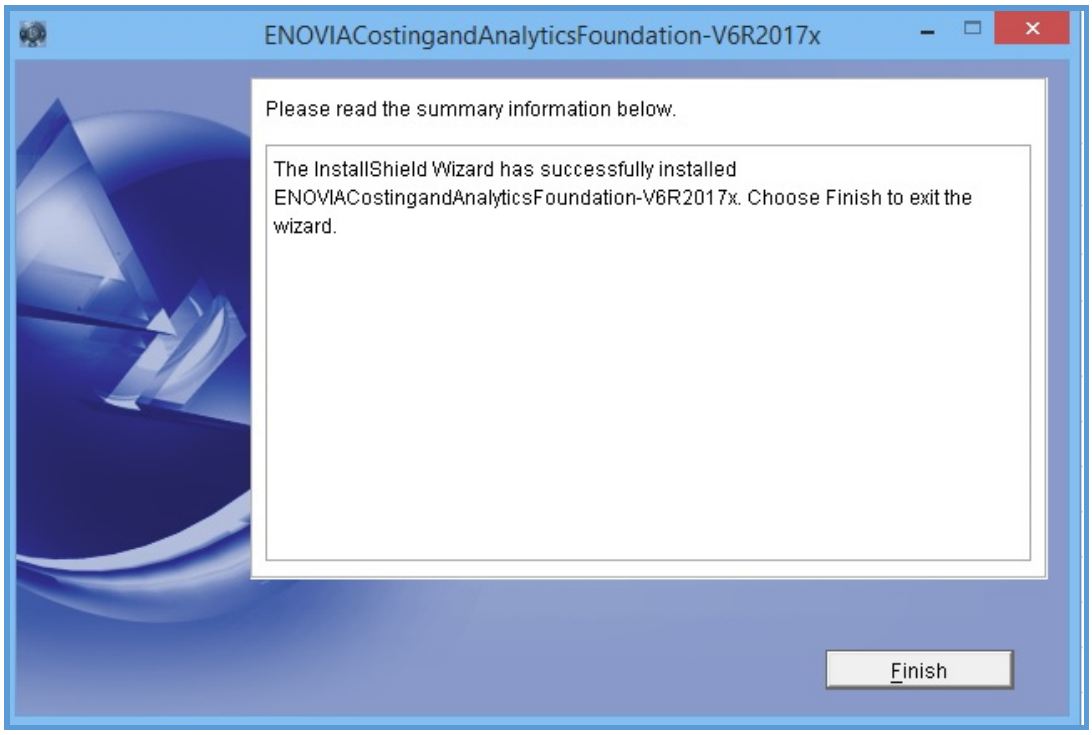
5. You will be prompted for this step, provided 'Advanced Option' is selected in step 4. Here features of ENOVIA Costing and Analytics Foundation (version V6R2017x), along with its sub-components are listed. You can choose the components you want to install.



6. Enter the RMI/EJB installation directory containing the Matrix Collaboration Server installation.



7. In this step you need to specify the user name and password for a user that has Business and System Administrator privileges, such as creator. If the user has no password, accept the default.
8. After running the installation script following message will be displayed, ENOVIA Costing and Analytics Foundation is customized for the Cost Template or the Total Cost type, then the Cost Template Migration Patch must be run. For details refer to the Admin Guide. Click **OK** to continue.
9. On completion, a summary will be displayed to you notifying if the setup encountered errors or completed successfully. Check the files named **ProductAnalyticsBuild.log, ProductAnalyticsBuild.err**, **ProductAnalyticsCheck.log and ProductAnalyticsCheck.err** in your installation script directory to get details about errors and to see exactly what components were added and/or modified. If error exists in these log files, review the mxtrace.log for additional details.



Note: For installation, please note that if Product Analytics or Sourcing Analytics is installed with UI based installation and try to reinstall with console based installation next time, and then the uninstaller program should be run.

This uninstaller program is present at:

<CORE_FOLDER>/_uninst/CostingandAnalyticsFoundation/X-BOMCostAnalytics.jar

The command to run the uninstaller in console based mode:

java –X-BOMCostAnalytics.jar run -console

OR

The command to run the uninstaller in UI based mode: Enovia-R2017x\Server\Apps\CostingandAnalyticsFoundation_uninst\uninstaller.exe.

4

Cost Template Migration

This patch is to be applied only if Cost Analytics Module 10.8 is upgraded to Cost Analytics Module V6R2009 or onwards.

This section includes:

- *Steps to Apply Cost Template Migration Patch*

Steps to Apply Cost Template Migration Patch

To apply this migration patch following procedure must be followed:

The Migration JPO needs the emxCostAnalytics.properties file, which was customized in CAM 10.6. As specified in Step 5 below, the Migration Procedure accepts the Path where this file is located, as the command line parameter.

To Execute a Java Program through MQL:

1. Connect to MQL and Run these commands

   Set the context to the user having Administrative privileges.

   set context user [USER WITH ADMINISTRATIVE PRIVILEGES];
2. Insert the supplied JPO.

   insert prog "[DIR WHERE THE JPO FILE IS COPIED]/CACostTemplateMigration_mxJPO.java";
3. Compile the JPO.

   compile prog CACostTemplateMigration ;
4. Execute the Migration Procedure

   exec prog CACostTemplateMigration [DIR WHERE THE CUSTOMIZED 'emxCostAnalytics. properties' FILE IS LOCATED] ;
5. Check the Return Code on MQL Prompt, Return code 0 means the Ranking Migration was successful.
6. Exit the MQL.

5

Setting up Environment for ENOVIA Costing and Analytics Foundation

This chapter includes the post installation steps to be followed after installation of ENOVIA Cost Analytics R2017x is completed successfully.

In this section

- *Setting up Environment for ENOVIA Costing and Analytics Foundaion*
- *Pre-requisite for Viewing SVG Graphs*

Setting up Environment for ENOVIA Costing and Analytics Foundation

Settings for Alternate Server

There are a few processes when requested for, take more time to execute. Such processes run in background and can be made to run on an alternate collaboration server. This enables you to run other process smoothly while the requested process gets executed in background.

A setting has been added in emxCostAnalytics.properties file which enables the processes with longer execution time to run on alternate server while you perform other tasks.

By Default :
emxCostAnalytics.UpdateTotalCost.UpdateTotals.UseAlternateServer = false
emxCostAnalytics.CRCost.GenerateNewReport.UseAlternateServer = false

To enable this feature:

emxCostAnalytics.UpdateTotalCost.UpdateTotals.UseAlternateServer = true
emxCostAnalytics.CRCost.GenerateNewReport.UseAlternateServer = true

When the UseAlternateServer setting is set to true, background jobs will run on a alternate server whose details are specified in 'Server settings For background process' section.

Server settings for background process

After Installation specify the server setting for running background process in emxCostAnalytics.properties. Specify Hostname, Port of the RMI server and application name.

 # Background Process Details
emxCostAnalytics.BackgroundProcess.HostName=localhost
emxCostAnalytics.BackgroundProcess.Port=<application server port>

emxCostAnalytics.BackgroundProcess.AppDeployed=enovia

For servers running in RIP mode, specify the settings as

 # Background Process Details

emxCostAnalytics.BackgroundProcess.HostName=localhost

emxCostAnalytics.BackgroundProcess.Port=<application server port>

emxCostAnalytics.BackgroundProcess.AppDeployed=enovia

Settings/Data Required for ENOVIA Costing and Analytics Foundation

After Installation, ensure the necessary data for ENOVIA Costing and Analytics Foundation is available

1. Organization Locations required for associating Cost objects.
2. Specify the DUNS Number in the "Supplier ID" attribute of the Supplier Companies.
3. Currency Exchange Rates for the Organization.
4. Users with roles Cost Analyst and Cost Analyst Administrator. After installation, compile all inserted JPOs.

Settings for Websphere Application Server

Note: These settings are applicable for OS's other than AIX.

1. Find the castor-1.3 jar from directory where stack is installed\server\distrib\enovia\WEB-INF\lib.
2. Open the jar using winzip and find castor.xml.properties in folder "org\castor\xml".
3. Open the file.
4. Find the setting "org.exolab.castor.xml.serializer.factory=org.exolab.castor.xml.XercesJDK5XMLSerializerFactory" and comment it.
5. Find the setting "org.exolab.castor.xml.serializer.factory=org.exolab.castor.xml.XercesXMLSerializerFactory " and uncomment it.
6. Save the castor.xml.properties of the jar and copy this modified jar to all the locations where it was copied earlier.
7. Restart the server.

Pre-requisite for Viewing SVG Graphs

As current browser versions are not capable of displaying SVG, a Plug-in is necessary for this purpose.

To view the graphical output, use Adobe's SVG Viewer 3.03 Installing Adobe SVG Viewer

1. Double-click the downloaded installer.
2. Follow the on-screen instructions.
3. If you are not using Internet Explorer for Windows, then you will need to restart your browser before viewing SVG

6 Data Model

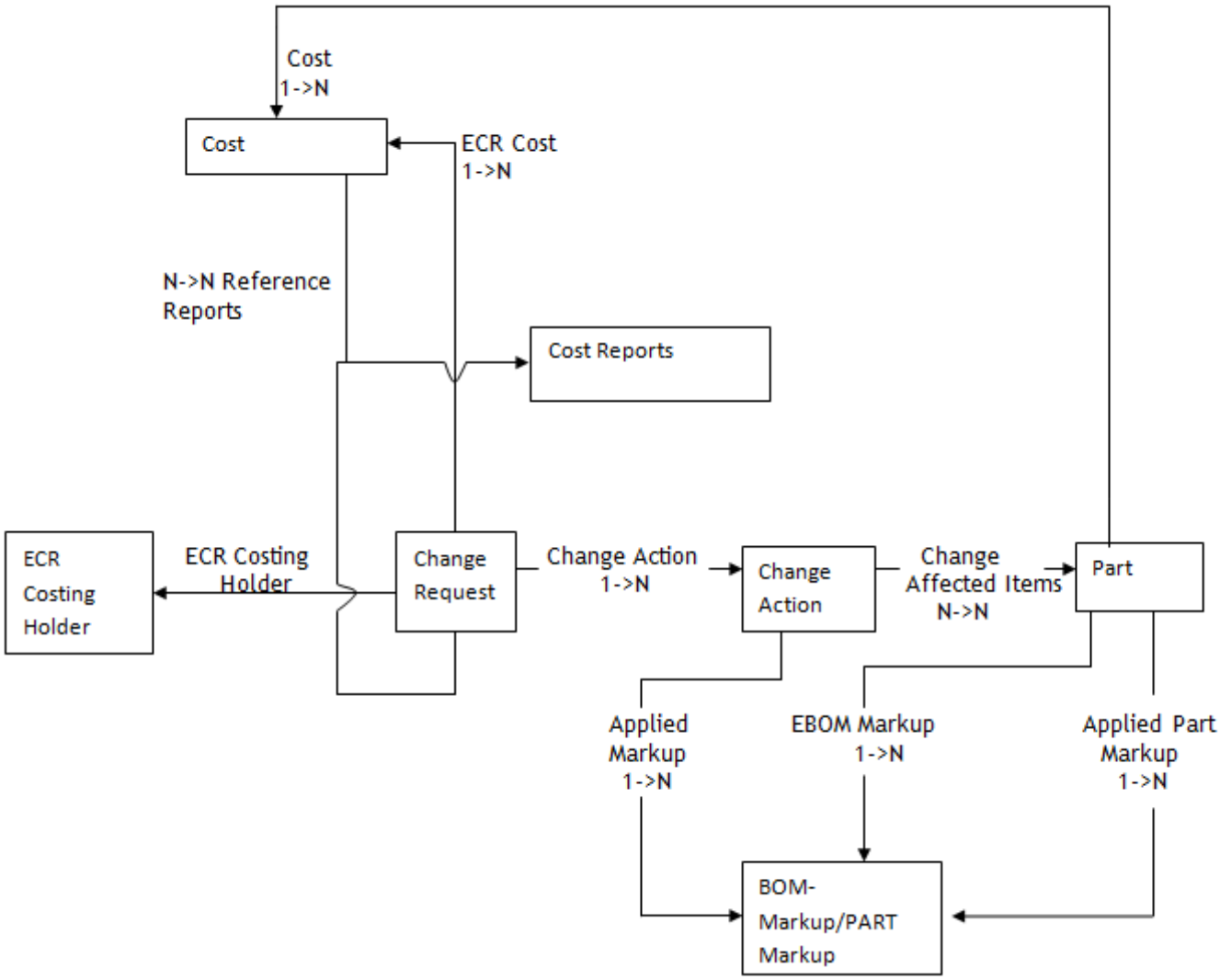
The Business Process Services contains hundreds of administrative objects, some of which are used by many ENOVIA applications and some of which are used by just one application. Use this section as a guide for finding the objects that belong to a particular application.

These sections show data models for Sourcing Central along with ENOVIA Costing and Analytics Foundation changes. A data model shows the most basic information needed to understand an applications schema: the business object types and the relationships that connect the types.

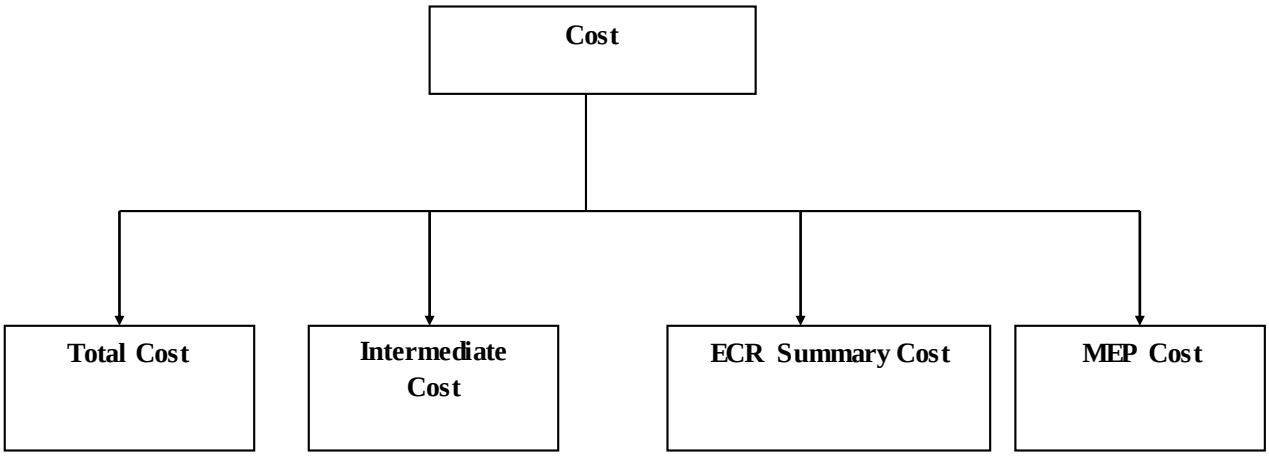
In this section:

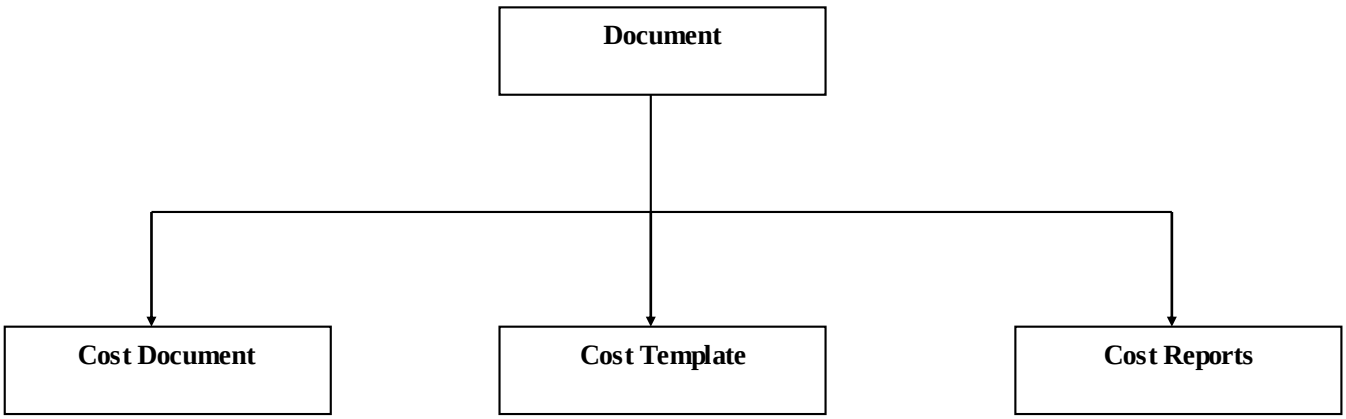
- *Data Model Layout*
- *Type Inheritance in ENOVIA Costing and Analytics Foundation*
- *Schema Definitions*

Data Model Layout



Type Inheritance in ENOVIA Costing and Analytics Foundation





Schema Definitions

- **Roles**

Role Description/Possible values:

- Cost Analyst Responsible for creating, Editing Cost.

- Cost Analyst Administrator. Responsible for creating and editing Cost Templates along with modifying the owners of Cost and Cost Reports

- **Attributes**

Attribute Name	Description/Possible Values
Change Cost	Real Attribute holding the Change cost value, for Costing Option 'Change Request Cost Summary'
Change Cost Currency	String Attribute holding Currency in which the Change cost is specified
Intermediate Cost Value Type	String Discrete string values configurable by implementation – Estimate,Actual,Quoted,Copied,Unassigned. This attribute will hold the Cost Value Type of an ICO. This will be in turn mapped to the 'Cost Value Type' attribute of TCO
Cost Option	String Cost by Part/Cost by Summary/Un-Costed. This will have the name of the Selected Costing Option(Initial value0Undefined)
Costing Comment	String The comments for a 'Costing Option'
Cost Analyst	String This will specify name of the person who will do the Cost Analysis for a particular Change Request.
CR Impact Report ID	String Used to hold the Object id of a Change Request Report to be used in Change Request Summary Report.
Location Name	String Costs associated Location Name
Location Type	String Default/Alternate
Location Currency	String This is the preferred currency of the location.. All the cost data fields for Make parts are to be

	entered in this currency preference. Default Location Currency for each Location is stored in Location Object.
Labor Rate	Real This is the Labor Rate associated to each Location. It is stored on the Location object.
Production Make Buy Code	String Make/Buy Code
Item Target Cost	Real The desired cost of an item. During development the goal is to make the estimated or total cost equal to or lower than the target cost. The default is 0(zero).
Target Cost Currency	String This is the preferred currency of the target cost. Target cost for a location will be entered in this currency. Default - USD
Total Target Cost	Real Calculated Roll-up. This is a calculated attribute and represents the sum of the Total Target Cost at the next lower level items an the BOM and the Item Target Cost at current BOM level
Value Type	String Discrete string values configurable by implementation – Estimate, Actual, Quoted. The default is Estimate and it is mandatory for the user to specify a selection. These definitions can be extended to use additional value types for an implementation.
Item Quoted Material Cost	Real Attribute for item quoted material cost for the location if any in the Item Quoted Material Cost Currency.
Item Labor Hours	Real Number of labor hours for the item
Item Labor Cost	Real Attribute for item labor cost for the location. Its

	value is calculated value based on Labor Rate and Item Labor Hours.
Item Freight Cost	Real Attribute for item freight cost for the location
Item Fixed Cost	Real Attribute for item fixed cost for the location
Item Variable Cost	Real Attribute for item variable cost for the location
Item Adjusted Cost	Real Cost to account for underlying parts that are not known yet. Attribute can also be used to handle: anticipated improvements, tasks, contingency and risk. This value can be negative or positive.
Adjusted Cost Description	String Rationale on the adjusted cost
Date Updated	Date/Time This is a date and timestamp for the last date and time the total was updated for this object either by a promote of item or by requested BOM roll-up
Total Cost Currency	String This is set as "default currency" in property file setting and is non-editable but is displayed Default-USD
Total Quoted Material Cost	Real Calculated Roll-up. This is a calculated attribute and represents the sum of the Total Quoted Material Costs at the next lower level items in the BOM and the Item Quoted Material Cost at current BOM level
Total Labor Hours	Real Calculated Roll-up. This is a calculated attribute and represents the sum of all Total Labor Hours for the next lower level items in the BOM and the Item Quoted Material Cost at current BOM level
Total Labor Cost	Real Calculated Roll-up. This is a calculated attribute and represents the sum of all Total Labor Costs for the

	next lower level items in the BOM and the Item Quoted Material Cost at current BOM level
Total Freight Cost	Real Calculated Roll-up. This is a calculated attribute and represents the sum of all Total Freight Costs for the next lower level items in the BOM and the Item Freight Cost at current BOM level
Total Fixed Cost	Real Calculated Roll-up. This is a calculated attribute and represents the sum of all Total Fixed Costs for the next lower level items in the BOM and the Item Fixed Cost at current BOM level
Total Variable Cost	Real Calculated Roll-up. This is a calculated attribute and represents the sum of all Total Variable Costs for the next lower level items in the BOM and the Item Variable Cost at current BOM level
Total Cost	Real This is calculated attribute and is configurable formula via a property file setting. OOTB, it is the sum of all the calculated Total Quoted Material ,Variable, Fixed, Freight, Adjusted and Labor costs at that level.
Include Children In Rollup	String Indicates whether to include the subparts of the current assembly in rollup
Supplier Name	String Supplier Name
Supplier DUNS Number	String The Suppliers DUNS number value
Contract ID	String The contract Id
Effective From	Date/time The date/time the Item Quoted Material Cost becomes effective
Effective To	Date/time The end date/time till the Item Quoted Material Cost is effective

Supplier ID	String Identifies the DUNS Number for the Supplier
Intuitive Error	String Indicates which type of Error
Intuitive Default Error	String Indicates which type of Error

- **Relationships**

Relationship	Description	Attribute
Cost	Associates a Part to a Cost From side revision rule is none and clone rules are none. To side revision rule is float and clone is none	None
Cost Location	Relationship From Total Cost To Location Relationship from Intermediate Cost to Location Relationship from ECR Summary Cost To Location From side revision rule is replicated and clone rule is replicate To side revision and clone rules are none	None
Reference Report	Relationship from the Cost to a Cost Report From side revision rule is Float and clone rule is none To side revision and clone rules are none Prevent duplicates is turned on Relationship From Change Request to a Cost Reports	
ECR Costing Holder	Relationship From the Change Request to ECR Costing Holder. From side revision rule is none and clone rule is none. To side revision and clone rules are none	None
ECR Location	Relationship From the Change Request to Location From side revision rule is none and clone rule is none. To side revision and clone rules are none	Costing Option Comments

ECR Cost	Relationship From Change Request to Cost From side revision rule is none and clone rule is none. To side revision and clone rules are none	None

- **Types**

Business Object Type	Description	Assigned Attribute
Cost	Cost is a class that pertains to the Cost aspects of a Part.	Name,Type,Description,Revision,Owner,State
Total Cost	Cost subtype that pertains to the Cost aspects of a part	Location Type, Location Currency, Production Make Buy Code, Item Target Cost, Target Cost Currency, Total Target Cost, Value Type, Item Quoted Material Cost, Item Quoted Material Currency, Item Labor Hours, Item Labor Cost, Item Freight Cost, Item Fixed Cost, Item Variable Cost, Item Adjusted Cost, Adjusted Cost Description, Date Updated, Total Cost Currency, Total Quoted Material Cost, Total Labor Cost, Total Labor Hours, Total Freight Cost, Total Labor Hours, Total Freight Cost, Total Fixed Cost, Total Variable Cost, Total Cost, Include Children In Rollup, Supplier Name, Supplier DUNS Number, Contract ID, Effective From, Effective To, Intuitive Error
Cost Document	Cost Document is a class that pertains to the Reference Documents of Total Cost which is inherited from the Document class	Access Type, Checkin Reason, Designated User, File Version, Language, Originator, Primary Key, Secondary Keys, Title, Version, Version ate
Cost Reports	Cost Reports is a class that pertains to the Reference Reports of Total Cost which is inherited from the Document class	Access Type, Checkin Reason, Designated User, File Version, Language, Originator, Primary Key, Secondary Keys, Title, Version, Version ate

Company	Added a new attribute Supplier ID to allow alphanumeric DUNS Number	Supplier ID
Intermediate Cost	This is the subtype of Cost, will hold the Costing information of an Change Request for Detailed Costing	Intermediate Cost Value Type, Location Type, Location Currency, Production Make Buy Code, Item Target Cost, Target Cost Currency, Total Target Cost, Item Quoted Material Cost, Item Quoted Material Currency, Item Labor Hours, Item Labor Cost, Item Freight Cost, Item Fixed Cost, Item Variable Cost, Item Adjusted Cost, Adjusted Cost Description, Date Updated, Total Cost Currency, Total Quoted Material Cost, Total Labor Cost, Total Labor Hours, Total Freight Cost, Total Fixed Cost, Total Variable Cost, Total Cost, Include Children in Rollup, Supplier Name, Supplier DUNS Number, Contract ID, Effective From, Effective To
Change Request Summary Cost	This is a subtype of Cost, will hold the Costing information in case of 'Cost by Summary'	Change Cost Currency Change Cost Location Name Location Type
ECR Costing Holder	This is a holder object that will hold the Change Request Cost specific Information	Cost Analyst, CR Impact Report ID
Cost Template	Cost Template is used to configure the various parameters that are used while creating the respective Cost objects and calculation of Rollups	None
Location	Added two new attributes related to Labor Rate and Location Currency to calculate Location specific Labor Costs automatically	Labor Rate Location Currency
MEP Cost	This is a subtype of Cost. It will hold the information of MEP	Location Type, Location Currency, Item Quoted Material Currency, Item Freight Cost,

		Item Fixed Cost, Item Variable Cost, Item Adjusted Cost, Adjusted Cost Description, Date Updated, Total Cost Currency, Total Quoted Material Cost, Total Labor Cost, Total Labor Hours, Total Freight Cost, Total Fixed Cost, Total Variable Cost, Total Cost, Include Children in Rollup, Supplier Name, Supplier DUNS Number, Contract ID, Effective From, Effective To

7

Policies

A *policy* controls a business object. It governs access, approvals, lifecycle, revision, and more. If there is any question as to what you can do with a business object, it is most likely answered by looking at the object's policy.

In this section:

- *Cost Policy*
- *EC Policy*
- *Manufacturer Equivalent Policy*
- *Intermediate Cost Policy*
- *ECR Costing Holder Policy*
- *Development Part Policy*
- *Location Policy*
- *Conversion Policy*
- *Rate Period Policy*
- *eService Object Generator Policy*
- *Cost Part Policy*
- *Cost Document Policy*
- *Cost Report Policy*
- *Change Request Policy*
- *Change Action Policy*
- *Cost Template Policy*

Cost Policy

- Revision 1,2,3..
- Types Cost
- Hidden False

States	Create	Active
Revisionable	True	True
Versionable	False	False
Auto Promote	False	False
Checkout History	True	True
Public	None	None
Owner	Read, Modify, Delete, CheckOut, CheckIn, Lock, UnLock,Schedule, Freeze,Thaw,Execute, Promote,Grant,enable, disable, Override,changeName,changeType, changeowner,changepolicy,Revoke, changevault,changetype,Revoke, fromconnect, toconnect, fromdisconnect, todisconnect, viewform, ModifyForm,show	read, modify, delete, checkout, checkin,schedule, lock, unlock, changeowner, schedule, override,create, enable, disable, promote,revise, changevault, changename, changepolicy, changetype, changeowner, fromconnect, toconnect, fromdisconnect, todisconnect, freeze, thaw, execute, modifyform, viewform, grant, revoke, show
Cost Analyst	read, modify, checkout, checkin, lock, unlock, changeowner, promote, schedule, override, enable, disable, create, revise, changevault, changename, changename, changepolicy, changepolicy, changetype, changetype, fromconnect, fromconnect, toconnect, fromdisconnect, todisconnect, freeze, thaw, execute, modifyform, viewform, grant, revoke, show	read, modify, checkout, checkin, read,modify,checkout,checkin, lock, unlock, changeowner, promote, schedule, override, enable, disable, create, revise, changevault,changename, changepolicy, changetype, changeowner,Revoke, fromconnect, toconnect, fromdisconnect, todisconnect, freeze, thaw, execute, modifyform, viewform, grant, revoke, show,
Design Engineer	read, todisconnect, show	read, todisconnect, show
Sr. Design Engineer	read, todisconnect, show	read, todisconnect, show
Cost Analyst Administrator	read, show, changeOwner	read, show, changeOwner

EC Policy

- Revision 1,2,3..
- Types Part
- Hidden False

Owner	Read, Modify, Delete, CheckIn CheckOut, Schedule, Lock, UnLock, Execute, Revise, Promote, ChangeOwner ChangeVault, ChangeType, FromConnect, FromDisconnect, ToConnect, ToDisconnect, ViewForm, ModifyForm, Show	Read, CheckOut, Schedule, Execute, Revise, Demote, ChangeOwner, ChangeVault, ViewForm, Show	Read, Revise	Read, Revise	Read, Revise
Cost Analyst	Read, Modify, FromConnect, FromDisconnect, Show, ToConnect, ToDisconnect FromDisconnect	Read, Modify, FromConnect, FromDisconnect, Show, ToConnect, ToDisconnect, FromConnect	Read, Modify, FromConnect, FromDisconnect, Show, ToConnect, ToDisconnect, FromConnect	Read, Modify, FromConnect, FromDisconnect, Show, ToConnect, ToDisconnect, FromConnect	Read, Modify, FromConnect, FromDisconnect, Show, ToConnect, ToDisconnect
States	Preliminary	Review	Approved	Release	Obsolete
Revisionable	True	True	True	True	True
Public	None	None	None	None	None

Manufacturer Equivalent Policy

- Revision 1,2,3..
- Types Part, MPN
- Hidden False

States	Preliminary	Review	Approved	Release	Pending	Obsolete
Revisionable	True	True	True	True	True	True
Checkout History	True	True	True	True	True	True
Versionable	True	True	True	True	True	True
Public	None	None	None	None	None	None
Owner	Read, Modify, Delete, ChecIn CheckOut, schedule, Lock, UnLock, Execute, Create, Revise, Promote, ChangeType, ChangeOwner, ChangeVault, FromConnect, FromDisconnect, ToConnect, ToDisconnect, ViewForm, ModifyForm, Show	Read, Schedule,Execute,Revise, Promote,Demote, CheckOut, ChangeOwner, ChangeVault, ViewForm, Show	Read, Schedule,CheckOut, Execute, ChangeOwner, ChangeVault, ViewForm, Show	Read, Revise,	Read, Revise	Read, Revise
Cost Analyst	Read FromConnect, FromDisconnect, Show, ToConnect, ToDisconnect					
States	Preliminary	Review	Approved	Release	Pending Obsolete	Obsolete

Intermediate Cost Policy

- Revision 1,2,3
- Types Intermediate Cost
- Hidden False

States	Exists
Revisionable	True
Auto Promote	False
Checkout History	True
Public	None
Owner	read, modify, delete, checkout, checkin, schedule, lock, execute, unlock, freeze, thaw, revise, grant, enable, disable, override, changename, changetype, changeowner, changepolicy, revoke, changevault, fromconnect, toconnect, fromdisconnect, todisconnect, viewform, modifyform, show
Cost Analyst	read, modify, checkout, checkin, schedule, lock, execute, unlock, freeze, thaw, create, revise, grant, enable, disable, override, changename, changetype, changeowner, changepolicy, revoke, changevault, fromconnect, toconnect, fromdisconnect, todisconnect, viewform, modifyform, show
Design Engineer	read, show, todisconnect
Senior Design Engineer	read, show, todisconnect
Change Administrator	read, show
Change Coordinator	read, show

ECR Costing Holder Policy

- Revision 1,2,3..
- Types ECR Costing Holder

Hidden	False
Revisionable	True
States	Exists
Versionable	True

Auto Promote	False
Checkout History	True
Public	None
Owner	read, modify, delete, checkout, checkin, schedule, lock, execute, unlock, freeze, thaw, revise, grant, enable, disable, override, changename, changetype, changeowner, changepolicy, revoke, changevault, fromconnect, toconnect, fromdisconnect, todisconnect, viewform, modifyform, show
Cost Analyst	read, modify, checkout, checkin, schedule, lock, execute, unlock, freeze, thaw, create, revise, grant, enable, disable, override, changename, changetype, changeowner, changepolicy, revoke, changevault, fromconnect, toconnect, fromdisconnect, todisconnect, 1viewform, modifyform, show
Design Engineer	read, show
Senior Design Engineer	read, show
Change Coordinator	read, show
Change Administrator	read, show

Development Part Policy

- Revision 1,2,3..
- Types Part
- Hidden False

State	Create	Peer Review	Complete	Obsolete
Revisionable	TRUE	TRUE	TRUE	TRUE
Versionable	TRUE	TRUE	TRUE	TRUE
Auto Promote	FALSE	FALSE	FALSE	FALSE
Checkout History	TRUE	TRUE	TRUE	TRUE
Public	None	None	None	None
Cost Analyst	read, modify, show, fromconnect, toconnect, fromdisconnect, todisconnect,	read, modify, show, fromconnect, toconnect, fromdisconnect, todisconnect,	read, modify, show, fromconnect, toconnect, fromdisconnect, todisconnect,	

Location Policy

- Revision 0,1,2,...
- Types Location
- Hidden False

States	Inactive	Active
Revisionable	TRUE	TRUE
Versionable	TRUE	TRUE
Auto Promote	FALSE	FALSE
Checkout History	TRUE	TRUE
Public	Read	show
Cost Analyst	read, modify, show, fromconnect, toconnect, fromdisconnect, todisconnect,	read, modify, show, fromconnect, toconnect, fromdisconnect, todisconnect,
Owner	All	All
Cost Analyst	read,show, toConnect, toDisconnect	read,show, toConnect, toDisconnect

Conversion Policy

Revision	-
Types	Currency Conversion Unit Conversion
Hidden	False
States	Exists
Revisionable	False
Versionable	True
Auto Promote	False
Check out History	True
Public	read
Cost Analyst	read, show

Rate Period Policy

Revision	-
Types	Rate Period
Hidden	False

States	Exists
Revisionable	False
Versionable	True
Auto Promote	False
Check out History	True
Public	read
Cost Analyst	read, show

eService Object Generator Policy

Revision	-
Types	eService Object Generator, eService Number Generator
Hidden	False
States	Exists
Revisionable	False
Versionable	False
Auto Promote	False
Check out History	True
Public	Read, show
Cost Analyst	Modify, lock, unlock

Cost Part Policy

Revision	1,2,3..
Types	Part
Hidden	False
States	Exists
Revisionable	True
Versionable	True
Auto Promote	False
Check out History	True
Public	none
Cost Analyst	All

Cost Document Policy

Revision	0,1,2,3..
Types	Cost Document
Hidden	False
States	Exists
Revisionable	True
Versionable	True
Auto Promote	False
Check out History	True
Public	read, show
Owner	read, modify, delete, checkout, checkin, lock, unlock,changeowner, schedule, override, enable, disable,create, revise, changevault, changename, changepolicy,changetype, fromconnect, toconnect, fromdisconnect, todisconnect, freeze, thaw, execute, modifyform, viewform, grant, revoke, show
Cost Analyst	read, show, checkOut, checkIn, toConnect, toDisconnect, Delete
Cost Analyst Administrator	read, show, lock, unlock, modify, checkOut,checkIn,toConnect, toDisconnect, delete
Senior Design Engineer	read, show, checkOut, checkIn, toConnect, toDisconnect
Design Engineer	read, show, checkOut, checkIn, toConnect, toDisconnect

Cost Report Policy

Revision	0,1,2,3..
Types	Cost Reports
Hidden	False
States	Exists
Revisionable	True
Versionable	True
Auto Promote	False
Check out History	True
Public	read, show
Owner	All
Cost Analyst	read, show, checkOut, checkIn, toConnect, toDisconnect,
Cost Analyst Administrator	read, show, changeowner
Senior Design Engineer	read, show, checkout
Design Engineer	read, show, checkout

Change Administrator	read, show,checkout
Change Coordinator	read, show,checkout

Change Request Policy

An additional role "Cost Analyst" has been added to the Change Request policy with the below mentioned access.

States	Create	Evaluate	In Review	In Process CO	Complete
Cost Analyst	Read, Modify, FromConnect, FromDisconnect, Show, ViewForm	Read, Modify, FromConnect, FromDisconnect, Show, ViewForm	Read, Modify, FromConnect, FromDisconnect, Show, ViewForm	Read, Modify, FromConnect, FromDisconnect, Show, ViewForm	Read, Show

Change Action Policy

An additional role "Cost Analyst" has been added to the Change Action policy with the below mentioned access.

States	Pending	In Work	In Approval	Complete
Cost Analyst	Read, Modify, Show	Read, Modify, Show	Read, Modify, Show	Read, Show

Cost Template Policy

Revision	0,1,2…
Types	Cost Template
Hidden	False

State	Exists
Revisionable	True
Versionable	True
Auto Promote	False
Check out History	True
Public	read, show
Owner	read, modify, delete, checkout, checkin, lock, unlock, changeowner, schedule, override, enable, disable, create, revise, changevault, changename, changepolicy, changetype, fromconnect, toconnect, fromdisconnect, todisconnect, freeze, thaw, execute, modifyform, viewform, grant, revoke, show
Cost Analyst	read, show, checkOut, checkIn, toConnect, toDisconnect,
Cost Analyst Administrator	read, modify, delete, checkout, checkin, lock,execute,unlock,lock,create toconnect,todisconnect, show,revise,enable,disable,fromConnect,toConnect,fromDisconnect
Senior Design Engineer	read, show, checkOut, checkIn, toConnect, toDisconnect
Design Engineer	read, show, checkOut, checkIn, toConnect, toDisconnect

8

Programs & Triggers

This section gives information about the various Event triggers used to customize ENOVIA MatrixOne application behavior through Program objects.

In this section:

- *Details of Triggers*

Details of Triggers

eService Trigger Program Parameters Object,Name and Revision	Trigger Program and JPO Method	Description
TypeLocationChangeNameAction	JPO:CATotalCostBase M:updateCostlocationName	Trigger to Update Location Name attribute of associated Cost
TypePartRevisionAction	JPO:CACostBase M:revisePart	Trigger to Clone Cost Object on Part Revision
PolicyChangeRequestStateInReviewPromoteCheck	JPO:CAECRBase M:checkIntermediateCostTypeAsCopied	If any of the ICO's 'Intermediate Cost Value Type 'is 'Copied', which are connected to Change Request this trigger will block the process.
PolicyECPartStateApprovalPromoteAction	JPO:CAECRPartBase M:disconnectOldIntermediateCostObjects	It disconnects the Intermediate Costs (which are connected to queued Change Request as well as to the previous revisions of part and connects to the current revision)
PolicyChangeRequestStateEvaluatePromoteAction	JPO:CAECRBase M:refreshMasterXMLIfNotUpToDate	This trigger is called when the Change Request is promoted from Review to "In Process CO" this action trigger fires and refreshes the Master XML if it is not up to date.
PolicyChangeActionStatePendingPromoteAction	JPO:CAECRBase M:processIntermediateCostObjectForECRs	This is the Action Trigger For ICO to TCO conversion
PolicyECPartStateApprovalPromoteAction	JPO:CAECRPartBase M:processIntermediateCostObjectsForPart	It disconnects the Intermediate Costs (which are connected to the previous revisions of part) from previous revisions of part and connects to the current revision

9 Configuring ENOVIA Costing and Analytics Foundation

To perform administrative setup and configuration tasks, you need to understand some or all of the required procedures and processes.

In this section:

- Requirement to perform Administrative setup and Configuration tasks

Requirement to perform Administrative setup and Configuration tasks

In order to perform the activity, you need to know the following:

- The concepts, terminology, processes, and procedures in Engineering BOM Management and ENOVIA Costing and Analytics Foundation, as described in the Engineering BOM Management and ENOVIA Costing and Analytics Foundation User Guide.
- The concepts, terminology, processes, and procedures in the Business Process Services.
- The concepts, terminology, and processes related to Matrix Navigator, Matrix Business Modeler and/or Matrix Query Language (MQL). See the following documents: Matrix Basics, Matrix Navigator Guide, Matrix Business Modeler Guide and MQL Guide

10

Configuring ENOVIA Costing and Analytics Foundation using properties

The file called emxCostAnalytics.properties contains properties that let you configure features. All properties files are located in the ematrix/properties directory. The ematrix directory is located in the STAGING directory under the EJB/RMI installation directory for J2EE implementations. After making changes to any properties file, you must restart the application server for the changes to take effect. For J2EE implementations, you must also run the warutil and deploy the archive file. You should also save backups of any properties file that you configure.

In this section:

- *Configuration of ENOVIA Costing and Analytics Foundation using Properties*

Configuration of ENOVIA Costing and Analytics Foundation using Properties

Autonaming Properties

You can specify prefix for a Cost name using following property.

- For **Total Cost:**

emxCostAnalytics.CreateCost.CostName.Prefix.type_TotalCost = Total Cost

- For **Intermediate Cost:**

emxCostAnalytics.CreateIntermediateCost.CostName.Prefix= Intermediate Cost

- For **Summary Cost:**

emxCostAnalytics.CRSummaryCost.CostName.Prefix= Change Request Summary Cost

- For **MEP Cost:**

emxCostAnalytics.CreateCost.CostName.Prefix.type_MEPCost = MEP Cost

- For **New Cost Type:**

emxCostAnalytics.CreateCost.CostName.Prefix.type_NewCostType = New Cost Type

---

In case of auto generated Cost names whether to include Part Revision or not can be decided by using following property.

- For **Total Cost and New Cost Type:**

emxCostAnalytics.CreateCost.CostName.PartRevisionRequired = No

- For **Intermediate Cost:**

emxCostAnalytics.CreateSummaryIntermediateCost.CostName.PartRevisionRequired= No

- For **Summary Cost**

  emxCostAnalytics.CRSummaryCost.CostName.CRRevisionRequired = No

---

- **Default Total Cost Currency** – This is the default currency that can be used for calculation of update totals.

  #Default Total Cost Currency value

  emxCostAnalytics.TotalCostCurrency = USD

- **BOM Cost Rollup Report Column Header -**You can set the header of the columns for the data displayed in BOM Cost Report using following property.

  # BOM Cost Rollup Header

  For **Total Cost:**

  emxCostAnalytics.BOMCostRollupReport.Header.type_TotalCost=Level, Parts,Rev,State,Location,Location Currency,Cost Value Type,Production Make Buy Code,Quantity,Target Cost,Cost,Cost of Material,Freight Cost,Labor Hours,Labor

Cost,Variable Cost,Fixed Cost,Adjusted Cost

Generally you should not change first 9 attributes, you can add/remove attribute names after the ninth entry.

For **New Cost Type**:

emxCostAnalytics.BOMCostRollupReport.Header.type_NewCostType=

Level,Parts,Rev,State,Location,Location Currency,Cost Value

Type,Production Make Buy Code,Quantity,and other attributes to be

displayed of New Cost Type.

Generally you should not change first 9 attributes, you can add/remove attribute names after the

ninth entry.

BOM Cost Roll-up Properties

BOM Cost Rollup Report Hidden Attributes

- You can set the list of

attributes that should not be displayed in BOM Cost Report using following property.

Note : The attributes added in this property will not be displayed in the tabular BOM cost rollup report(they will be hidden in report and displayed only in the exported Excel file). So make sure none of the hidden attribute names should appear in the ' BOM Cost Rollup Report Column Header' property. Otherwise it may lead to conflicting settings.

BOM Cost Rollup Report Hidden Attributes

- For **Total Cost :**

emxCostAnalytics.BOMCostRollupReport.HiddenAttributes.type_TotalCost=
attribute_ItemTargetCost, \
attribute_TargetCostCurrency, \
attribute_ItemQuotedMaterialCost, \
attribute_ItemQuotedMaterialCurrency, \
attribute_ItemFreightCost, \
attribute_ItemLaborHours, \
attribute_ItemLaborCost, \
attribute_ItemVariableCost, \
attribute_ItemFixedCost, \
attribute_ItemAdjustedCost, \
attribute_IncludeChildrenInRollup

- For **New Cost Type :**

emxCostAnalytics.BOMCostRollupReport.HiddenAttributes.type_NewCostType=
attribute_attr1, \
attribute_attr2, \
attribute_attr3
Where attribute_attr1,attribute_attr2,attribute_attr3 are the attributes defined for New Cost Type

Note:-
Here type_NewCostT ype is the symbolic name of the type of Cost
Eg:- type_ToolingCost
For the BOM Cost Rollup Export functionality, the specified list of attributes will be exported in the provided sequence.

BOM Cost Rollup Report Displayed Attributes :
-You can set the list of

attributes that should be displayed in BOM Cost Report using following property.

BOM Cost Rollup Report Displayed Attributes.

- For **Total Cost :**
  emxCostAnalytics.BOMCostRollupReport.DisplayedAttributes.type_TotalCost=
  attribute_LocationName, \
  attribute_LocationCurrency, \
  attribute_CostValueType, \
  attribute_ProductionMakeBuyCode, \
  attribute_Quantity, \
  attribute_TotalTargetCost, \
  attribute_TotalCost, \
  attribute_TotalQuotedMaterialCost, \
  attribute_TotalFreightCost, \
  attribute_TotalLaborHours, \
  attribute_TotalLaborCost, \
  attribute_TotalVariableCost, \
  attribute_TotalFixedCost, \
  attribute_TotalAdjustedCost

For the BOM Cost Rollup Export functionality, the specified list of attributes will be exported in the provided sequence.

The order of the attributes should match with the order mentioned in the above mentioned property setting

Note:-

Here type_CostType is the symbolic name of the type of Cost

Eg:- type_TotalCost

“emxCostAnalytics.BOMCostRollupReport.Header.type_CostType”.

Also, if any Cost attribute is to be added or removed, then the changes need to be carried out for both of these property settings, i.e.

- emxCostAnalytics.BOMCostRollupReport.Header.type_CostType

- emxCostAnalytics.BOMCostRollupReport.DisplayedAttributes.type_CostType

If any attribute is not to be displayed in the report, but needs to be exported to the XLS, then remove it from following property settings

“emxCostAnalytics.BOMCostRollupReport.DisplayedAttributes.type_CostType”

“emxCostAnalytics.BOMCostRollupReport.Header.type_CostType”

And add it to the setting
“emxCostAnalytics.BOMCostRollupReport.HiddenAttributes.type_CostType”.

Total Cost Driver -
Administrator can specify the list of item level cost that can be used for showing Cost Driver for a given Part.

Options for Item cost breakdown report

emxCostAnalytics.BOMCostRollupReport.ItemTotalCostDriverOptions =Material, \
Freight, \
Labor, \
Variable, \
Fixed

Kava chart -
Administrator can specify the maximum number of items to be

considered while displaying the Kava chart,

Maximum number of Items to be considered while displaying the Kava Chart

emxCostAnalytics.BOMCostRollupReport.NumberOfItemsForKavaChart = 25

Update Totals For Active Cost Only –
Administrator can specify the Criter ia for
selecting Cost that need to be considered for Update totals calculations.
# Setting to consider Active/Create Cost for Update Totals
emxCostAnalytics.UpdateTotals.ActiveCostOnly = true

Thousands representation in BOM Cost Rollup Report –
This value represents
setting for displaying data in thousands. The data will be displayed in K format if the value exceeds specified setting.
# Setting for 1K representation
emxCostAnalytics.NumericFormat.KSuffixValue = 10000

Consolidated BOM Cost Rollup Properties

Consolidated BOM Cost Rollup Header

- For **Total Cost :-**
  emxCostAnalytics.ConsolidatedBOMCostRollupReport.ShowReport.Header.type_TotalCost=Parts,Rev,Type,Description,Quantity,U of M,Item Target Cost,Item Quoted Material Cost,Item Freight Cost,Item Labor Cost,Item Variable Cost,Item Fixed Cost,Item Adjusted Cost,Total Cost

- For **New Cost Type: -**
  In the below example, 'Item Tooling Cost1, Item Tooling Cost2' are the attribute on the new cost type.
  In the property setting but the setting has to begin with
  Parts,Rev,Type,Description,Quantity,U of M,
  and end with **'Total Cost',** you can multiple attributes in between these too.

  And consolidated report considers Item level values and calculates 'Item Total Cost' of an Item/Part, so make sure all the new attributes added in the below property setting are defined to be under 'Item' Category in the Cost Template.

  emxCostAnalytics.ConsolidatedBOMCostRollupReport.ShowReport.Header.type_NewCostype=Parts,Rev,Type,Description,Quantity,U of M,Item Tooling Cost1, Item Tooling Cost2, Total Cost
  and any other attribute that needs to be displayed of New Cost Type

Multi Level AVL Properties

Note:-
Here type_NewCostT ype is the symbolic name of the type of Cost
Eg:- typ e_TotalCost

Default Total Cost Currency – This is the default currency that can be used for calculation of update totals.

# Default Total Cost Currency value
emxCostAnalytics.TotalCostCurrency = USD

Multi Level AVL Report Column Header -
The user can set the header of the
columns for the data displayed in Multi Level AVL Report using following property.
Multi Level AVL Report Header

- For **MEP Cost :**
  emxCostAnalytics.BOMCostRollupReport.Header.type_MEPCost=
  Level,Parts,Rev,State,Location,Location Currency,Cost Value
  Type,Quantity,Total Cost,Total Quoted Material Cost,Total Freight
  Cost,Total Labor Hours,Total Labor Cost,Total Variable Cost,Total
  Fixed Cost,Total Adjusted
  Cost,MEP_COST_NAME,MEP_NAME,MEP_MANUFACTURER,MEP_PREFERENCE

Generally you should not change first 8 attributes, you can add/remove attribute names after the eighth entry.

Multi Level AVL Report Hidden Attributes
- The user can set the list of attributes
that should not be displayed in Multi Level AVL Report using following property.
Multi Level AVL Report Hidden Attributes

- For **MEP Cost :**
  emxCostAnalytics.BOMCostRollupReport.HiddenAttributes.type_MEPCost=
  MEP_NAME,\
  MEP_MANUFACTURER,\
  MEP_PREFERENCE,\
  MEP_COST_NAME

Multi Level AVL Report Displayed Attributes
-The user can set the list of
attributes that should be displayed in MultiLevel AVL Report using following
property.
BOM Cost Rollup Report Displayed Attributes

- For **MEP Cost**
  emxCostAnalytics.BOMCostRollupReport.DisplayedAttributes.type_MEPCost=
  attribute_LocationName, \
  attribute_LocationCurrency, \
  attribute_ItemQuotedMaterialCost, \
  attribute_ItemQuotedMaterialCurrency, \
  attribute_ItemFreightCost, \
  attribute_ItemVariableCost, \
  attribute_ItemFixedCost, \
  attribute_ItemAdjustedCost, \
  attribute_Quantity, \

attribute_TotalCost, \
attribute_TotalQuotedMaterialCost, \
attribute_TotalFreightCost, \
attribute_TotalVariableCost, \
attribute_TotalFixedCost, \
attribute_TotalAdjustedCost

For the BOM Cost Rollup Export functionality, the specified list of attributes will be exported in the provided sequence.
The order of the attributes should match with the order mentioned in the above mentioned property setting

Also, if any Cost attribute is to be added or removed, then the changes need to be carried out for both of these property settings, i.e.

-
emxCostAnalytics.BOMCostRollupReport.Header.type_CostType

-
emxCostAnalytics.BOMCostRollupReport.DisplayedAttributes.type_CostType

If any attribute is not to be displayed in the report, but needs to be exported to the XLS, then remove it from following property settings
"emxCostAnalytics.BOMCostRollupReport.DisplayedAttributes.type_CostType
"emxCostAnalytics.BOMCostRollupReport.Header.type_CostType"
and add it to the setting
"emxCostAnalytics.BOMCostRollupReport.HiddenAttributes.type_CostType".

Total Cost Driver –
Administrator can specify the list of item level cost that can be used for showing Cost Driver for a given Part.

# Options for Item cost breakdown report
emxCostAnalytics.BOMCostRollupReport.ItemTotalCostDriverOptions =Material, \
Freight, \
Labor, \
Variable, \
Fixed

Kava chart -
Administrator can specify the maximum number of items to be considered while displaying the Kava chart,

# Maximum number of Items to be considered while displaying the Kava Chart
emxCostAnalytics.BOMCostRollupReport.NumberOfItemsForKavaChart = 25

Update Totals For Active Cost Only –

Administrator can specify the Criter ia for

selecting Cost that need to be considered for Update totals calculations.

Setting to consider Active/Create Cost for Update Totals

emxCostAnalytics.UpdateTotals.ActiveCostOnly = true

Thousands representation in BOM Cost Rollup Report –

This value represents setting for displaying data in thousands. The data will be displayed in K format if the value exceeds specified setting.

Setting for 1K representation

emxCostAnalytics.NumericFormat.KSuffixValue = 10000

Reference Reports

Reference Report Icon Display setting -

If this setting is true then reference report icon is shows across all the cost, if it is false then icon is shown only for those costs on which report has been generated.

emxCostAnalytics.CostSummaryReferenceReportIcon.MultipleImage = true

Reference Documents

Comma separated list of types that can be connected as Reference Documents to Cost.

eServiceCostAnalytics.ReferenceDocumentTypes = type_CostDocument, \

type_CostReport, \

type_CADDrawing, \

type_CADModel, \

type_DrawingPrint

List Parts with Key Cost criteria Properties

For Listing Parts with cost criteria, the administrator can set following properties.

The setting can be used to decide whether to go for background process or not.

#Settings for deciding when to run the background process.

emxCostAnalytics.ListPartsWithKeyCostCriteria.RunInBackgroundForSearchOfAllL

evels = true

Following setting can decide when to process search result in background if the level provided is beyond specified properties setting.

emxCostAnalytics.ListPartsWithKeyCostCriteria.RunInBackgroundForSearchBeyond

Levels = 3

Background process Properties	The Administrator can specify the server setting for running background process.
	The user needs to specify Host name, Port and deployed application name.
	# Background Process Details
	emxCostAnalytics.BackgroundProcess.HostName=localhost
	emxCostAnalytics.BackgroundProcess.Port=1099
	emxCostAnalytics.BackgroundProcess.AppDeployed=ematrix
	
	For servers running in RIP mode, specify the settings as
	
	# Background Process Details
	emxCostAnalytics.BackgroundProcess.HostName=localhost
	emxCostAnalytics.BackgroundProcess.Port=<application server port>
	emxCostAnalytics.BackgroundProcess.AppDeployed=ematrix

Cost Template Properties	When there is no Cost Template exists initially, the Cost Administrator can specify Default Category names, Default Currency values by using these properties settings.
	# Category Names in system
	emxCostAnalytics.CostTemplate.CostCategoryNames = Location, Target, Item, Quote, Total
	# Currency Names in system
	emxCostAnalytics.CostTemplate.CostCurrencyNames = attribute_LocationCurrency, attribute_TargetCostCurrency, attribute_ItemQuotedMaterialCurrency, attribute_TotalCostCurrency
	
	The Cost Administrator can specify the system mandatory Cost Template & related mandatory category list by using following properties, when there is no Cost Template exists initially.
	
	#System Mandatory Cost Template.
	emxCostAnalytics.CostTemplate.Currancy.default = type_TotalCost
	#System Mandatory Category List.
	emxCostAnalytics.CostTemplate.Category.default =Location, Target, Item, Quote, Total
	
	Using following properties, the Cost Administrator can specify the Currency Attributes for different category items.
	# Currency Attributes for Category Item
	emxCostAnalytics.CostTemplate.Currency.Item=attribute_ItemQuotedMaterialCurrency,attribute_LocationCurrency
	# Currency Attributes for Category Location
	emxCostAnalytics.CostTemplate.Currency.Location=attribute_ItemQuotedMaterialCurrency,attribute_LocationCurrency
	# Currency Attributes for Category Quote
	emxCostAnalytics.CostTemplate.Currency.Quote=attribute_ItemQuotedMaterialCurrency,attribute_LocationCurrency
	# Currency Attributes for Category Target
	emxCostAnalytics.CostTemplate.Currency.Target=attribute_TargetCostCurrency
	# Currency Attributes for Category Total
	emxCostAnalytics.CostTemplate.Currency.Total=attribute_TotalCostCurrency

Import Mass Part Cost Properties

Color Code for Import Mass Part Cost : In import Mass Part Cost, for showing the color cues for different validation, Cost Administrator can use the following properties setting

# Color Code for Import Mass Part Cost
emxCostAnalytics.ImportMassPartCost.MandatoryColorCode = #ffccff
emxCostAnalytics.ImportMassPartCost.InvalidColorCode = #ccffcc
emxCostAnalytics.ImportMassPartCost.NumericColorCode = #ccffff

Limitation for number of Costs being imported from excel–
Cost Administrator
can specify the total number of rows that can be imported in Import mass part cost starting from emxCostAnalytics.ImportMassPartCost.RowDataCount specified in the properties file. However this limit can be changed, but for performance reasons, large numbers should not be specified.
#Limit for importing of Cost from excel
emxCostAnalytics.ImportMassPartCost.CostImportLimit = 100

Excel Header Section for Import Mass Part Cost–
Following two settings define
the cell number from where the cost data and header can be read from Excel file.
emxCostAnalytics.ImportMassPartCost.RowHeaderCount = 6
emxCostAnalytics.ImportMassPartCost.RowDataCount = 8

Attributes to be displayed in Import Mass Part Cost
- Cost Administrator has to
specify the symbolic names of the attributes. Import Mass Part Cost and in Import Mass Cost Edit the attributes are displayed in the same sequence as specified in the following settings
#Import Mass Part Cost Column Attributes

- For **Total Cost :-**
  emxCostAnalytics.ImportMassPartCost.AttributeList.type_TotalCost = attribute_LocationName,attribute_LocationType,attribute_LocationCurrency,attribute_ProductionMakeBuyCode,attribute_CostValueType,attribute_ItemTargetCost,attribute_TargetCostCurrency,attribute_IncludeChildrenInRollup,attribute_ItemQuotedMaterialCost,attribute_ItemQuotedMaterialCurrency,attribute_ItemFreightCost,attribute_ItemLaborHours,attribute_ItemVariableCost,attribute_ItemFixedCost,attribute_ItemAdjustedCost,attribute_SupplierName,attribute_SupplierDUNSNumber,attribute_ContractID,attribute_EffectiveFrom,attribute_EffectiveTo

Note: -
The Item Labor Cost should not be added in the import list as it is calculated based on the formula set in the Cost Template.

- For **New Cost Type:-**
  emxCostAnalytics.ImportMassPartCost.AttributeList.type_NewCostType = attribute_LocationName,attribute_LocationType,attribute_LocationCurrency,attribute_ProductionMakeBuyCode,attribute_CostValueType,attribute_ItemTargetCost,attribute_TargetCostCurrency,attribute_IncludeChildrenInRollup
  and other attributes defined on new cost type that needs to be imported.

Note:-
Here type_NewCostT ype is the symbolic name of the type of Cost
Eg:- type_TotalCost

Import Mass MEP Part Cost Properties

Color Code for Import Mass MEP Part Cost -In import Mass MEP Part Cost, for showing the color cues for different validation, Cost Administrator can use the following properties setting

# Color Code for Import Mass MEP Part Cost
emxCostAnalytics.ImportMassPartCost.MandatoryColorCode = #ffccff
emxCostAnalytics.ImportMassPartCost.InvalidColorCode = #ccffcc
emxCostAnalytics.ImportMassPartCost.NumericColorCode = #ccffff

---

Limitation for number of Costs being imported from excel–
Cost Administrator can specify the total number of rows that can be imported in Import mass part cost starting from emxCostAnalytics.ImportMassPartCost.RowDataCount specified in the properties file. However this limit can be changed, but for performance reasons, large numbers should not be specified.
#Limit for importing of Cost from excel
emxCostAnalytics.ImportMassPartCost.CostImportLimit = 100

Excel Header Section for Import Mass Part Cost–
Following two settings define
the cell number from where the cost data and header can be read from Excel file.
emxCostAnalytics.ImportMassPartCost.RowHeaderCount = 6
emxCostAnalytics.ImportMassPartCost.RowDataCount = 8

Attributes to be displayed in Import Mass Part Cost
- Cost Administrator has to
specify the symbolic names of the attributes. Import Mass Part Cost and in Import Mass Cost Edit the attributes are displayed in the same sequence as specified in the following settings

#Import Mass MEP Part Cost Column Attributes

- For **MEP Cost :-**
  emxCostAnalytics.ImportMassPartCost.AttributeList.type_MEPCost=attribute_LocationName,attribute_LocationType,attribute_LocationCurrency,attribute_ItemQuotedMaterialCost,attribute_ItemQuotedMaterialCurrency,attribute_ItemFreightCost,attribute_ItemVariableCost,attribute_ItemFixedCost,attribute_ItemAdjustedCost,attribute_SupplierName,attribute_SupplierDUNSNumber,attribute_ContractID,attribute_EffectiveFrom,attribute_EffectiveTo,attribute_AdjustedCostDescription.

Note: -
The Item Labor Cost should not be added in the import list as it is calculated based on the formula set in the Cost Template.

- For **New Cost Type:-**
  emxCostAnalytics.ImportMassPartCost.AttributeList.type_NewCostType = attribute_LocationName,attribute_LocationType,attribute_LocationCurrency,attribute_ProductionMakeBuyCode,attribute_CostValueType,attribute_ItemTargetCost,attribute_TargetCostCurrency,attribute_IncludeChildrenInRollup
  and other attributes defined on new cost type that needs to be imported.

Note:-
Here type_NewCostT ype is the symbolic name of the type of Cost
Eg:- type_TotalCost

Cost Search	**To enable Cost Search in Engineering BOM Management, General Search & Find like –** Cost Administrator needs to add type_Cost in **emxEngineeringCentral.properties** file.
	# Comma separated list of types to be displayed
	eServiceEngineeringCentral.Types = type_Cost

RMI Settings	**Secondary RMI Server Settings –** 1.Copy the jars of ENOVIA Costing and Analytics Foundation to folder <Secondary RMI Server>/java/lib - ProductAnalytics.jar - castor-1.3.jar - castor-1.3-core.jar - annualVolume.jar - ECRCostImpactReportSummary.jar - ECRDetailedCostImpactReport.jar - Markup.jar - MasterlistXML.jar - xmlUtil.jar - consolidatedBOMReport.jar - svgChart.jar - SVGPie.jar - jaxb-xercesImpl-1.5.jar from the application server Web-INF/lib folder or from the primary RMI Server java/lib folder 2. Properties files emxCostAnalytics.properties emxCostAnalyticsStringResource.properties emxSystem.properties emxFrameworkStringResource.properties emxEngineeringCentralStringResource.properties should also be copied to the separate RMI server folder <Secondary RMI Server>/java/properties from the primary RMI server/java/properties folder. After changes in the secondary RMI server, the Application server needs to be restarted. Ensure that the primary and secondary RMI servers should point to the same database in the bootstrap file.
Costing Option	**Flag for deletion of the ICO's on changing the costing option for location-** This setting is used to decide whether to Delete the existing Intermediate Cost Objects with same Location or retain them when the Costing Option for the Location is changed from Cost By Part or Cost By Summary to other Costing Option. emxCostAnalytics.IntermediateCost.CostByPart.DeleteOption = Yes emxCostAnalytics.IntermediateCost.CostBySummary.DeleteOption = Yes
Import ICO Properties	**Limitation for number of Intermediate Costs being imported from excel–** Cost Administrator can specify the total number of rows that can be imported in Import Intermediate cost starting from emxCostAnalytics.IntermediateCostObject.MassImport.RowDataCount specified in the properties file. However this limit can be changed, but for performance reasons, large numbers should not be specified.

#Limit for importing of Intermediate Cost from excel
emxCostAnalytics.IntermediateCostObject.MassImport.ICOImportLimit = 100

Excel Header Section for Import Cost–
Following two settings define the cell
number from where the Intermediate Cost data and header can be read from Excel file.
emxCostAnalytics.IntermediateCostObject.MassImport.RowHeaderCount = 5
emxCostAnalytics.IntermediateCostObject.MassImport.RowDataCount = 8

Attributes to be displayed in Import Cost
- Cost Administrator has to specify the symbolic names of the attributes. Import Intermediate Cost and in Import Intermediate Cost Edit the attributes are displayed in the same sequence as specified in the following settings
#Import Intermediate Cost Column Attributes
emxCostAnalytics.ImportIntermediateCost.AttributeList=attribute_LocationName,attribute_LocationType,attribute_LocationCurrency,attribute_ProductionMakeBuyCode,attribute_IntermediateCostValueType,attribute_ItemTargetCost,attribute_TargetCostCurrency,attribute_IncludeChildrenInRollup,attribute_ItemQuotedMaterialCost,attribute_ItemQuotedMaterialCurrency,attribute_ItemFreightCost,attribute_ItemLaborHours,attribute_ItemLaborCost,attribute_ItemVariableCost,attribute_ItemFixedCost,attribute_ItemAdjustedCost,attribute_SupplierName,attribute_SupplierDUNSNumber,attribute_ContractID,attribute_EffectiveFrom,attribute_EffectiveTo

Change Request Cost Impact Report

The Header for Detailed Level Report & Summary Level Report.
#Change Request Cost Impact Report Generation
emxCostAnalytics.CRDetailedCostImpactReport.Header = Part Type, Part Name,Part Revision,Description,Quantity,Total Material Cost,Total Freight Cost,Total Labor Cost,Total Cost,Delta Material Cost,Delta Freight Cost,Delta Labor Cost,Delta Cost,Excluded,Annualized Volume,Annualized Year,Change Request Cost Impact

# Change Request Summary Report
emxCostAnalytics.CRSummaryReport.Summary.Header = Change Cost,Change Cost Currency,Location,Location Type, Change Request Cost Impact

This setting specifies the prefix for Detailed level Report, Summary level Change Request Cost Impact Reports & Error Report.
#File Prefix for The Change Request Cost Impact Reports
emxCostAnalytics.CRCostImpactReport.Summary.FilePrefix =
Change Request CostImpactReport-CostBySummary-
emxCostAnalytics.CRCostImpactReport.Detailed.FilePrefix =
Change RequestCostImpactReport-CostByPart-
emxCostAnalytics.CRCostImpactReport.ErrorFilePrefix =
Change RequestCostImpact-ErrorReport-
This setting describes a comma separated list of attributes for which delta should be calculated and displayed in the report. Ideally Total Level attributes should be calculated.
emxCostAnalytics.CRCostImpactReport.CalculateDeltaForAttributes= Total Quoted Material Cost,Total Freight Cost,Total Labor Cost,Total Variable Cost,Total Fixed Cost,Total Adjusted Cost,Total Cost

Process Intermediate Cost	This setting describes the number of Intermediate Cost Objects after which Process Intermediate Cost will go in background.
	# Change Request Intermediate Cost Background Process Details
	emxCostAnalytics.ProcessIntermediateCost.Cost.Limit = 100

Selected Affected Parts to Cost	**Color Code for Select Affected Parts to Cost –** In Select Affected Parts to Cost, for showing the color cues for differentiating the Existing and Newly Selected Intermediate Cost, Cost Administrator can use the following properties setting emxCostAnalytics.SelectAffectedPartsToCost.ExistingLocationColorCode = #330000 emxCostAnalytics.SelectAffectedPartsToCost.NewlySelectedLocationColorCode = #990000 If number of Selected Location will be more than 100, Intermediate Cost creation will be performed in background. emxCostAnalytics.Common.NumberOfICOLocations=100

Create/Edit Intermediate Cost/Total Cost Default Currency	This settings defines the default currency value in create/edit Total Cost/Intermediate Cost
	# Default Location Currency
	emxCostAnalytics.DefaultValue.Location_Currency = USD
	# Default Target Cost Currency
	emxCostAnalytics.DefaultValue.Target_Cost_Currency = USD
	# Default Item material currency
	emxCostAnalytics.DefaultValue.Item_Quoted_Material_Currency = USD
	# Default Change cost currency
	emxCostAnalytics.DefaultValue.Change_Cost_Currency = USD
	Note: -
	If a new Currency Attribute is added then its value is to be defined in the emxCostAnalytics.Properties file.
	Eg:
	emxCostAnalytics.DefaultValue.Change_Cost_Currency.New_Currency = USD

Import And Create BOM Validation screen	This is the attribute list for Import and Create BOM functionality, that list is used for import and create bom validation screen.
	#Import Create BOM Attributes =
	emxCostAnalytics.ImportCreateBOM.AttributeList
	attribute_Level,attribute_FindNumber,attribute_ReferenceDesignator,attribute_ComponentLocation,attribute_Quantity,attribute_UnitofMeasure,attribute_Usage
	Below are configurable color values for mandatory attribute not filled, invalid attribute value and invalid numeric value.
	emxCostAnalytics.ImportCreateBOM.MandatoryColorCode = #ffccff
	emxCostAnalytics.ImportCreateBOM.InvalidColorCode = #ccffcc
	emxCostAnalytics.ImportCreateBOM.NumericColorCode = #ccffff

11 Cost Template

For each **Cost Type** there will be **Cost Template**. This **Cost Template** is used to configure the various parameters that are used while creating the respective Cost Objects and calculation of **Rollups**. This Cost Template is stored in Cost Object that contains various information in two XML files.

In this section:

- *Details About XML Files*

Details About XML Files

The XML details given below are for information and no user/Administrator should edit any XML file manually. All the XML file updating happens through ENOVIA Costing and Analytics Foundation user interface. So **Cost Administrators** should always modify Cost Template from the **View Cost Template** link.

1. **Cost_Type_Name.xml: -**

This file contains

- The setting if an attribute should be **mandatory** or **optional**.
- The **Item Level Formula** and **Rollup Formula** for the attribute
- Category for each attribute specifying if it's a **Location** attribute, **Quote** level attribute, **Item** level attribute, **Target** level attribute or **Total** level attribute

2. **Meta Data Xml:-** This file contains the Meta data of Cost Template.
3. **MEPMappingXml :-** This file contains the mapping of MEP attributes with the give Cost type.

Cost_Type_Name.xml

The Cost Administrator can edit and modify the settings by editing the Cost Template.

```
<?xml version="1.0" ?>
<!-- Only Administrator can modify the XML Template -->
- <CostTemplate>
  - <Type name="type_TotalCost" dateOfModification="1/1/2005 12:00:00 AM">
    - <AttributesList>
      - <attribute name="attribute_LocationName" mandatory="true">
          <associatedCurrency />
          <formula />
          <calculationFormula />
          <rollupFormula />
          <rollupCalculationFormula />
          <category>Location</category>
        </attribute>
      + <attribute name="attribute_LocationType" mandatory="true">
      + <attribute name="attribute_LocationCurrency" mandatory="true">
      + <attribute name="attribute_ItemTargetCost" mandatory="true">
      + <attribute name="attribute_TargetCostCurrency" mandatory="true">
      + <attribute name="attribute_ProductionMakeBuyCode" mandatory="true">
      + <attribute name="attribute_CostValueType" mandatory="true">
      + <attribute name="attribute_ItemQuotedMaterialCost" mandatory="true">
      + <attribute name="attribute_ItemQuotedMaterialCurrency" mandatory="true">
      + <attribute name="attribute_ItemFreightCost" mandatory="true">
      + <attribute name="attribute_ItemLaborHours" mandatory="true">
      + <attribute name="attribute_ItemLaborCost" mandatory="true">
      + <attribute name="attribute_TotalCost" mandatory="true">
      + <attribute name="attribute_TotalCostCurrency" mandatory="true">
      </AttributesList>
    - <CurrencyAttributesList>
        <attribute>attribute_LocationCurrency</attribute>
        <attribute>attribute_TargetCostCurrency</attribute>
        <attribute>attribute_ItemQuotedMaterialCurrency</attribute>
        <attribute>attribute_TotalCostCurrency</attribute>
      </CurrencyAttributesList>
    - <AttributeIdentifier>
        <Name>attribute_ProductionMakeBuyCode</Name>
      - <Range Value="Buy">
        - <MandatoryAttributes>
            <attribute>attribute_LocationName</attribute>
            <attribute>attribute_LocationType</attribute>
            <attribute>attribute_LocationCurrency</attribute>
            <attribute>attribute_ProductionMakeBuyCode</attribute>
            <attribute>attribute_IntermediateCostValueType</attribute>
            <attribute>attribute_IncludeChildrenInRollup</attribute>
            <attribute>attribute_ItemQuotedMaterialCost</attribute>
            <attribute>attribute_ItemFreightCost</attribute>
            <attribute>attribute_ItemQuotedMaterialCurrency</attribute>
          </MandatoryAttributes>
        </Range>
      + <Range Value="Make">
      </AttributeIdentifier>
    </Type>
  </CostTemplate>
```

The Cost Template stores all the information required for calculating the rollups for Parts. For a new Cost Type specify the following settings:

1] Cost Properties

2] Cost Template Properties

3] Currency Attribute Properties.

For each type Cost Type, it would have a **Type Name** tag. The symbolic name of the type is stored in the name, and date when the type was last modified is also stored here. The

Type Name tag then has three sub-tags: **AttributeList, CurrencyAttributeList** and **AttributeIdentifier.**

All the attribute associated with the type are listed by using the **AttributeList** sub-tag. The symbolic name of the **Attribute** is the name of the attribute in the **XML**. Details to specify the attribute is mandatory or not, is also specified at this level.
Every attribute tag has the following information

a. The associated currency with the attribute.
b. The formula associated with the attribute both for calculation as well as for rollup
c. A type categorizing every attribute is also mentioned here.

All the Currency attributes associated with the type are listed by using **CurrencyAttributeList** sub-tag. The symbolic name of the **Currency Attribute** is the name of the attribute in the **XML**

The Attribute Identifier associated with the type is listed by using **AttributeIdentifier** sub-tag. The symbolic name of the **Attribute Identifier Attribute** is the name of the attribute in the **XML.** The **Range values** & **mandatory attributes** for Range Value are also specified in the sub-tag.

Metadata.xml

The Metadata.xml contains following information.

- **Type Name** - THE Cost Template Type name
- **Category Name** - The Category Name and
- **Associated Currency** - Associated Currency

```
<?xml version="1.0" ?>
<!-- Only Administrator can modify the XML Template -->
- <CostTemplate>
  - <Type name="type_IntermediateCost" dateOfModification="1/1/2005 12:00:00 AM">
    - <category name="Location">
        <associatedCurrency>attribute_LocationCurrency</associatedCurrency>
        <associatedCurrency>attribute_ItemQuotedMaterialCurrency</associatedCurrency>
      </category>
    - <category name="Total">
        <associatedCurrency>attribute_TotalCostCurrency</associatedCurrency>
      </category>
    - <category name="Target">
        <associatedCurrency>attribute_TargetCostCurrency</associatedCurrency>
      </category>
    - <category name="Item">
        <associatedCurrency>attribute_LocationCurrency</associatedCurrency>
        <associatedCurrency>attribute_ItemQuotedMaterialCurrency</associatedCurrency>
      </category>
    - <category name="Quote">
        <associatedCurrency>attribute_ItemQuotedMaterialCurrency</associatedCurrency>
        <associatedCurrency>attribute_LocationCurrency</associatedCurrency>
      </category>
    </Type>
  </CostTemplate>
```

MEPMapping.xml

1. The MEPMapping.xml contains following information
   Cost Attribute Name: The name of the attribute which will be mapped with the attribute of MEP Cost

Note:

1. To have consistency between Intermediate Cost Object & Total Cost Object, the Cost Template for these two should have same attributes. Also the formulae of the respective attributes should be same.
2. Cost Template changes will get into effect for other users (Cost Analysts) only after re-login.

```
<?xml version="1.0" encoding="UTF -8" ?>
- <MEPToCostMapping >
    <CostAttribute name="Item Adjusted Cost ">Item Adjusted Cost </CostAttribute >
    <CostAttribute name="Item Fixed Cost ">Item Fixed Cost </CostAttribute >
    <CostAttribute name="Item Freight Cost ">Item Freight Cost </CostAttribute >
    <CostAttribute name="Item Labor Cost ">Total Labor Cost </CostAttribute >
    <CostAttribute name="Item Labor Hours ">Total Labor Hours </CostAttribute >
    <CostAttribute name="Item Quoted Material Cost ">Item Quoted Material Cost </CostAttribute >
    <CostAttribute name="Item Target Cost ">Item Fixed Cost </CostAttribute >
    <CostAttribute name="Item Variable Cost ">Item Variable Cost </CostAttribute >
    <CostAttribute name="Total Adjusted Cost ">Total Adjusted Cost </CostAttribute >
    <CostAttribute name="Total Cost ">Total Cost </CostAttribute >
    <CostAttribute name="Total Fixed Cost ">Total Fixed Cost </CostAttribute >
    <CostAttribute name="Total Freight Cost ">Total Freight Cost </CostAttribute >
    <CostAttribute name="Total Labor Cost ">Total Labor Cost </CostAttribute >
    <CostAttribute name="Total Labor Hours ">Total Labor Hours </CostAttribute >
    <CostAttribute name="Total Quoted Material Cost ">Total Quoted Material Cost </CostAttribute >
    <CostAttribute name="Total Target Cost ">Total Fixed Cost </CostAttribute >
    <CostAttribute name="Total Variable Cost ">Total Variable Cost </CostAttribute >
  </MEPToCostMapping >
```