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## **Introduction**

### **ENOVIA VPLM Advanced Concepts**

Upon completion of this course the student should have a full understanding of the following topics:

- Creating new Product Classes and Products
- Create generic components within a product
- Create categories and specifications and associate them to a product
- Create rules to govern specifications
- Understand the change management capabilities in ENOVIA
- Create change requests, change orders, and actions
- Add and delete documents directly in the database

**ENOVIA VPLM**

As stated in the ENOVIA VPLM Basic Concepts book, ENOVIA is an object oriented PLM database. In the concepts course you learned how to navigate and utilize ENOVIA to retrieve information and send it to the various editors such as CATIA and Word. This course is going to extend on that knowledge and look at how those types of objects are actually created in the ENOVIA environment. You will also look at the change management process and build upon a change request through the change order and down to the individual actions created therein. This course will also introduce you to CATIA's assembly design capabilities for creating and inserting parts into the database.

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**Manual Format**

It is important to understand the format of the manual in order to use it most effectively. This manual is designed to be used along with an instructor; however, you will need to do a lot of reading as well, in order to fully understand ENOVIA VPLM. The exercises in this book will list steps for you to complete, along with explanations that try to inform you what you have just done and what you are getting ready to do. The actual steps are in bold type and the information that follows the steps is for your benefit. Anything that appears in *italics* refers to a message ENOVIA provides—this includes information in pull-down menus, pop-up windows and other messages.

An example of a step and its explanation is shown below (note: normally the lines will not be there):

---

**Select a location to the right of the origin.** This specifies the other end point of the line. You will continue specifying locations in order to complete your profile. It should appear similar to the diagram shown below.

---

As you can see, the desired action blends in with the text except that it appears in bold. The information following the step explains what that step accomplished and where you are going next. It is important for you to read this information to help in your understanding of ENOVIA.

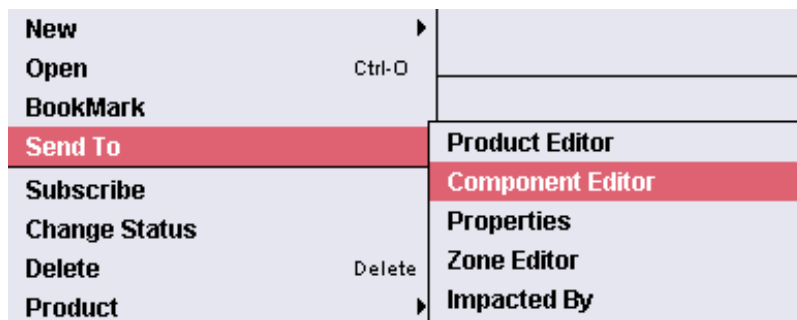
Also, you will find that the exercises build upon themselves. Later exercises often assume you know how to do certain steps which have been covered in earlier exercises. If you did not quite pick up what you needed to know from an exercise, you will probably wish to review it several times before moving on to the more advanced sections. As you progress through the manual, it expects that you are learning and therefore you are able to do a lot more with fewer steps. Eventually, you are expected to be able to perform actions without any steps.

## Component Editor

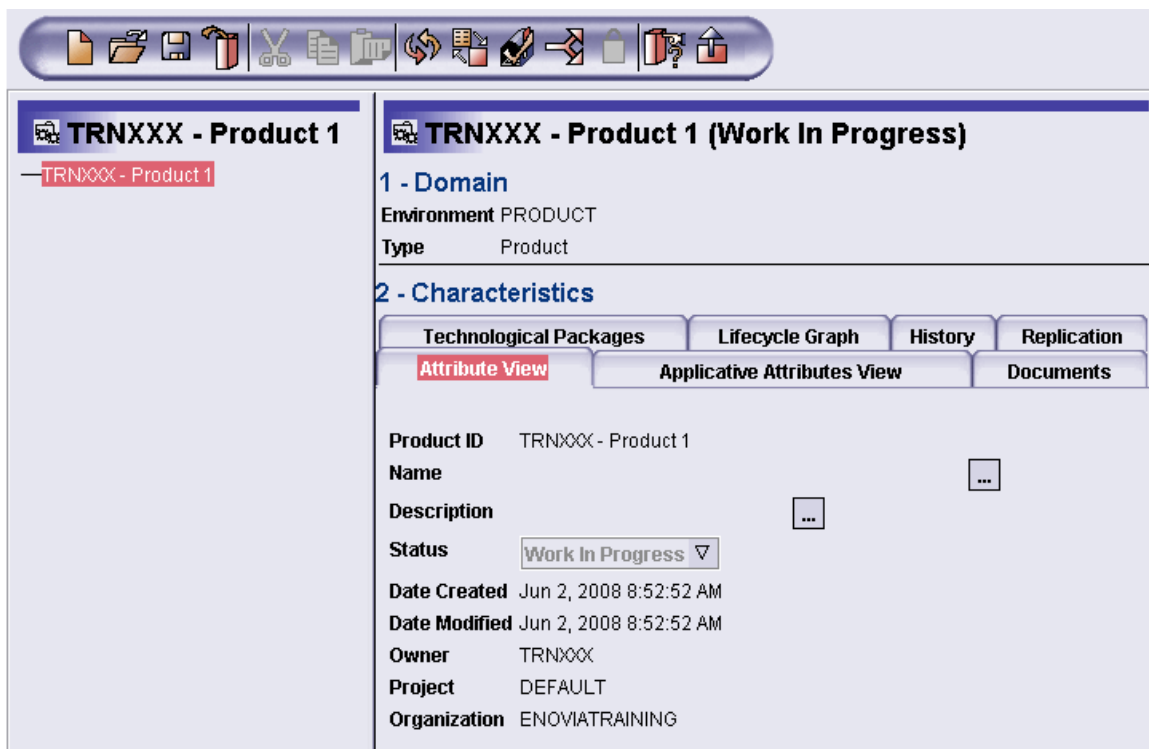
The component editor allows you to generate generic components in a product structure. In the ENOVIA concepts course, you found that a product can have a variety of organization schemes based on the generic component structure. Although the generic components (GCOs) are not mandatory, they can prove very beneficial when working in a large data structure. Take a look at creating a few GCOs in your product.

**In the Product Class Editor, find your Product 1.** If you closed your product class editor from the previous exercise, you will need to re-open it and locate your product.

**Right click on your Product 1, then select *Send To*.** If you remember from the basics course, this will allow you to send the product to various editors. You will notice towards the top of the contextual menu is the component editor.



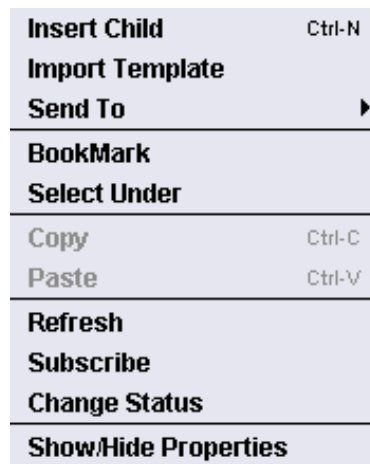
Select *Component Editor*. This will send the product to the component editor.



The component editor is a very simplistic editor that only allows for the creation and deletion of the generic components. Notice there is not even a toolbar specific for the component editor on the right hand side of the window. You only have the standard toolbar at the top.

The component editor comprises of two panes. The left hand pane is the generic component tree. This is where generic components are created and deleted via right click options. The right hand pane is the properties pane for the generic components and product.

**Right click on your product from the Generic Component Tree.** This will display your options for creating a generic component. Most of the options are standard right click options, however, there are two options that are specific to creating the first generic component.



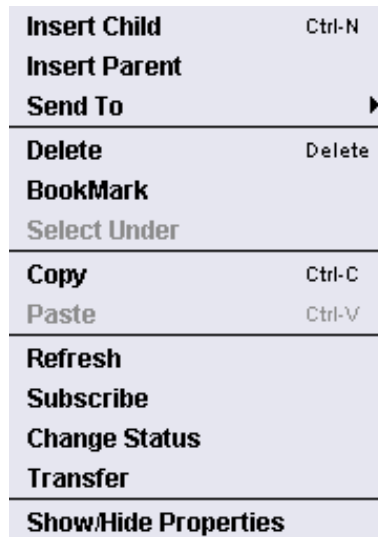
*Insert Child* Creates a child generic component. This will be a component below the currently selected object.

*Import Template* This imports a generic component tree from another product. This is useful for replicating a generic component tree that has already been established.



If you right click on a generic component from the GCO tree, you will get an additional option.

*Note: You currently do not have any GCOs in your tree. This is for future reference only.*



*Insert Parent* This creates a generic component as a parent of the selected generic component. This means that the GCO selected, and any children GCOs, will be placed under this one parent GCO.

**Select *Insert Child*.** This will display the new generic component creation pane.


As you might have already noticed, this is the same sort of object creation pane that is used throughout ENOVIA.

Enter **GCO-1** as the **Product Component ID**. Since this is the only mandatory field, you have the option to fill in the rest of the pane.

*Note: Notice you were not instructed to add your account to the GCO. Since GCOs are child objects of the product, you do not have to worry about duplicate names. You do have to worry about duplicate GCO ID's within the product though.*

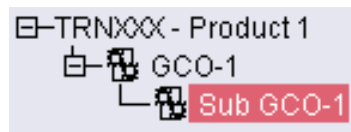
Select **OK** when done. This will create the generic component in the product.



With **GCO-1** selected, select on the **Insert Child** icon from the **Standard toolbar**.  In most other editors, this would be considered the New icon, but in this editor, its name is changed. This is the same as the right click, insert child option.

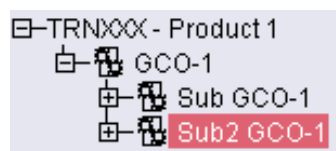
Enter **Sub GCO-1** as the **Product Component ID**. Again, the rest of the information will be up to you to enter.

Select **Add**. The GCO is created as a child object to GCO-1.



Change the name to **Sub2 GCO-1**.

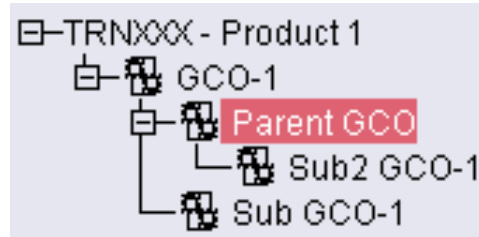
Select **OK** when done. You should now have a GCO tree that has one parent GCO and two child GCOs.



*Note: If your tree does not appear as above, you can delete the GCOs, then re-create them.*

**Right click on *Sub2 GCO-1* and select *Insert Parent*.** Make sure it is selected before right clicking.

**Enter the ID of Parent GCO, then select *OK* when done.** Notice this puts the new GCO above the Sub2 GCO.



As you work with your products, you may find you want to create a GCO structure to control and organize your product. Feel free to create GCOs as you feel necessary.

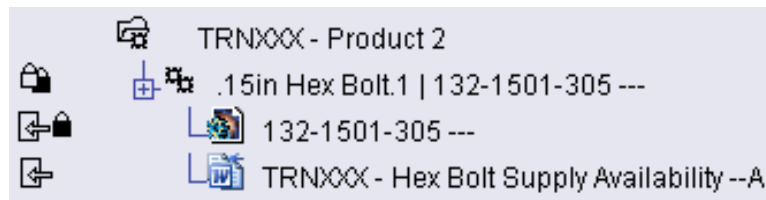
**Save and close the Generic Component Editor.**

## Publish Subscribe


ENOVIA has the ability to send notifications to users when certain events happen. Users can subscribe to an object like a part instance, document, action, or product to find out when the object has been modified, deleted, promoted, or created.

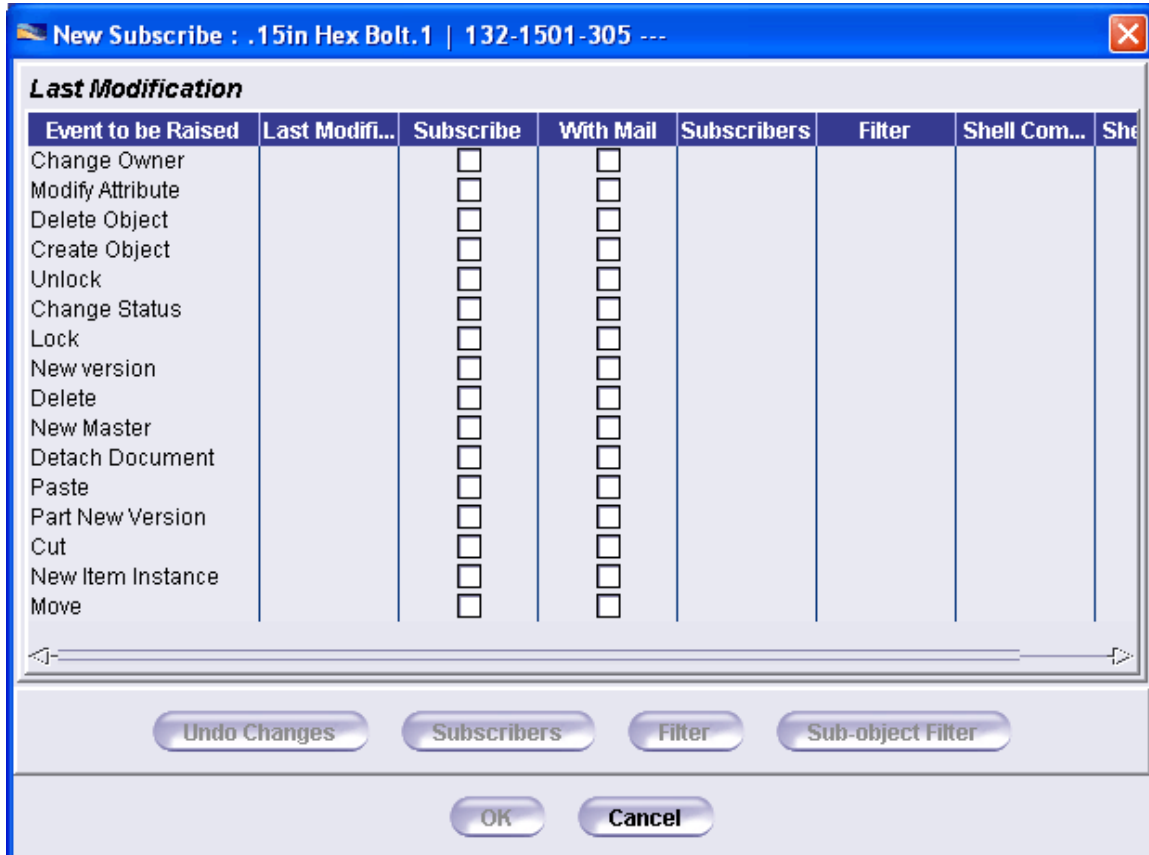
In this exercise, you will look at subscribing to events, as well as viewing events that have been raised.

**Open the product *{USERID} - Product 2* in the product editor. Do not associate an action to your product.** You can either navigate through the product class editor or open it directly in the product editor.



**Select the *.15 Hex Bolt.1* instance from the tree.** You will subscribe to a few events of this object.

**Select the Subscribe icon in the Standard toolbar.**  You can also right click on the part instance and select subscribe from the menu.

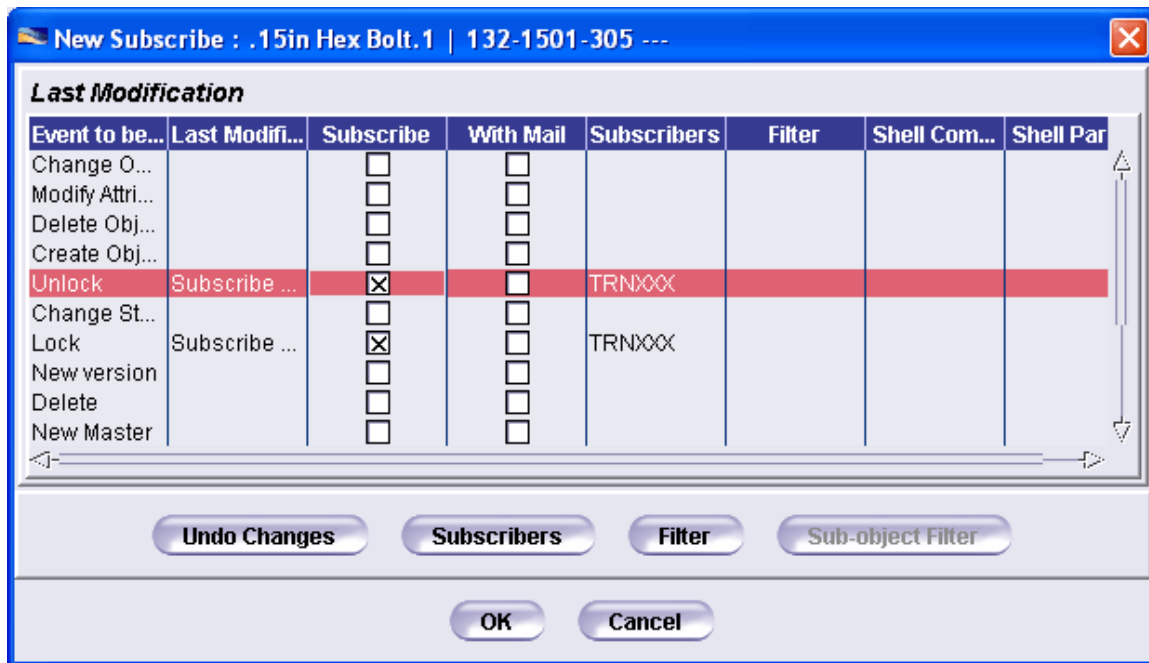


Take a look at the various tabs across the top.

- Event to be Raised*                      List of various events that can be subscribed to. This will change based on the type of object you have selected.
- Last Modification*                      Time stamp of when the subscription has been modified
- Subscribe*                                  Check boxes to choose the events that you want to receive notification from
- With Mail*                                  Check boxes to choose the events that you want to receive e-mail notification from
- Subscriber*                                  User ID of person subscribed to the event
- Filter*    Allows you to only receive notification under certain circumstances
- Shell Command*                              Automatically set up by the email configuration
- Shell Parameter*                              Automatically set up by the email configuration

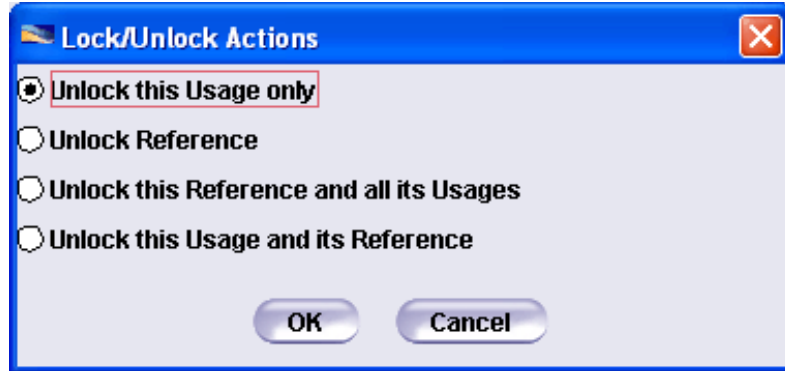
There is also a long list of events that can be raised. Most of these are very intuitive as to what they mean. Different objects will have different events that can be raised.

**Check the boxes in the *Subscribe* column for *Lock* and *Unlock*.** If you were using a personal account you could check *With Mail*, then you would receive an E-Mail message from ENOVIA anytime this event occurred.



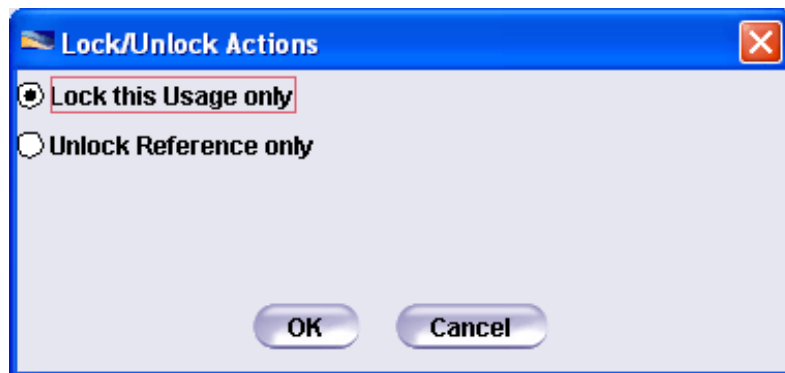
**Select OK.** You are now subscribed to the lock and unlock events of this instance.

Select the same instance and select the Lock / Unlock icon from the Standard toolbar. This will display the *Lock/Unlock Actions* window.



Change the checkbox to *Unlock this Usage only*. Select *OK* when done. This will unlock the instance. Now to lock it again.

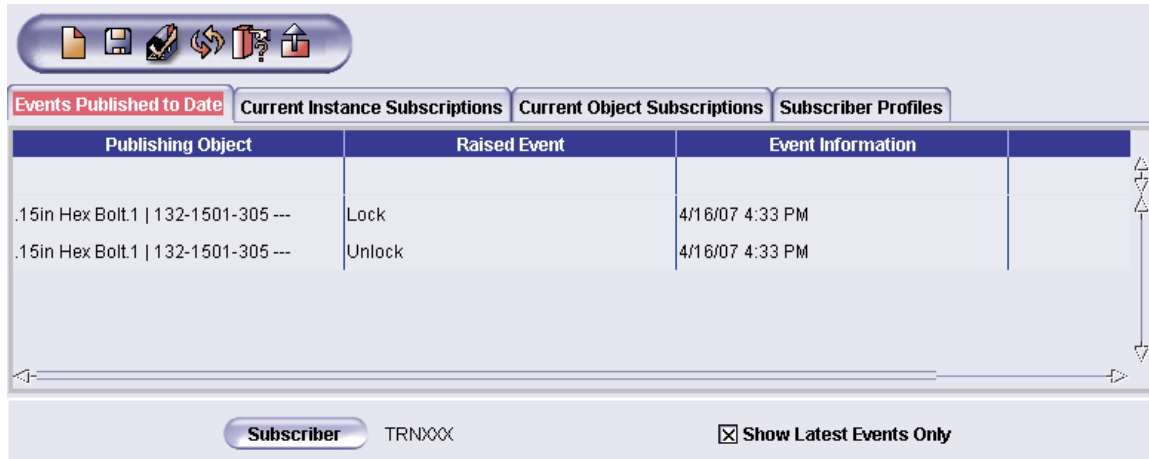
Select the Lock / Unlock icon again. Again, the actions window will display.



With the action set to *Lock this Usage only*, select *OK*. This will lock the instance back to you. Now you are ready to view the raised events.

Save your changes with no unlocks. The events will not be recorded until a save has been performed.

In the ENOVIA Home workbook activate the *Publish Subscribe* viewer in the *User Services* folder. This is where you can view the subscribed and triggered events.



Take a moment to look at the various tabs in the *Publish Subscribe* viewer.

*Events Published to Date* Displays the various events that have been raised in ENOVIA

*Current Instance Subscriptions* Displays all subscriptions you currently have with instances

*Current Object Subscriptions* Displays all subscriptions you have currently have with other ENOVIA objects

*Subscriber Profiles* Displays any subscriber profiles (preselected groups of subscriptions) and which ones are currently active for ENOVIA objects

Notice on the *Events Published to Date* tab that it recorded when the unlocking and locking of the instance. This area will show all events that have been raised for any subscription you have.

Select, then right click on the **Lock** event. This will be the last event in the list. Notice you have a few options.



*Unsubscribe* Unsubscribes you from the event so no more events will be raised

*Remove* Removes the event from the list

*Undo Changes* Cancels the unsubscribe or removal

*Send To* Sends the object to the appropriate editor

Select **Remove**, then select the **Save icon**. Notice the entry disappears. Removing events is a good way to acknowledge them.

Select on the **Current Instance Subscriptions** tab. Here you can view the subscriptions that you have in ENOVIA.

Events Published to Date		Current Instance Subscriptions	Current Object Subscriptions	Subscriber Profiles	
Publishing Object	Event to be Raised	Last Modification	With Mail	Filter	To Do
.15in Hex Bolt.1   1...	Unlock	2/12/06 2:28 PM	No		
.15in Hex Bolt.1   1...	Lock	2/12/06 2:28 PM	No		

Select then right click on the **Unlock** subscription. Select **Unsubscribe**. In the *ToDo* column it now says *Unsubscribe*.

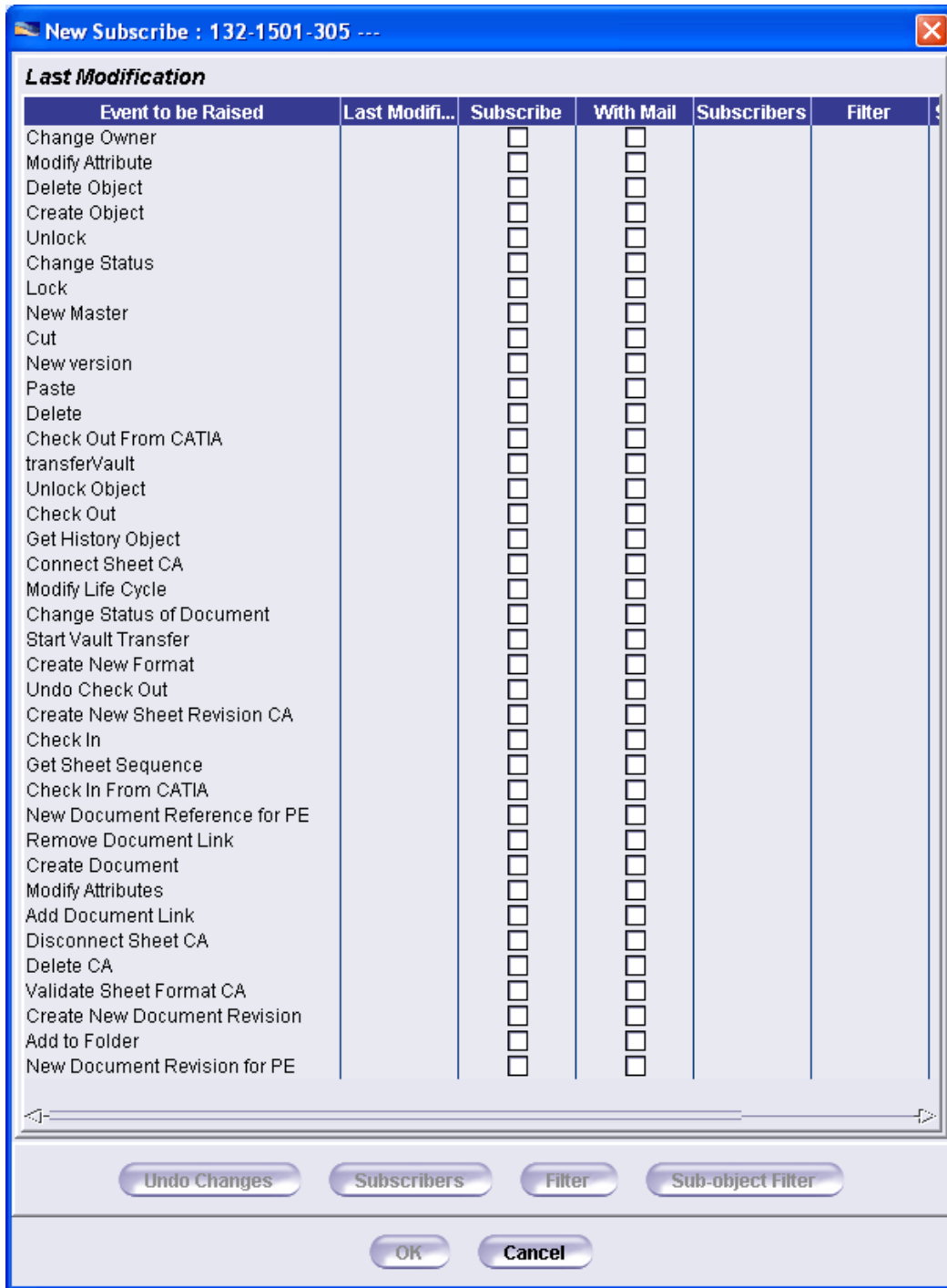
Select the **Save icon**. The subscription has been removed.

You cannot add subscriptions from here. You can only unsubscribe to events.

Go to the product editor with **Product 2** opened. This product editor window should be on the bottom task bar.



Select the document *132-1501-305*, then select the **Subscribe** icon from the **Standard toolbar**. Notice all the events that can be triggered for the document.



If you wanted to be notified when someone modified this document in CATIA and saved it back to the database, you would want to subscribe to *Check In From CATIA*.

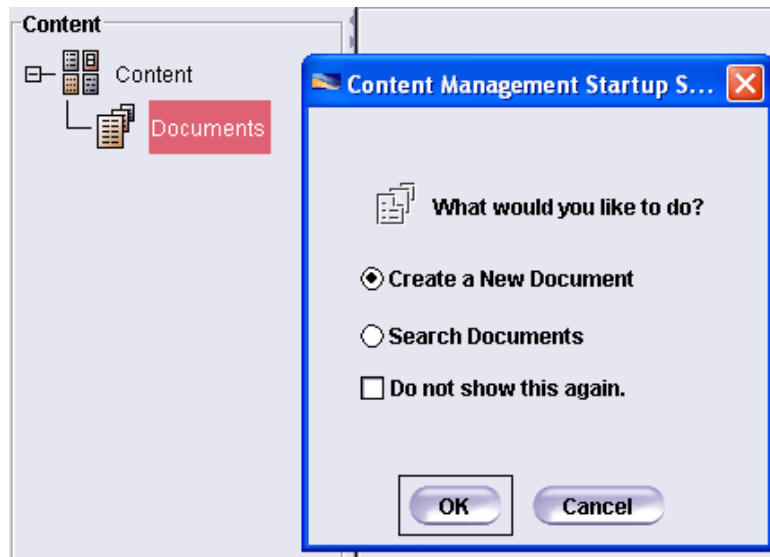
Most objects in ENOVIA can be subscribed to, thus notifying you when key events happen in the database. Different object types will have different subscription options.

Select **Cancel** to the *New Subscribe* window, then close all editors.

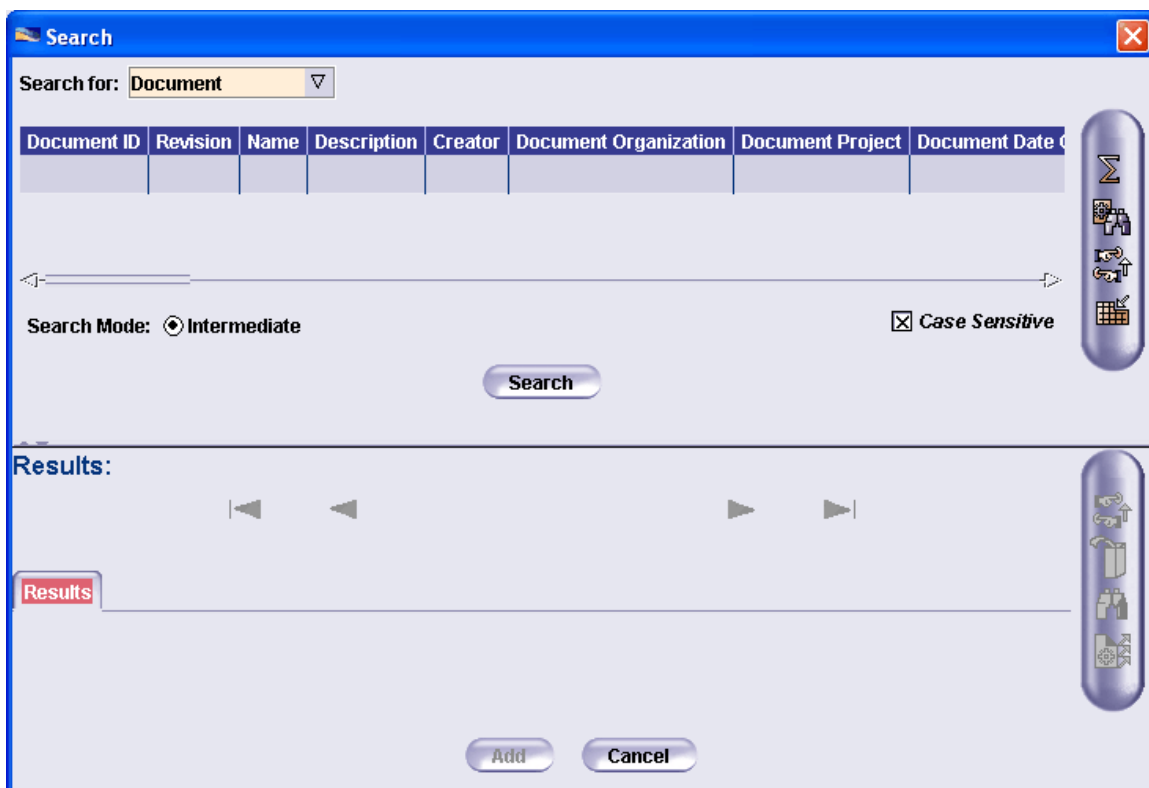
## Replacing a Part from the Flat File

In some cases it may be necessary to replace a part that is already in the database with an updated part from the flat file. In this case, a flat file part is simply a part on a local machine or network drive outside of ENOVIA. This can be done from the Content Management editor.

**Under the *Content Management* folder of the ENOVIA Home workbook, activate the *Documents* application.** This will display the content manager.

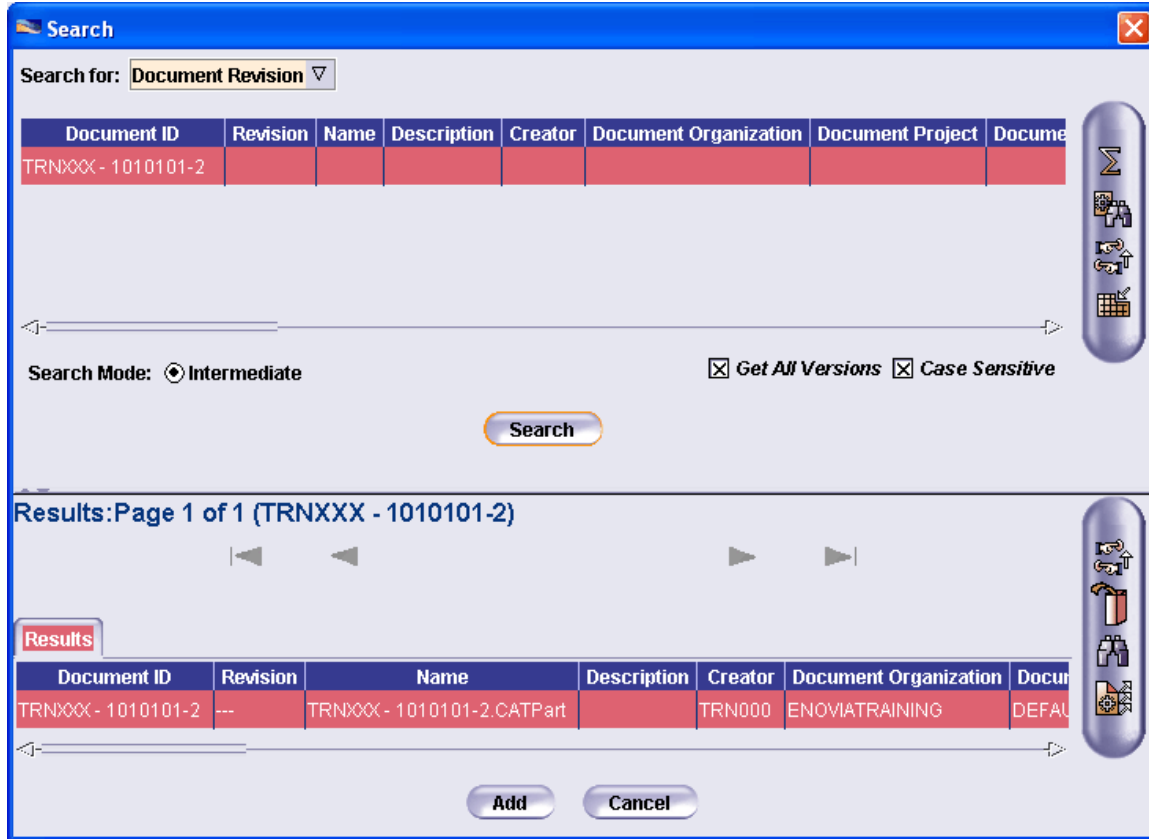


**In the *Content Management Startup Screen* select *Search Documents* and then select *OK*.** This will display the standard *Search* window.



**Change the Search for type to Document Revision.** When searching for documents you should always search for document revisions.

**Search for the document {USERID} - 1010101-2.** Remember that asterisks (\*) can be used as wildcards so you do not have to type the entire ID out.

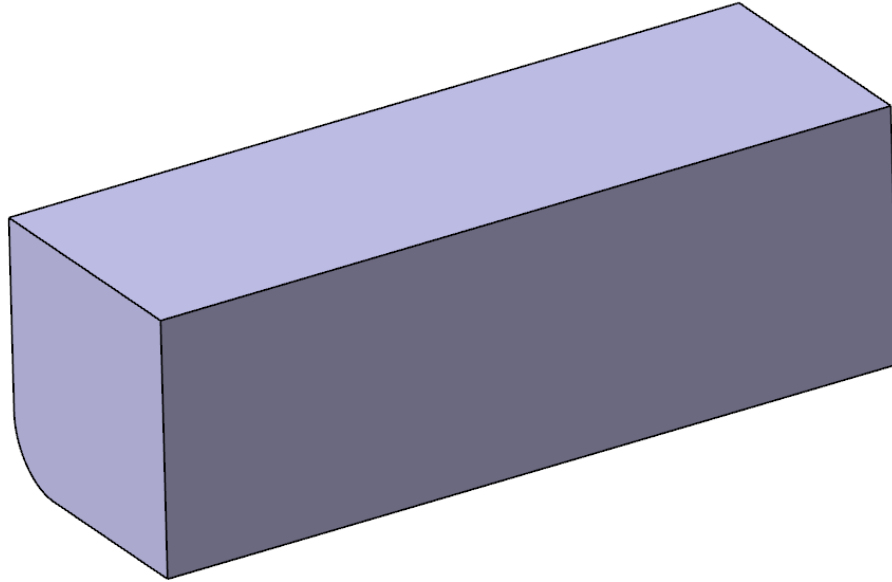


**Select the document from the results and select the Add button.** This will add the document to the content editor.



First you will send the document to CATIA to view it.

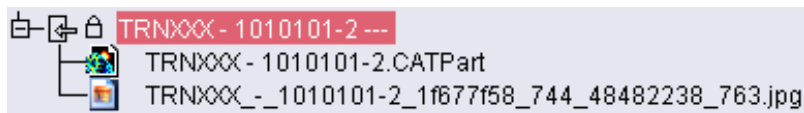
**Right select on the document and select Send To, CATIA V5.** The part should appear as shown.



**Close the CATIA window.**

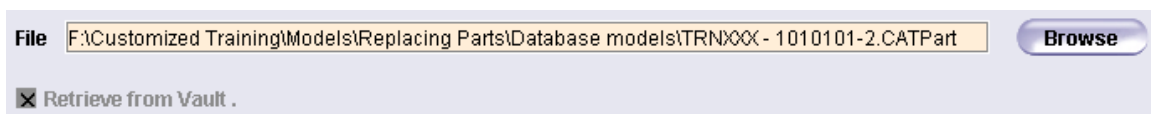
The process of checking in and checking out documents can only be done by the user that has the document locked.

**Select on the document and select the Lock/Unlock icon.**  The document is locked to you.



**Select then right click on your document object.** Notice you have two options for checking a document out.

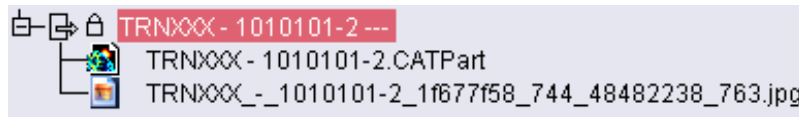
**Select *Check Out*.** This will display the *Check Out Document* pane.



*Note: The default checkout location will be the last location the document was checked in from. This means that if a different user checked the document in from the desktop, it would appear to want to check out to that user's desktop. In general, you will always want to select the Browse button to define exactly where you want the document checked out.*

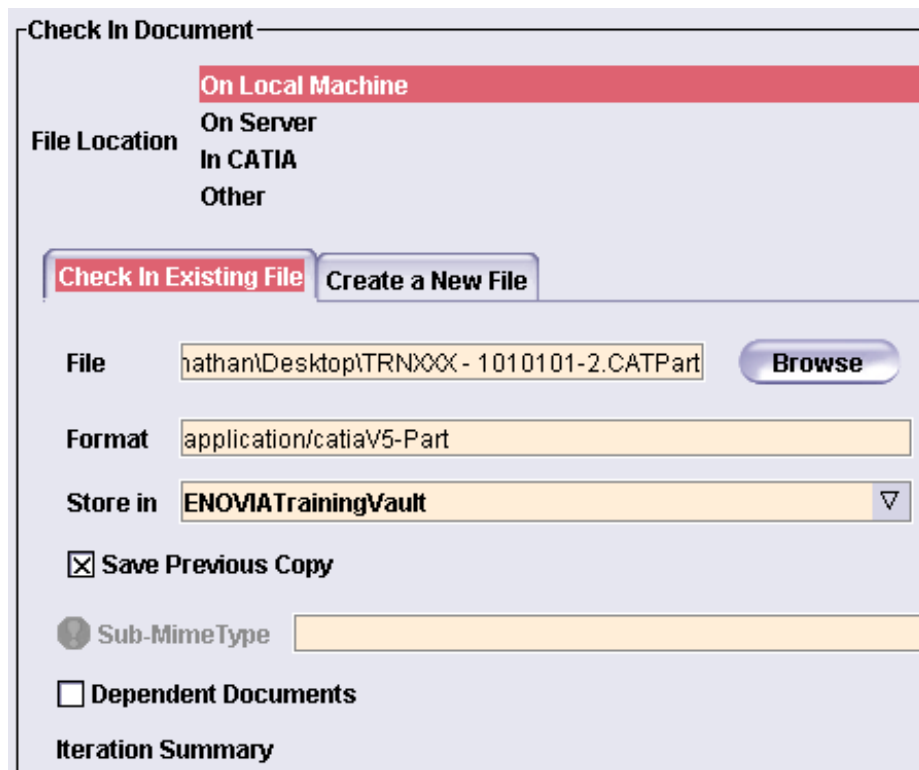
**Select the *Browse* button. Browse to an area where you can save, then select *OK*.** Be sure the document name stays intact. If you have to change folders, the folder name will be entered into the *File Name* field. You will have to change the name back to the document name.

Select **OK** to the **Check Out Document** pane once the file is pointing to the right location. The document will be copied to your area and the icon next to the document object changed to the checked out icon.



At this point, you have the document checked out of the database. You will now replace the document with one that exists on a local drive by checking that new document back into the database.

Right select on the document again and select **Check In**. This will display the **Check In Document** pane.



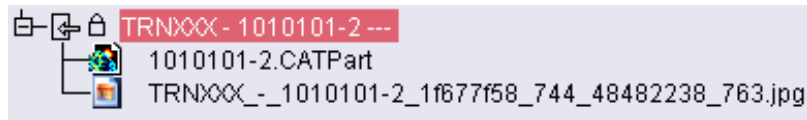
The file field should automatically be pointing at the file that you checked out.

Select the **Browse** button and browse to the models directory. Rather than checking in the same file you checked out, you will replace the database file by checking in an alternate document.

Select the 1010101-2 part from the **Replacing Parts** directory and select **OK**.

Verify the box next to **Save Previous Copy** is checked. This will keep the previous copy of the document in ENOVIA and create a new iteration of your document.

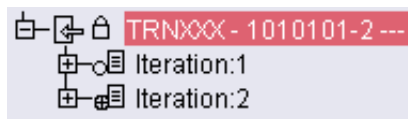
Select **OK** when done. Your file is checked back into ENOVIA and the icon changed to the checked in icon.



Select the **Save icon**.  Your progress is now saved.

Next you will look at the iterations for the document.

**Right select on the document and select *Show, Iterations*.** This will display all the iterations of your document object.

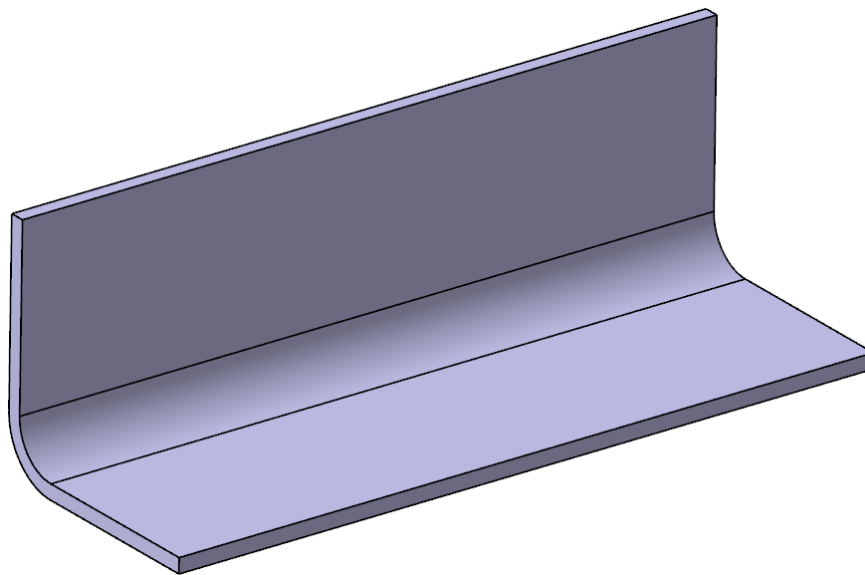


Notice there are two iterations of this document. The second iteration has a plus sign next to it specifying that it is the current iteration. Under the *Attribute View* tab in the Properties pane, notice the *Iteration Number* is 2.



The preferred iteration is the iteration that is displayed anytime the document object is checked out or sent to the editor.

**Send the document to CATIA.** It should appear as shown.



**Close the CATIA window.**

**Save and close the content manager.**