

e-Version Fifty Enterprise Architect Tricks

Fifty elements of Enterprise Architect

diagram tricks

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Fifty Enterprise Architect Tricks

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Introduction

Preface

“Enterprise Architect is an intuitive, flexible and powerful UML analysis and design tool for building robust and maintainable software. From requirements gathering, through analysis, modeling, implementation and testing to deployment and maintenance, Enterprise Architect is a fast, feature-rich, multi-user UML modeling tool, driving the long-term success of your software project”, states the Enterprise Architect Manual. Hmm. As an everyday Enterprise Architect user, I know that Enterprise Architect is very feature rich, but it can be hard to get the most out of the tool initially because there is so much functionality to learn. I once prepared a document with four Enterprise Architect tricks and presented these to a user forum. I was surprised that no participant, though every single one of them an expert user, knew all four. So I concluded there was a real need for a book like this. It is suited for those who have at least some working knowledge of Sparx Systems Enterprise Architect but don’t want to struggle their way through the 2000+ pages electronic manual that comes with the current version, 9.1. With these fifty different Enterprise Architect tricks, I barely scratched the surface of all Enterprise Architect possibilities. On the other hand,

I carefully selected these tricks because they will be useful for most daily users. And be assured that I have enough material for another book like this, with more tricks and more advanced stuff. Happy reading!

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Thanks to

Thanks to Estelle Bell and Scott Hebbard from Sparx Systems for their help. Thanks to Jonathan Feinberg for his famous Wordle application that generated the word clouds in this book. Thanks to Helmut Ortmann for providing me with additional tricks, and to Philippe Backx, Thomas Kilian and Ramsey Millar for their support in marketing this book. Thanks to my family and colleagues for their support and advice. Special thanks to my colleague Stephan for proofreading the manuscript and to colleague Herman for tip 9 in bonus chapter 2.

About the author

Peter is a full-time enterprise architect at SD Worx, a leading HR company, and vice president of the Belgian

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Online

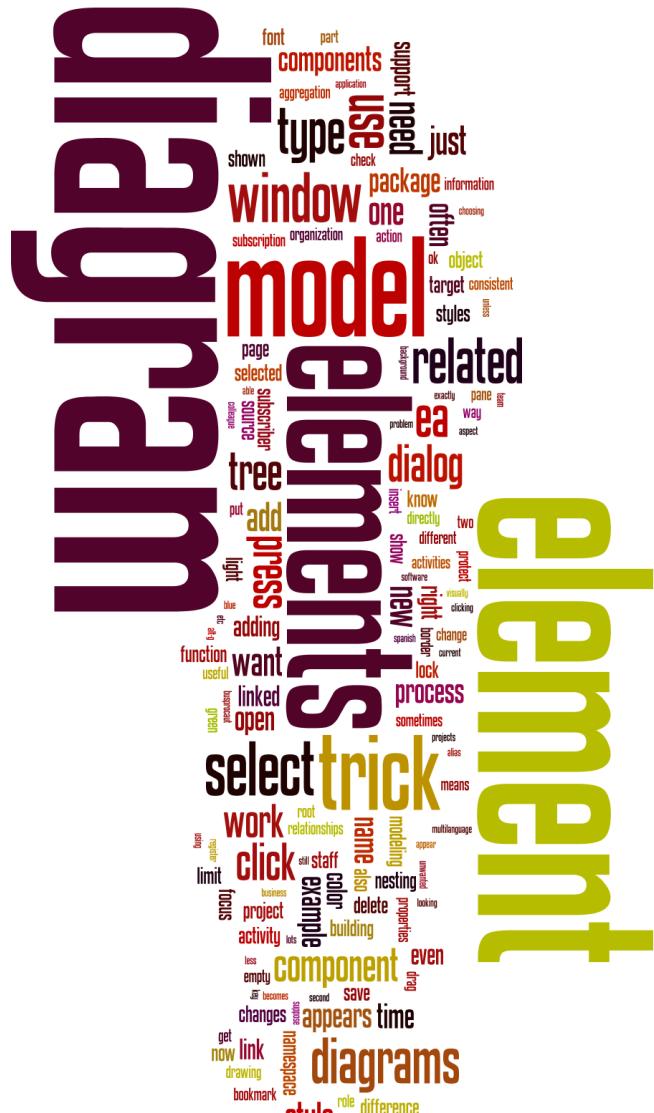
Website of the author¹

Section about Enterprise Architect²

¹<http://www.AbOrigineMundi.com>

²<http://www.AbOrigineMundi.com/index.php/tag/enterprise-architect/>

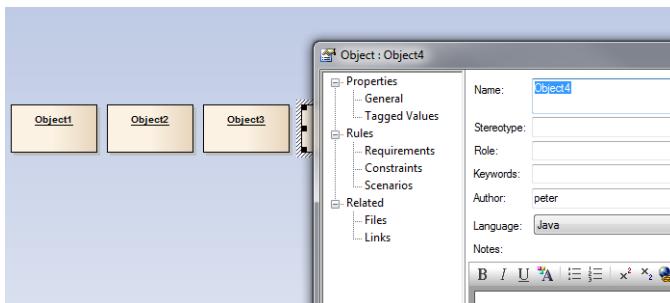
Chapter 1: Elementary, my dear Watson



In which we find ten tricks to work with elements, the basic stuff of any Enterprise Architect model.

Trick 1: Adding an element of the same type

When you are building a model, more often than not you need exactly the same type of element more than once. Instead of returning to the toolbox every time, just press “ctrl” and click on the diagram. For example: you need five “objects” to appear on the diagram.



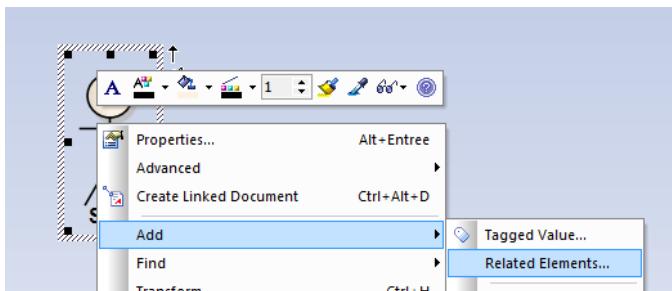
Screenshot 1-1

First, create a new object: click “object” in the toolbox and click on the diagram. A rectangle appears and a dialog window pops up. Name the object “app1” and press “OK” so that the dialog window closes. Now keep the ctrl-key pressed and click on the diagram again. A second rectangle appears and the dialog window opens again. You

just created a second “object” without having to visit the toolbox again. As simple as this sounds, it struck me that even experienced Enterprise Architect users did not know this little trick. A related trick is Trick 12: Repeat connector.

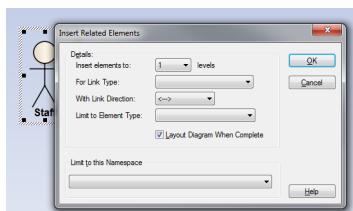
Trick 2: Adding related elements to the diagram

This trick goes right into the heart of what a modeling tool is about: modeling instead of just drawing. The difference? When modeling, you understand there is a difference between the model and the diagrams, while when you are just drawing the model and the diagram are the same. Let’s say you are building a model for an organization that releases the wine magazine “Vinimble” six times a year. You have modeled the subscription process, a part of the application landscape, and some roles that work with the software to support the business process. The model quickly becomes complicated. The solution? Split up the diagram in separate diagrams, each showing a part of the model. The function “add related elements” is very useful for that. For example, let’s focus on the “Staff” role. Drag the “Staff” role from the model tree to a new diagram. Right click on it and choose “Advanced | Add | Related elements”.



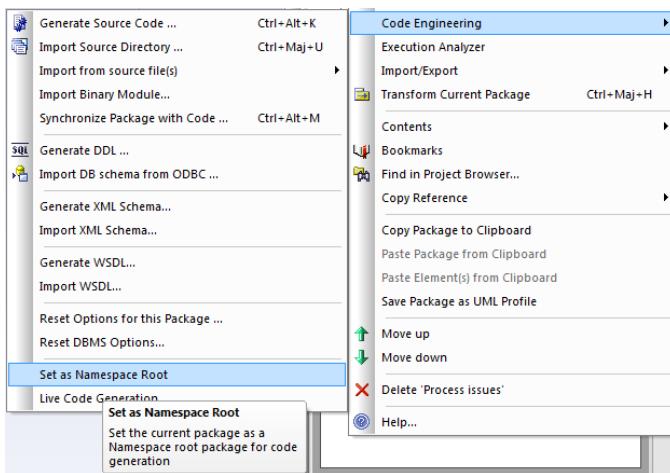
Screenshot 2-1

A dialog window “Insert related elements” appears.



Screenshot 2-2

For the moment, just press OK. The result is a diagram with all elements directly linked to the “Staff” role.



Screenshot 2-3

The options on the “Insert related elements” dialog window will be useful when there are lots of elements linked to the source element on the diagram.

Insert Elements to X Levels

Choose 2 as a value and Enterprise Architect will also show elements that are not directly linked to the source element, but to the elements that are linked to it.

For Link Type

This option limits the action to elements that are linked with a specific link type. For example, choosing “aggregation” in our model would show only “VinimbleGroup”

since the link type between VinimbleGroup and Staff is of that type. The links to the process activities “Check subscription”, “Register new subscriber” and “send previous issues for free” are typed as “Association” hence these process activities would not show up.

With Link Direction

The default for this option is two-way, but you can limit this to source->target or target->source.

Limit to Element Type

The same as link type, only that you limit the action depending on the type of the connected elements.

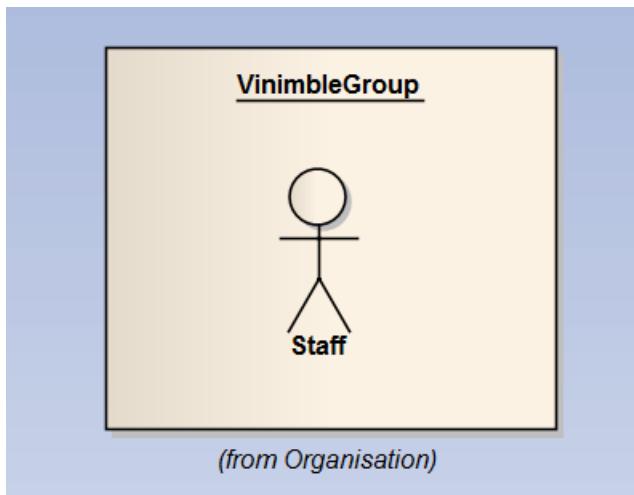
Layout Diagram when Complete

You probably will want to turn this option off unless you trust the autolayout function of Enterprise Architect really well. I don’t, so I turn it off unless I have a diagram that has not been layouted by hand so far.

Limit to Namespace

Another way of dividing complex projects so that the pieces become manageable. This will only work if you have namespaces defined. To define a package as a namespace root, right-click on the package in the model tree, choose

“Code Engineering” and press “Set as Namespace Root”. The package icon changes so that you can recognize it as a namespace root. Useful if the model is very complicated and you use the “Add | Related Elements” function a lot and don’t have the time to delete elements on a diagram that you don’t need.

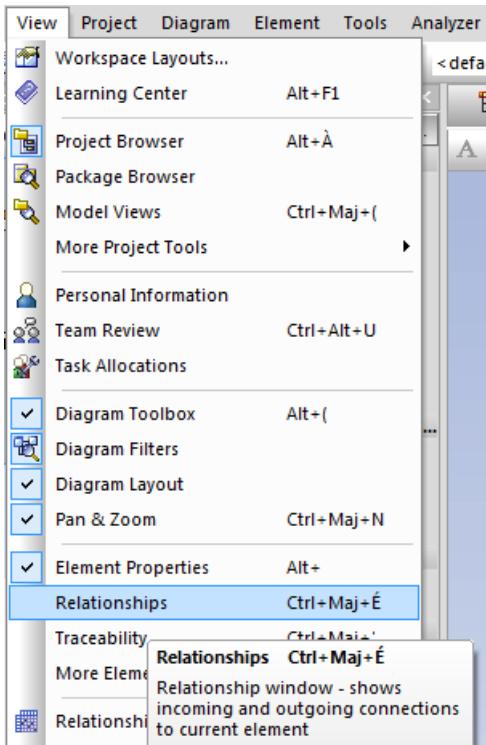


Screenshot 2-4

Trick 3: Put target element in diagram

When consulting a complex model, it pays to have the relationships pane in front of you. It shows an overview of all elements connected to the currently selected element on

the diagram. Open it by choosing “View | Relationships”. It will dock to the bottom of the Enterprise Architect window, which is just fine.



Screenshot 3-1

It not only shows the element, but also the connector type and other information you often need.

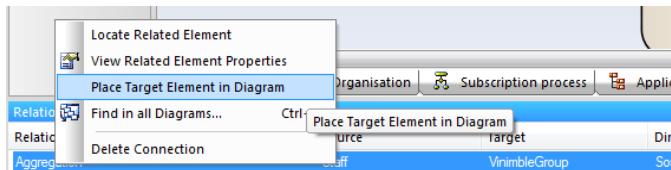
Select an element on the diagram. Go to the Relationships

pane and select any element that is not shown on the current diagram and right click on it.

Relationship	Stereotype	Source	Target	Direction	Target Stereotype	Target Type	Target In Diagram	Target Role	Source Role
Relationship		Staff	VirtualGroup	Source > Destination	Container	Container	Yes		
Aggregation		Staff	Check subscription	Source > Destination	Activity	Activity	Yes		
Generalization		Staff	Register new subscriber	Source > Destination	Activity	Activity	Yes		
UseCase		Staff	Send previous task for...	Source > Destination	Activity	Activity	Yes		

Screenshot 3-2

Then choose “Place Target Element in Diagram”, go back to the diagram (the cursor will change) and click. The connected element is shown now. Together with Trick 2: Adding related elements to the diagram on page 14, this allows you to quickly build a new diagram based on an existing model.

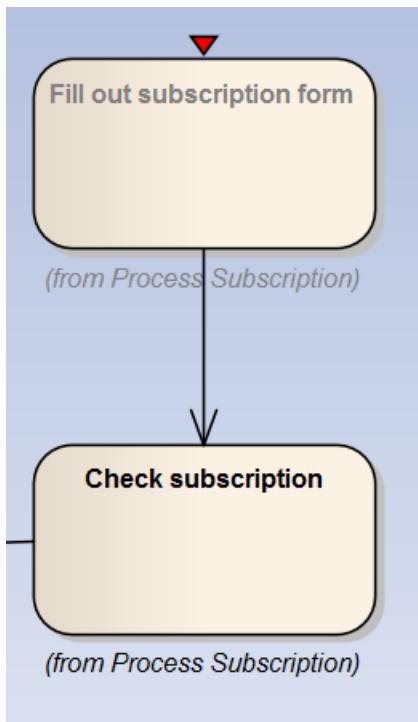


Screenshot 3-3

Trick 4: Bookmarking elements

Building models involves being able to focus on aspects of a problem. Often you want to focus on one aspect and suddenly you get information on another aspect. A bookmark is what you need, as a reminder that you still have to work on an element. Putting a bookmark on an element is easy: select the element and press shift+space bar. The same key combination removes the bookmark. Later, in Trick

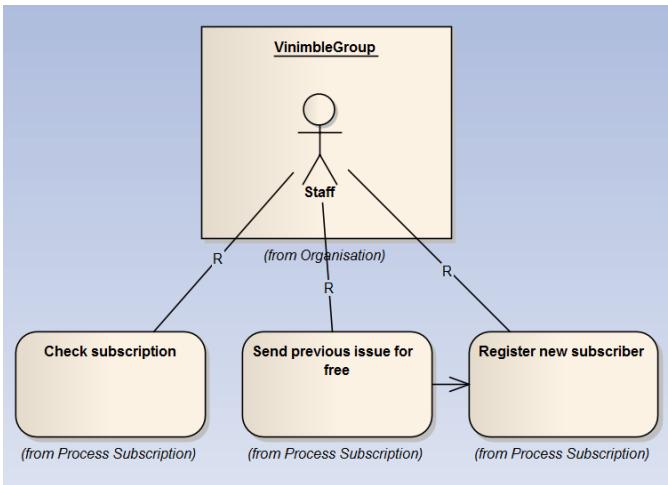
42: Searches on page 97, we discover how we can come up with a list of all bookmarked elements in the model. I discovered this trick by accident. A colleague asked how he could get rid of the “red triangle” that suddenly showed up on a diagram. I said I had the same problem, and realized that it was probably some odd key combination. Looking up the table of Enterprise Architect shortcuts revealed the culprit. But now, I use this function fairly often either as a reminder to myself or to point a colleague to “some work to do”.



Screenshot 4-1

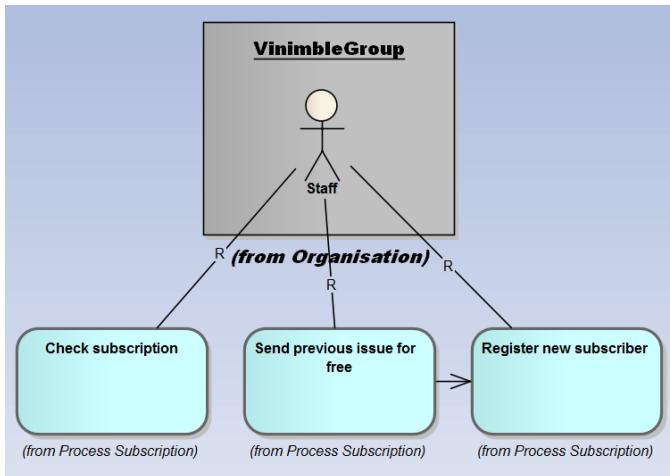
Trick 5: Element styles

The success of a diagram is strongly related to its readability. Especially if your diagram has to convey a message to non-experts. That's when colors and fonts come into play: use them to support meaning and the diagram instantly becomes more readable.



Screenshot 5-1

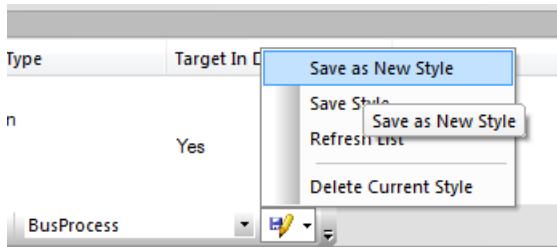
Element styles can save you a considerable amount of time when layouting diagrams. Color an element, save this as a style and use it to color other elements in a consistent way.



Screenshot 5-2

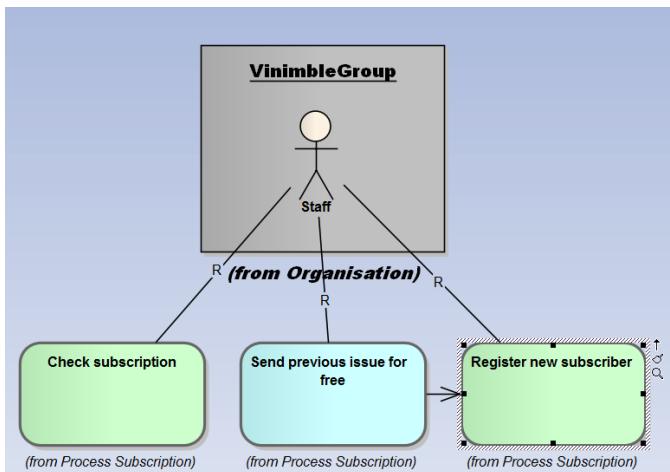
In the diagram above, I've used two styles: a gray background with a bold font means “Organization”, while a light blue background with a normal font means “Business Process Activity”. The difference with the previous diagram is obvious. Suppose we want to distinguish visually between automatic and manual process activities: manual processes are light blue, automated ones are light green. Select the activity “Check subscription”, which is supported by software, and color it green the usual way. Now click on the arrow in the pane at the bottom of the window, next to the style list. Select “Save as New Style” and give it a name of 12 characters or less (like “BusProcAut”). The style list is saved on a project base, which means that (1) you can use different conventions for different projects and (2) when

you work on a project as a team and you use the same underlying Enterprise Architect database, you can share conventions so that the model is consistent with the visual style guide you probably have to use.



Screenshot 5-3

Then we are going to use our new style. Select the activity “Register new subscriber” and click on the styles list. Select “BusProcAut” and the activity turns light green.



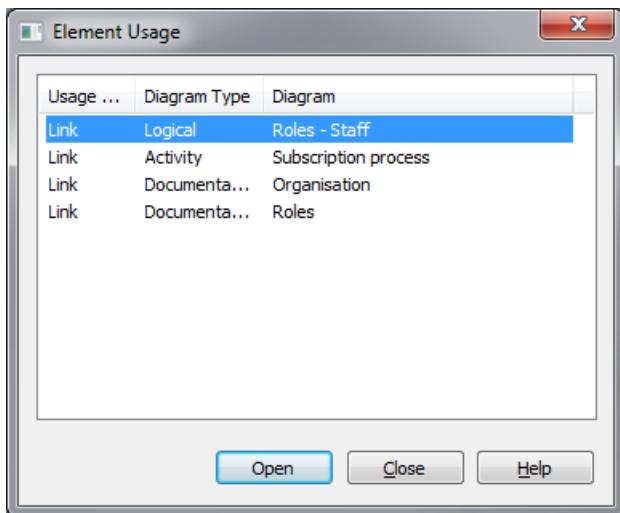
Screenshot 5-4

If we would have selected a different font or font color or a border color and style, it would change too. It even works if you select multiple elements with ctrl-click or by dragging around them. Neat huh?

Trick 6: Finding elements in the tree

As we noted in Trick 2: Adding related elements to the diagram, there's a difference between the model, as represented in the model tree, and the diagrams. An element can appear on one diagram, on many diagrams and even on no diagram. An element can even be twice in the model: nothing prevents you from having two actors

“Subscriber”, for example. If this is the case, then how do you know which diagram element corresponds to which model element? Simple: select the diagram element and press “alt+g”. The focus will switch to the model tree and the corresponding element is selected. You will find yourself using this shortcut often to delete elements from the model, but you can save yourself time by selecting such an unwanted element from the diagram and pressing “ctrl+delete”. Only do this if you really want to delete an item from the model, not only from the current diagram! A related trick is Trick 40: Finding orphans on page 92. For the reverse action of alt+g, knowing which model element corresponds to which diagram element, there is also a shortcut. Select the element in the tree and press “ctrl+u”. If the element appears on exactly one diagram, that diagram is shown and the element is selected. If the element appears on more than one diagram, a dialog window with the list of these diagrams is shown. Double click the diagram (or select it and press “open”) to open the diagram you were looking for.



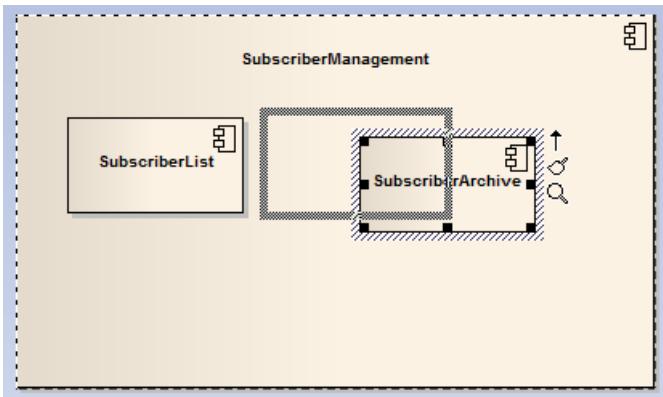
Screenshot 6-1

If the element does not appear on any diagram, the same dialog window opens but with an empty list. I consider this a bug in Enterprise Architect: Enterprise Architect should tell you that the element is an orphan.

Trick 7: Nesting elements

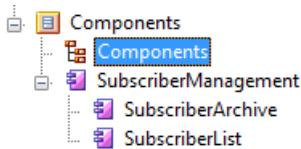
Often you need to visualize that an element is composed of other elements. For example, a component is composed of other components. Sometimes you only need the master component, sometimes you want to know the details and thus have the smaller components on a diagram. For such

cases, you use element nesting. Suppose we have a custom built application that uses a `SubscriberManagement` component. This component is composed of several other components: one that takes care of the subscriber lists, one that archives old subscriptions etc.



Screenshot 7-1

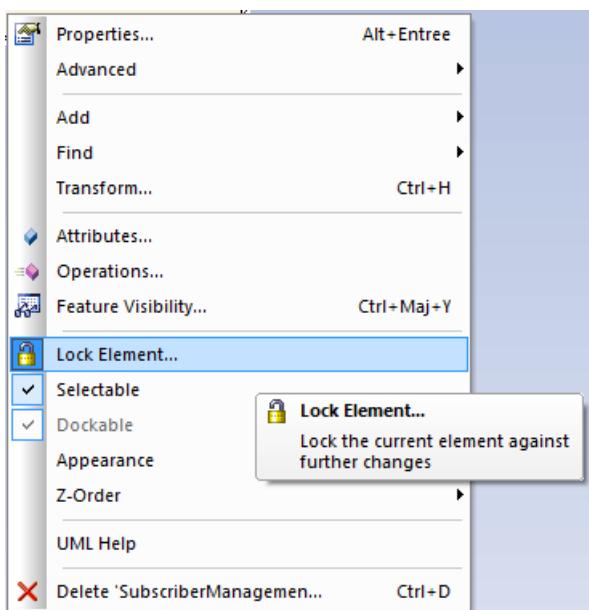
We would like to represent this visually by drawing the main component around the other components. Just put the components on a diagram and drag the child components into the parent component. The border of the parent changes to a dotted line, indicating that it is ready to accept children. In the model tree, or the project browser in Enterprise Architect speak, the component structure is reflected by a hierarchical relationship. When you drag the child component outside its parent's border, it will become detached in the model tree too.



Screenshot 7-2

Trick 8: Locking elements

Once you will have done real hard work modeling a piece of reality or of your dreams, you will want to protect it against unwanted changes. For example changes by your project team colleagues who always argue with you about... well, you know what I mean. That's the right time to start locking your work. Select the element to protect, right click on it and press "lock element". Until you get the lock off, you and others won't be able to change its properties (name, notes etc). The OK button on the properties window is grayed out.

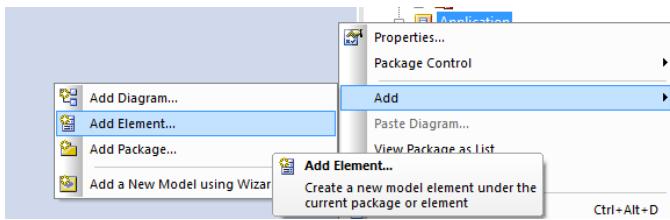


Screenshot 8-1

However, you can still move the element around in diagrams and even delete it from diagrams and from the model. If you want to protect the diagram, you guessed it, you have to lock the diagram by right clicking on empty diagram space and selecting “Lock Diagram”.

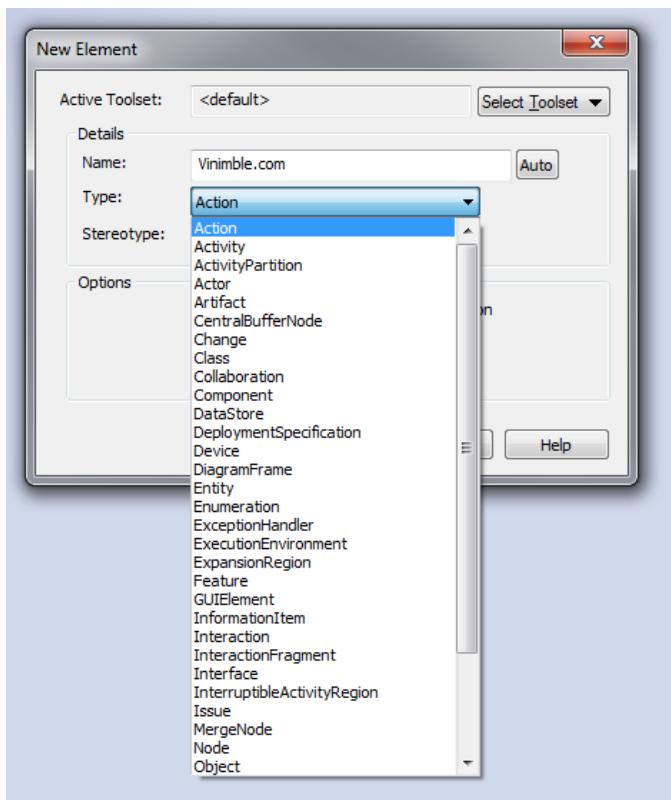
Trick 9: Adding elements directly to a package

You don't have to open a diagram to add elements to a package. You can also right-click on the package in the tree, then select "Add | Add Element".



Screenshot 9-1

A dialog window will open, asking you to provide Enterprise Architect with the information about the new element.



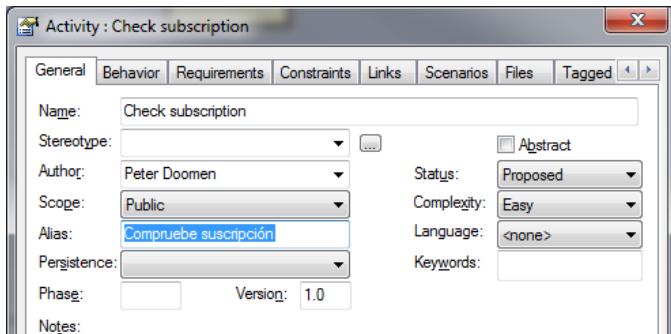
Screenshot 9-2

Why would you do that? You don't use every element every day. Therefore, sometimes it can be hard to remember where in the toolboxes an element is hidden. In this dialog, when you click the "Type" drop down box, a list with lots of elements shows up, making it easier to find the right one.

Saves time and frustration!

Trick 10: Mimic multilanguage support

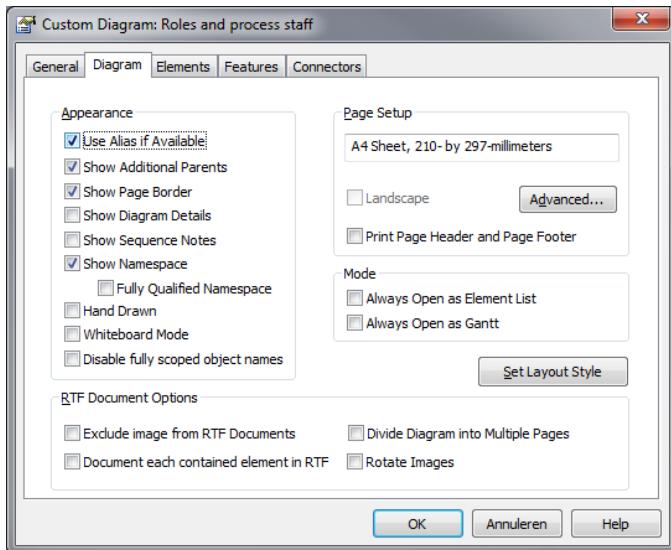
Enterprise Architect does not support multiple (natural) languages. So if your organization happens to have let's say a Spanish subsidiary, and you need to translate diagrams in Spanish, you're in for trouble in the form of manually keeping two models in sync. Or do you? A little trick to mimic multilanguage support is by adhering to the following convention: put the English name of an element as the "Name" and the foreign name as the "Alias". Or vice versa, it does not matter as long as you are consistent.



Screenshot 10-1

Then, when a translated diagram is needed, open the diagram properties window by right clicking on an empty

part of the diagram and check the option “Use Alias if Available”.



Screenshot 10-2

The diagram will instantly use the Spanish translations, as far as you have used them in the alias field of the different elements. Neat!