UNICOM Systems, Inc.
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How to Map System Architect®
Information into Focal Point™

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Introduction

UNICOM System Architect® enables you to capture the high-level architecture of your organization. UNICOM Focal Point™ enables you to examine this architectural information, and add non-architectural information to it – such as cost, priority, desireability, etc, so that you can do trade-off analysis – intelligently examine what systems or projects or programs you should fund, and where you can consolidate.

The Skinny

To map information from System Architect to Focal Point, you do the following:

1. Figure out what definition types you want to map over, what properties of those definition types you want to map over, and what your set of criteria will be – criteria (questions that you judge the data against) can be created in Focal Point, or can be a System Architect definition type imported over (for example, Business Objective or Capability).
2. Create a report file in System Architect, with relevant reports that generate out the chosen definition types. Test the reports. Each definition type must output its GUID property.
3. Create a Workspace in Focal Point.
4. Create a Module in Focal Point for the System Architect definition that you wish to bring over as data (in our example in this document, the Systems definition type).
5. Add attributes to that Module that correspond to the properties of the respective System Architect definition type.
6. Add attributes to the Criteria module in Focal Point, which corresponds to the System Architect definition type that is being brought over as criteria (if you are importing an SA definition type as criteria) – in our example, we add the GUID attribute to the Criteria module.
7. Create a View for each module or criteria module in Focal Point. It is the View that will make viewable/editable/displayable the information in the module or criteria module.
8. Define Rules for each View, that specify that each attribute is 'editable'.
9. Use the SA-Focal Point integration to create a Focal Point profile, within which you specify:
   a. a mapping of a System Architect *definition type* (actually from reading the report file – in our example below, Capabilities) and its *properties* to *Criteria* and its *attributes*, and
   b. a mapping of a System Architect definition type for data (from report output – in our example below, Systems) to the respective Focal Point *module* and its *attributes*.
10. Select the Focal Point profile and export the data from System Architect to Focal Point.
11. Play in Focal Point.

Metamodel Mapping of System Architect to Focal Point

System Architect	Focal Point
Encyclopedia	Workspace
Definition	Module, Criteria
Property	Attributes
Access Control feature	View

Plan What Definitions You Want to Bring Into Focal Point

1. **Decide what definitions and properties you want to move to Focal Point from System Architect**.
   Definitions are mapped into Focal Point *Modules*. You may also map definition types into Focal Point *Criteria.*

   1. **Criteria** – a Criteria is like a special kind of Module – it is one that you use to ask questions of the architecture. A decision situation for an organization may be to invest in a new system development project. You might be asked to evaluate available proposals and choose the one that optimize parameters such as Strategic value, Revenue, Technical risk and Cost of development. Such parameters are referred to as **criteria**.

      Example: If you had five types of cars that you were comparing, you would establish criteria upon which you would judge them: price, looks, safety, reliability, resale value, etc. Each of these criteria would be established as a question – Which is the cheapest? Which is the best looking? (or worst looking if you are likely to park it in bad neighborhoods)? Which is the safest? If you are examining systems in your architecture, you might want to examine the Capabilities that each provides. Which system best enables the capability to find victim at night? Etc. You would map Capabilities over to Focal Point as a set of Criteria. You will not usually move too many properties for a Criteria – usually just the Name, its Description (which serves a useful purpose in Focal Point because it will elucidate the one-line title), and its GUID.

   2. **Module(s)** – decide what definition types to move over as modules, and for each definition type, decide what properties you want to examine in Focal Point (for example, a system's cost, functionality that it supports, etc) .
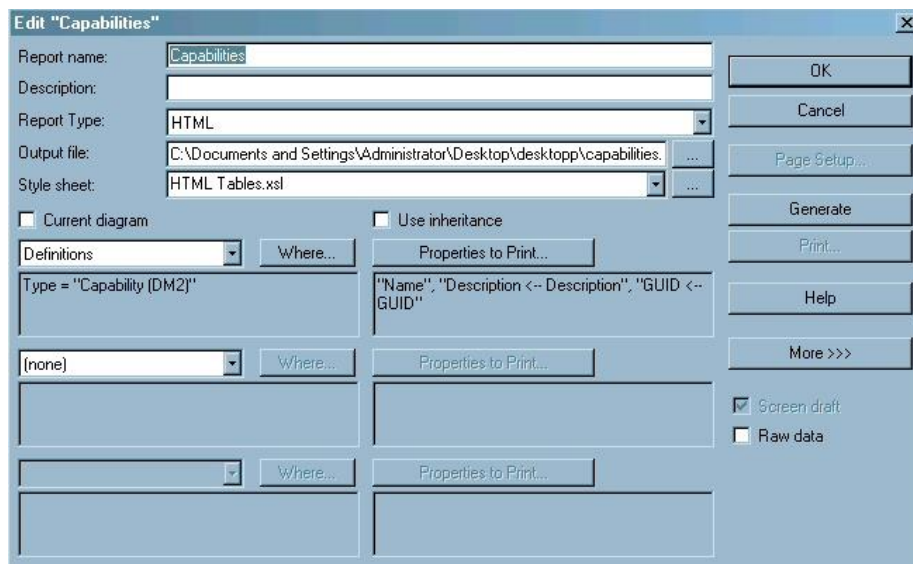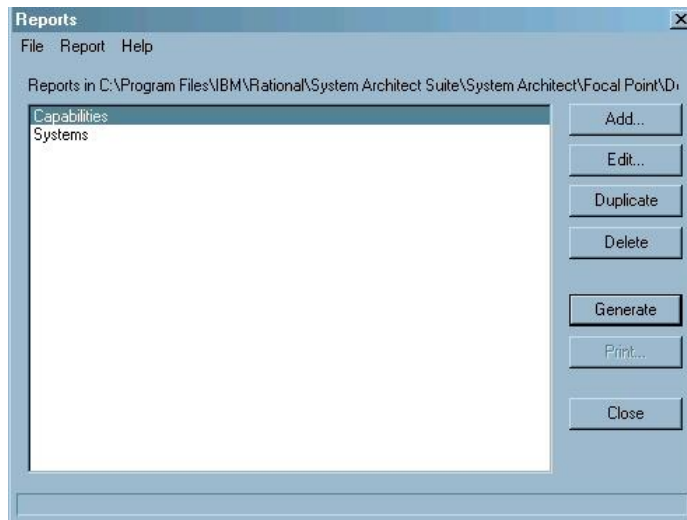
      Example: In our example, you would map System definitions over as a Module. You might also map Organization definitions over as a separate Module. For Systems, we might map over their Title, Description, GUID, their Cost, the date they are put into service, the date they are put out of service, the Vendor who builds them, etc.

Create Report File with Reports in System Architect

2. Create a report file in System Architect, and create reports within that report file, to push out the information that you will import into Focal Point in a later step. So for example, you could create a Report File called DoDAF_Systems_Capabilities.rpt, and within that report file:
   - Create a report to generate Capabilities (with properties)
   - Create another report file to generate Systems and the properties you wish to examine.

   For each report, you MUST specify to generate the definition Name and GUID.

   - Example: In our example, for Capabilities, we might also generate its Description, so that in Focal Point you will be able to read specifics on the Capability and what it means. In our example, we might also generate properties that we wish to examine for Systems, such as Costs (such as Yearly Maintenance Cost, Build Cost, etc), In Service Date, Effective Date, etc.

Reports

File　Report　Help

Reports in C:\Program Files\IBM\Rational\System Architect Suite\System Architect\Focal Point\D

| Capabilities |
| Systems |

Add...
Edit...
Duplicate
Delete
Generate
Print...
Close

Edit "Capabilities"

Report name: Capabilities

Description:

Report Type: HTML

Output file: C:\Documents and Settings\Administrator\Desktop\desktopp\capabilities.　...

Style sheet: HTML Tables.xsl　...

☐ Current diagram　　　☐ Use inheritance

Definitions　　　Where...　　　Properties to Print...

Type = "Capability (DM2)"　　　"Name", "Description <-- Description", "GUID <-- GUID"

(none)　　　Where...　　　Properties to Print...

　　　Where...　　　Properties to Print...

OK
Cancel
Page Setup...
Generate
Print...
Help
More >>>

☑ Screen draft
☐ Raw data

Edit "Systems"

Report name:	Systems
Description:	
Report Type:	HTML
Output file:	C:\Documents and Settings\Administrator\Desktop\desktopp\systems.htm
Style sheet:	Default.xsl

☐ Current diagram   ☐ Use inheritance

Definitions   [Where...]   [Properties to Print...]

Type = "System (DM2)"

"Name", "Description <-- Description", "Effective Date <-- Effective Date", "In Service Date <-- In Service Date", "Capability <--

(none)   [Where...]   [Properties to Print...]

[Where...]   [Properties to Print...]

Buttons: OK, Cancel, Page Setup..., Generate, Print..., Help, More >>>

☑ Screen draft
☐ Raw data

Select Definitions Properties to Print

Available properties:
- Audit
- Bottom
- ChangeRequest
- CharCount
- Checked Out by
- Checkout Date
- Checkout Time
- Class
- Class Number
- Current
- DefineCount

[<-- Select All] [<-- Deselect All] [Add >>] [<< Remove]

Properties to print (in order):
- Name
- Description <-- Description
- Effective Date <-- Effective Date
- In Service Date <-- In Service Date
- Capability <-- capabilityOfPerformer
- Build Cost <-- Build Cost
- Cost Center <-- Cost Center
- Perpetual License Cost <-- Perpetual License
- Yearly Maintenance Cost <-- Yearly Maintenar
- Yearly Rental Cost <-- Yearly Rental Cost
- GUID <-- GUID

Buttons: OK, Cancel, Help

Property formatting
Label:

Properties to Sort (Major to Minor)

Sort	Property	Descending	Case Insensitive	
☑	Name	☐	☐	
☐	Description <-- Description	☐	☐	
☐	Effective Date <-- Effective Date	☐	☐	
☐	In Service Date <-- In Service Date	☐	☐	
☐	Capability <-- capabilityOfPerformer	☐	☐	
☐	Build Cost <-- Build Cost	☐	☐	

3. Test the reports you have built to make sure they generate proper output by selecting each report in the report file and clicking the **Generate** button.

C:\Documents and Settings\Administrator\Desktop\desktopp\capabilities.htm

File   Edit   View   Favorites   Tools   Help

Favorites   IBM Capa...   C:\D...   C... ✕   All activity by Shep4...

Rational System Architect Report

Page last updated 06/21/2011

Highlight Children

Capabilities

Name	Description	GUID
Coordinate Rescue	Coordinate the rescue by providing communications with external SAR systems and resources, including non-military volunteers.	5b44a991-16c8-4200-aecb-c6e305e65068
Detect SAR Target	Detect a SAR target through improved platforms and sensors. The target will be detected under a given set of search conditions by a given search unit or sensor.	e5208c8f-979a-4e5a-8657-3a2b46601980
Find Victim at Night		e22f62b5-afef-4359-bfcc-e3e2d3ed0b3f
Fly in Winds Greater than 30 MPH		13989e44-0637-414f-943b-f1707c89f616
Locate SAR Target	Includes location using techniques of drift prediction, visual search, electronic search and search planning.	d727fe70-a988-4f0a-861a-de6ab628820b
Manage Rescue	Involves planning and managing the rescue in a timely manner.	ffdad19a-0fbb-4ade-9144-107bccb0690e
Perform Rescue in Sea States Greater than 7		2dc66368-267e-45f8-afd2-9858ec57014d
Rescue Victim Under Enemy Fire		010aee53-44f4-4a35-855d-d5b39483f9b3
Rescue Victim in Under 30 Minutes		86604017-d263-448b-b62c-448f3aa3de4a

C:\Documents and Settings\Administrator\Desktop\desktopp\systems.htm

File   Edit   View   Favorites   Tools   Help

Favorites   IBM Capability Pl...   C:\Docu... ✕   All activity by Shep4...

Systems

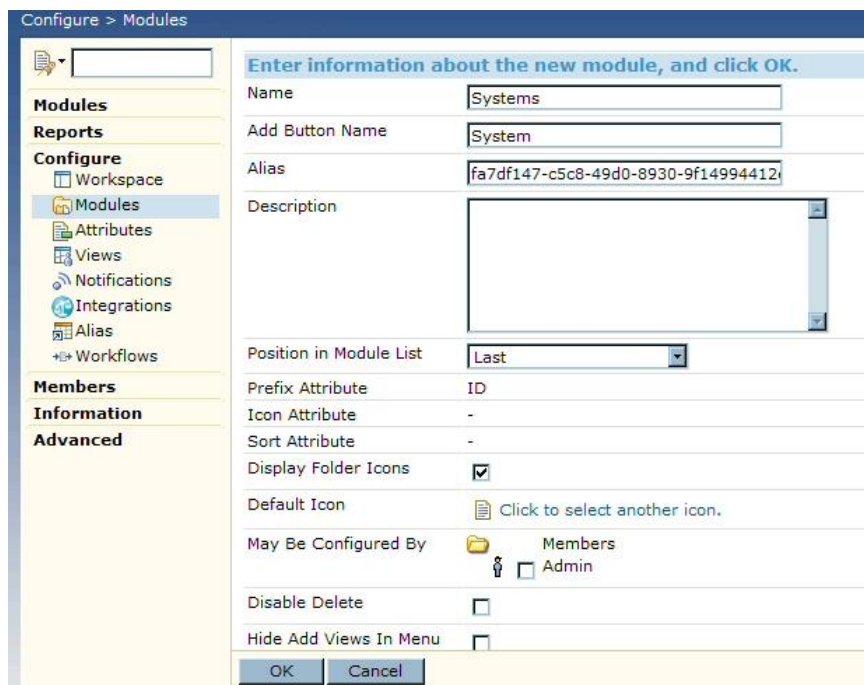| Name	Description	Effective Date	In Service Date	Capability	Build Cost	Cost Center	Perpetual License Cost	Yearly Maintenance Cost	Yearly Rental Cost	G
Cloud		1/1/2018	9/1/2012	Definition:Capability (DM2):5b44a991-16c8-4200-aecb-c6e305e65068.Coordinate Rescue Definition:Capability (DM2):ffdad19a-0fbb-4ade-9144-107bccb0690e.Manage Rescue					4000	b 7 9 f3
Distress Signal System (ext)				Definition:Capability (DM2):d727fe70-a988-4f0a-861a-de6ab628820b.Locate SAR Target Definition:Capability (DM2):e22f62b5-afef-4359-bfcc-e3e2d3ed0b3f.Find Victim at Night	300000			40000		7 e a b
	The Environmental Data Server									

Done   My Computer   100%

Create Workspace in Focal Point

1. In Focal Point, create a Workspace. In our example, we name our Workspace, **Capability Planning**.

Add a Module for Every Definition Type (that Will Not Be Criteria)

In the workspace in Focal Point, create a Module for each definition type that you wish to bring over from System Architect (except for the definition type(s) that you wish to bring over as Criteria). In our example, we choose to bring Systems over, so we create a module called Systems.

1. Select the **Configure** choice in the left-hand column of Focal Point.
2. Within the Configure list, select **Modules**.
3. At the bottom of the Focal Point window, select the **Add Module** button.
4. Type over the Elements name to name the module – in our example, we name the new module **Systems**. We also type over the word *Module* with the word *System* in the **Add Button Name** field.

5. Click **OK**.
6. To the message box "Do you want to define Attributes for System now?", click **Yes**.

Add Attributes to Each Module (to 'Catch' Definition Properties)

We now add attributes to the criteria and data module that will match the properties of the respective definition types in System Architect. Once we add attributes to the criteria and modules, we'll need to create a View for each criteria and module, and then specify that the attribute in each view is writeable so that information from System Architect can be ported in.

First, lets add the attributes to the criteria and data modules – we'll start with the Systems module, adding attributes as follows:

1. Click **Add Attribute** button.
2. In the **"You may add the following attributes to this module"** screen that displays, click **Text** to add a new attribute of type **Text**.
3. In the **New Text Attribute** field of the ensuing screen, type in **GUID** (typing over "New Text Attribute")

4. In the **Position Before** field, specify to position this attribute before **Description**.

5. Toggle on the **Mandatory** choice.
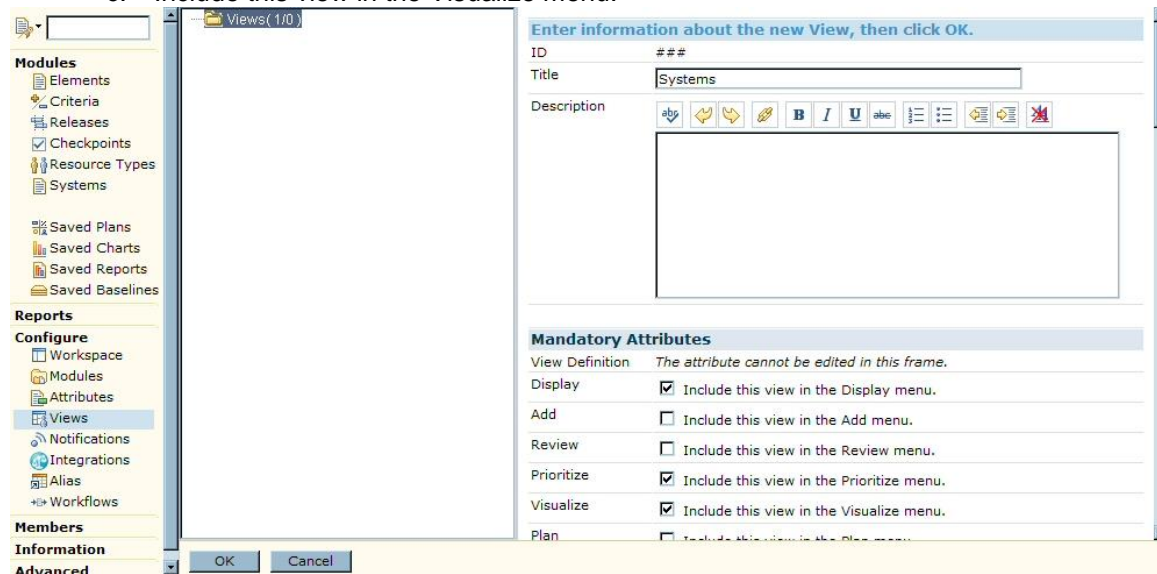6. Click **OK** to add the attribute to the Systems module.

Adding Additional Attributes

7. Using the same procedure described in steps 7 thru 12 above, add the following attributes:

Type	Attribute Name	Mandatory?
Date	In Service Date	No
Date	Effective Date	No
Float	Yearly Maintenance Cost	No
Float	Perpetual License Cost	No

Adding More Attributes Later On
You may add additional attributes at any time to a module, even after having gone thru the Add Attribute wizard at Module creation time, as follows:

8. Click on **Configure, Attributes** in the left-hand side of Focal Point.
9. In our example, we click on the module we have created, named Systems.
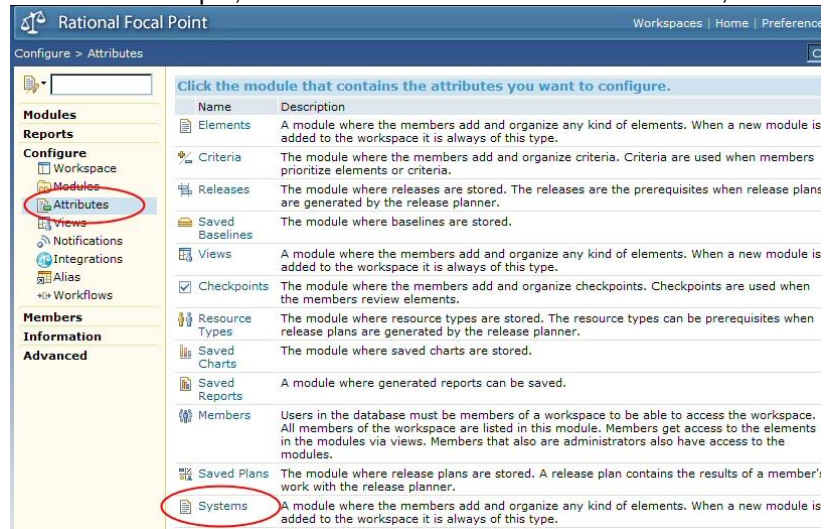
10. Using the same procedure described in steps 7 thru 12 above, we add the following attributes:

Type	Attribute Name	Mandatory?
Float	Yearly Rental Cost	No
Float	Build Cost	No
Text	Vendor	No

11. Our final Systems Module is shown below:
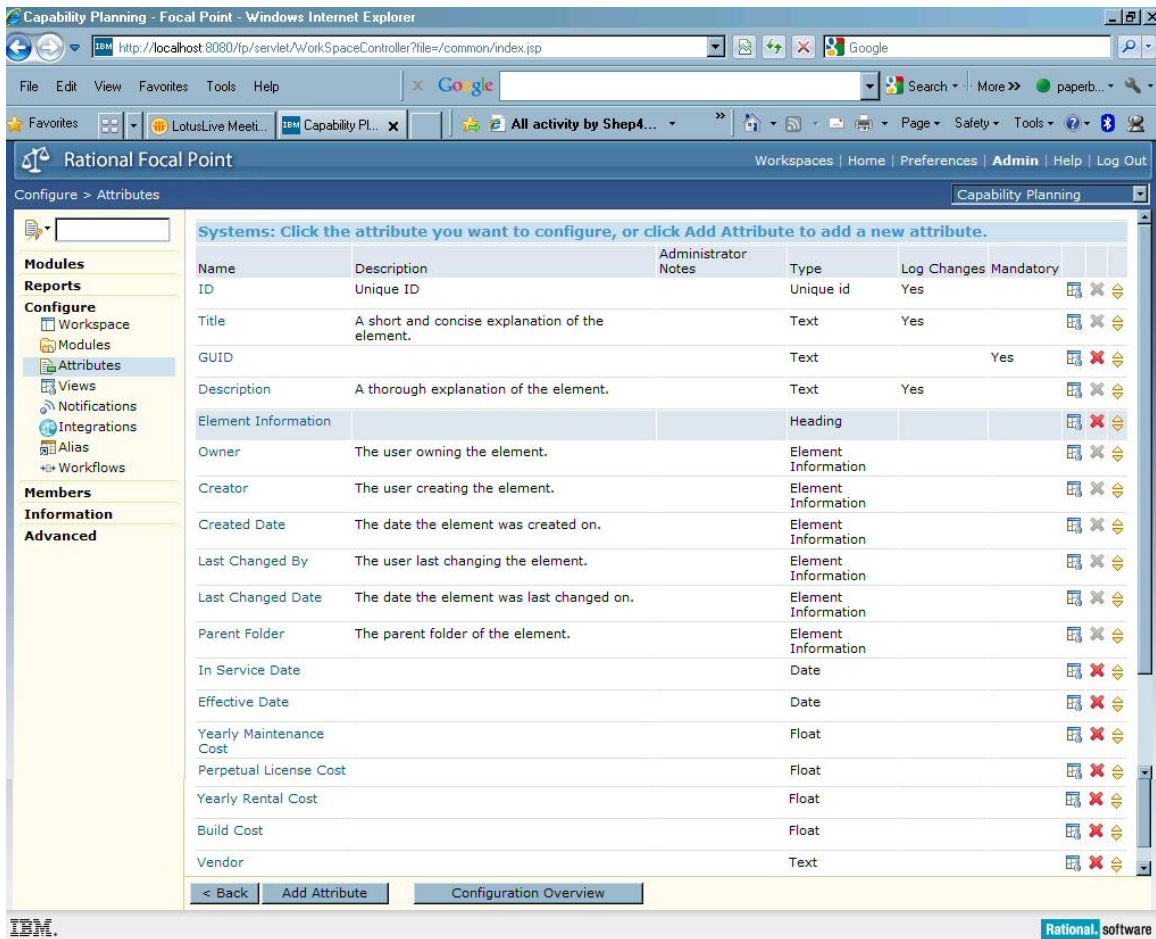
Add "GUID" Attribute to Criteria

You must create a GUID attribute for Criteria in Focal Point so that the GUID from the respective definition type in System Architect that will map to Criteria, will have a place to land. (Again, later we'll create a View for the Criteria and make the GUID attribute writeable.)

1. Select the **Configure** choice in the left-hand column of Focal Point.
2. Within the Configure list, select **Criteria**.
3. Click the button to **Add Attribute** at the bottom of the screen.
4. In the **"You may add the following attributes to this module"** screen that displays, click **Text** to add a new attribute of type **Text**.
5. In the **New Text Attribute** field of the ensuing screen, type in **GUID** (typing over "New Text Attribute").
6. In the **Position Before** field, specify to position this attribute before **Description**.
7. Toggle on the **Mandatory** choice.
8. Click **OK** to add the attribute to Criteria module

Create Views for Each Module and for Criteria

Before moving data from System Architect to Focal Point, you must create Views for each Module and the Criteria. Then you must make each attribute in each view Writeable.

### Create a View for Each Module

1. Select **Configure, Views** in the left-hand pane of Focal Point.
2. Click the **Add View** button at the bottom of the screen.
3. Provide a title to the view – in our example, we name our first view **Systems**.
4. Toggle on the following choices for the View:
   a. Include this view in the Display menu.
   b. Include this view in the Prioritorize menu.
   c. Include this view in the Visualize menu.

5. Leave all Access Information choices at their default and click OK to create the view (note: if you want a particular view, for example, a roadmap – you could turn everything off except for Gantt Chart under Display; when you later opened this view, all you would see is a Gantt Chart roadmap of systems, from their "In Service Date" to "Effective Date").
6. With the view for the System module created, notice that if you click to expand Display, Priortorize, or Visualize in the left-hand column, the Systems view shows up under each.
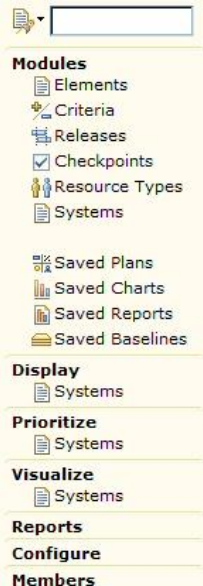
Create a View for the Criteria
1. Select **Configure, Views** in the left-hand pane of Focal Point.
2. Click the **Add View** button at the bottom of the screen.
3. Provide a title to the view – in our example, we name our view **Capabilities**.
4. Toggle on the following choices for the View:
   a. Include this view in the Display menu.
   b. Include this view in the Prioritize menu.
   c. Include this view in the Visualize menu.

Specifying Rules for Each View to Make the Attributes Editable

We will now create rules for each View, which will enable us to specify that the pertinent attributes will be writeable.

Specify the Rules for the Systems View

1. Select **Configure, Views, Systems**
2. Click on the editing pencil next to **View Definition** (see picture below).
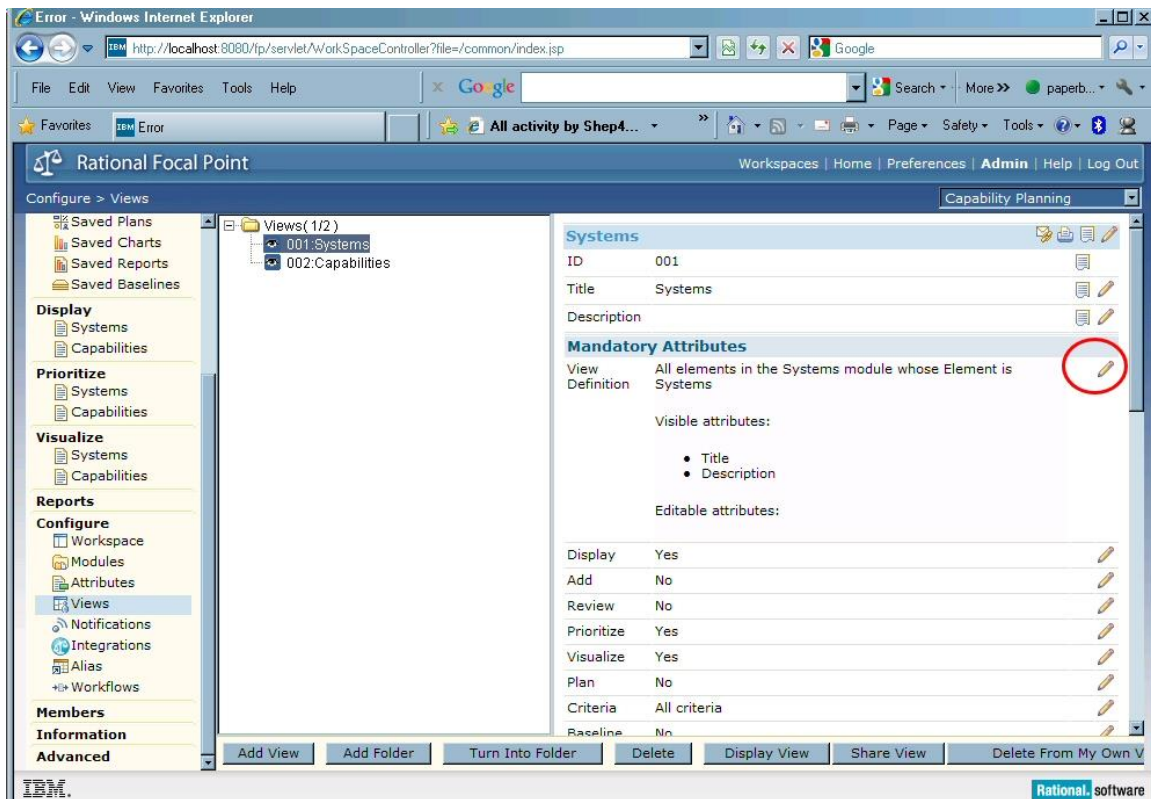
3. On the ensuing dialog, click to specify a rule for the **Systems** that will show up in this view (see picture below).
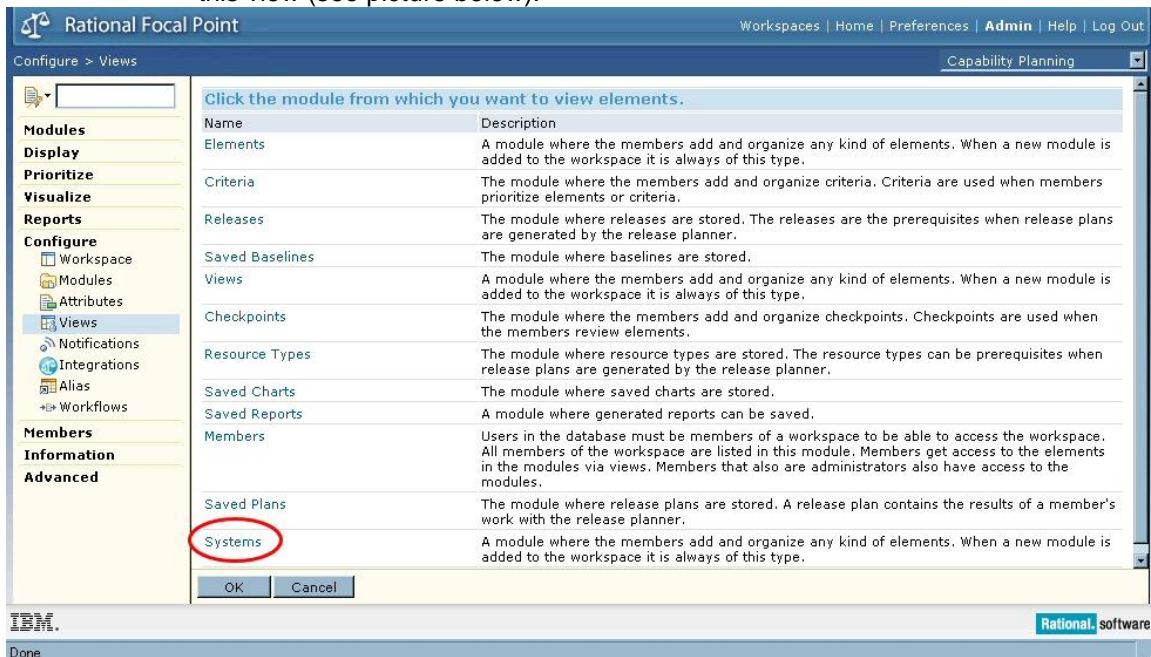
4. Specify to *Show elements whose* **type is a folder** is **False**, and click **OK** (see picture below).
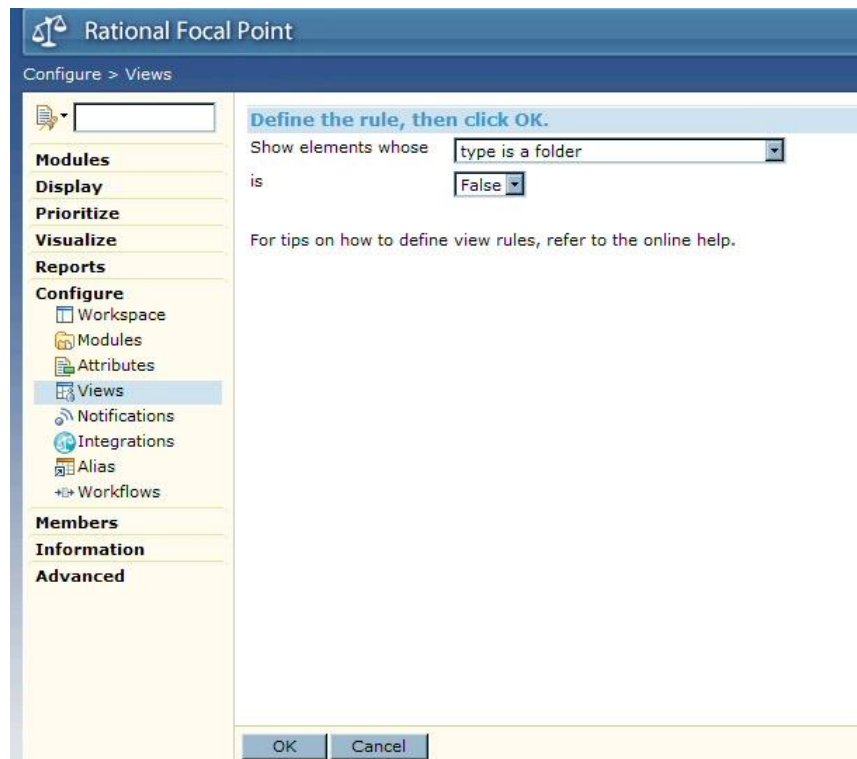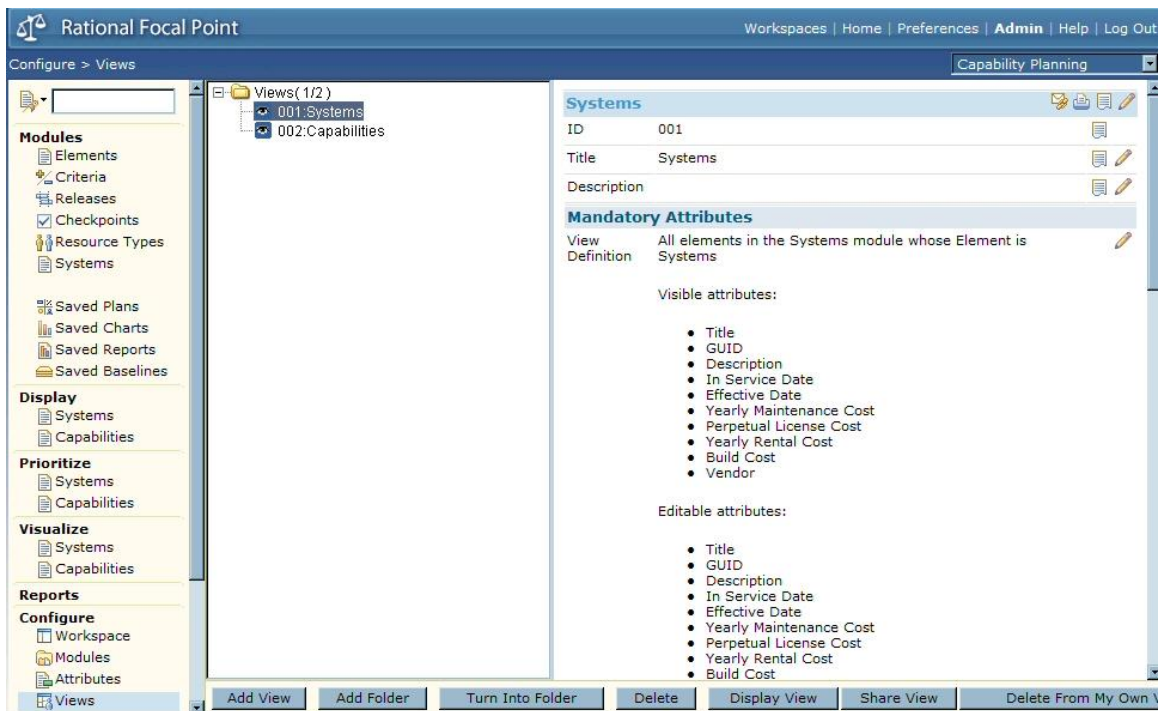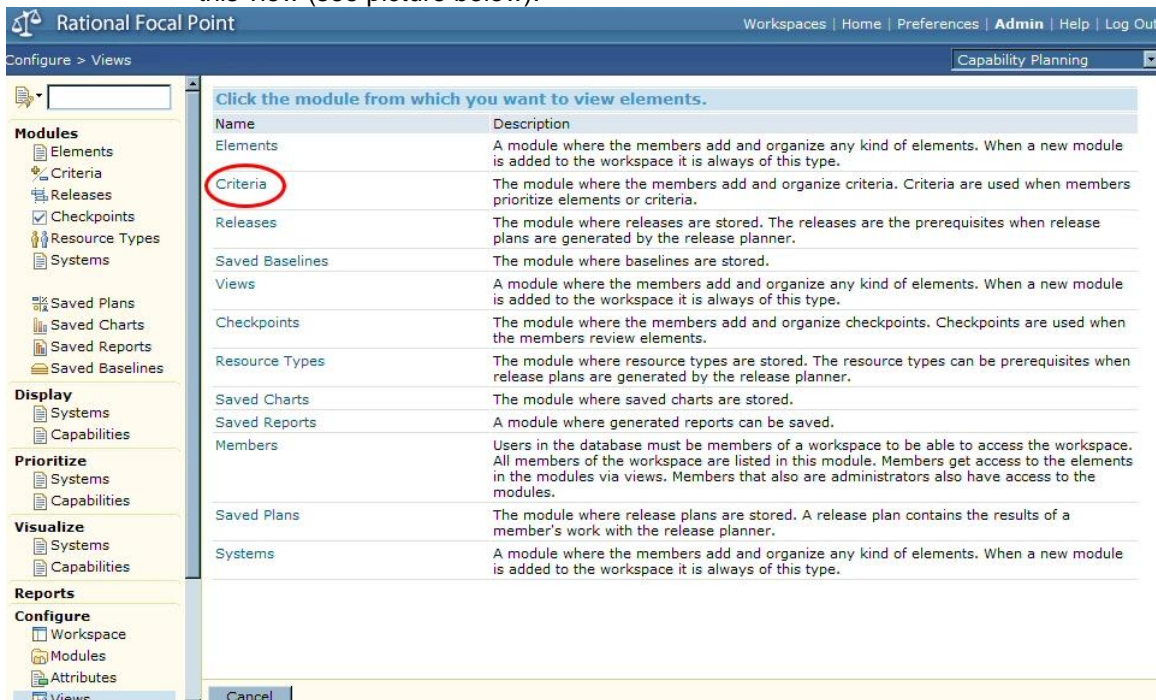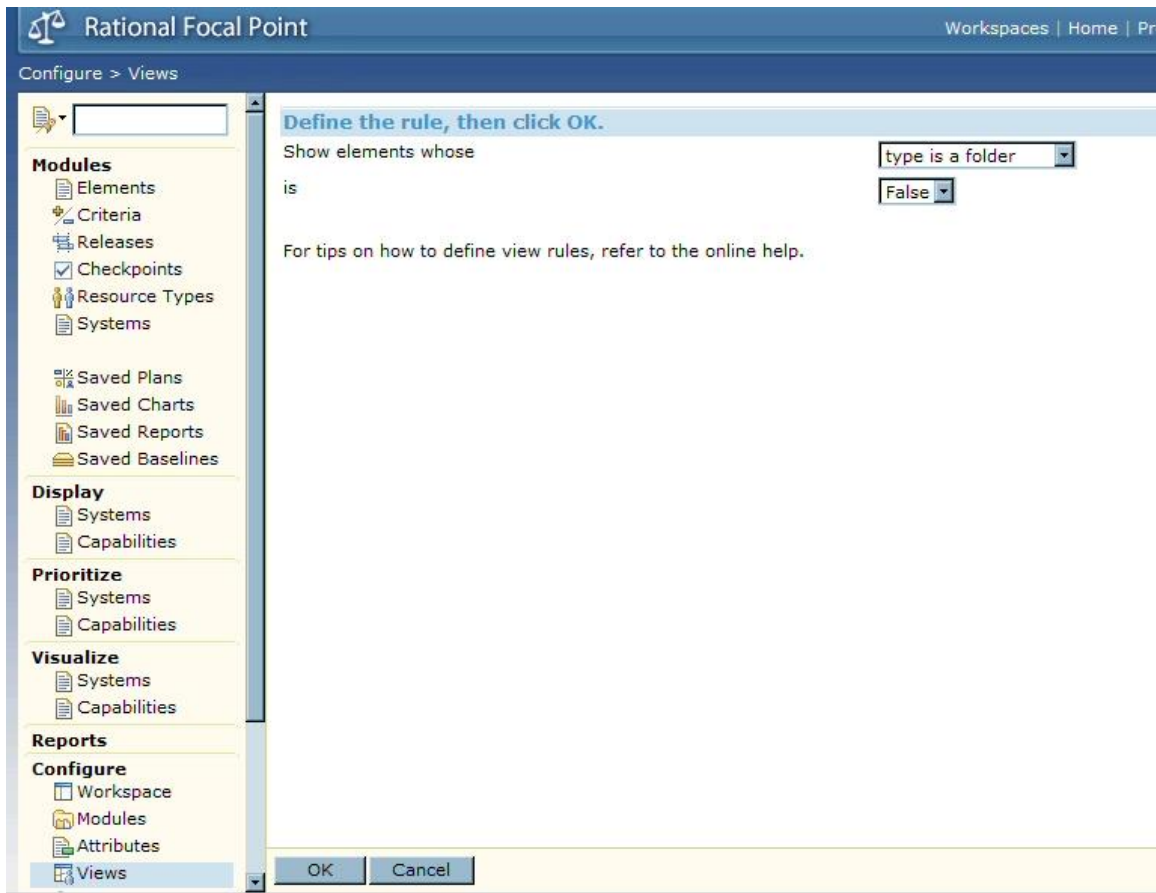
5. Click the **Next** button at the bottom of the ensuing dialog to continue specifying the rule.
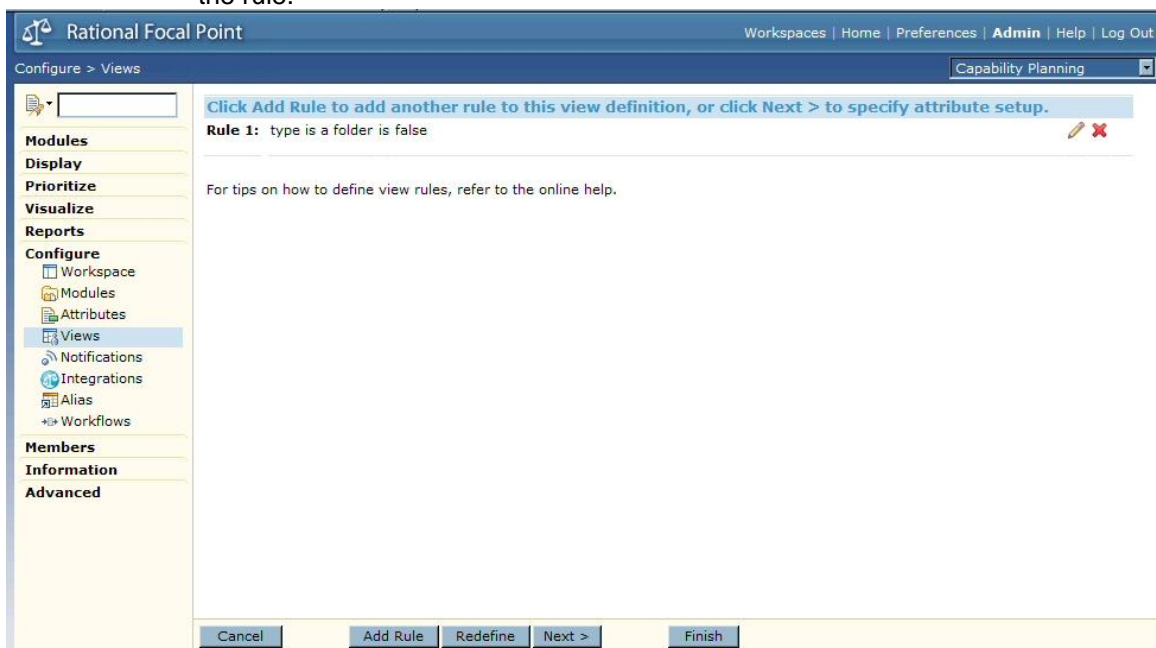
6. Toggle on the **Editable** choice for all of the attributes that we will be populating with data from System Architect – Title, GUID, Description, In Service Date, Effective Date, Yearly Maintenance, and so forth (see below).
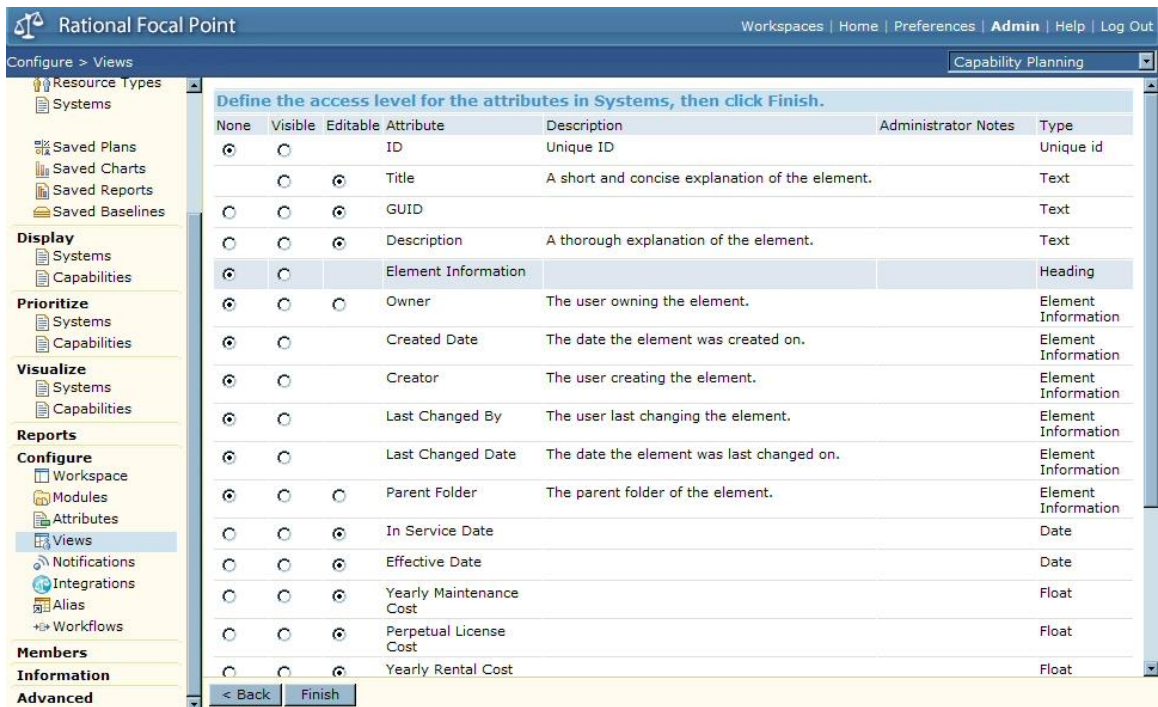
7. Click **Finish**. A summary screen for the View will display, with a summary of the attributes.

**Specify the Rules for the Criteria View**

1. Select **Configure, Views, Capabilities.**

2. Click on the editing pencil next to **View Definition** (see picture below).
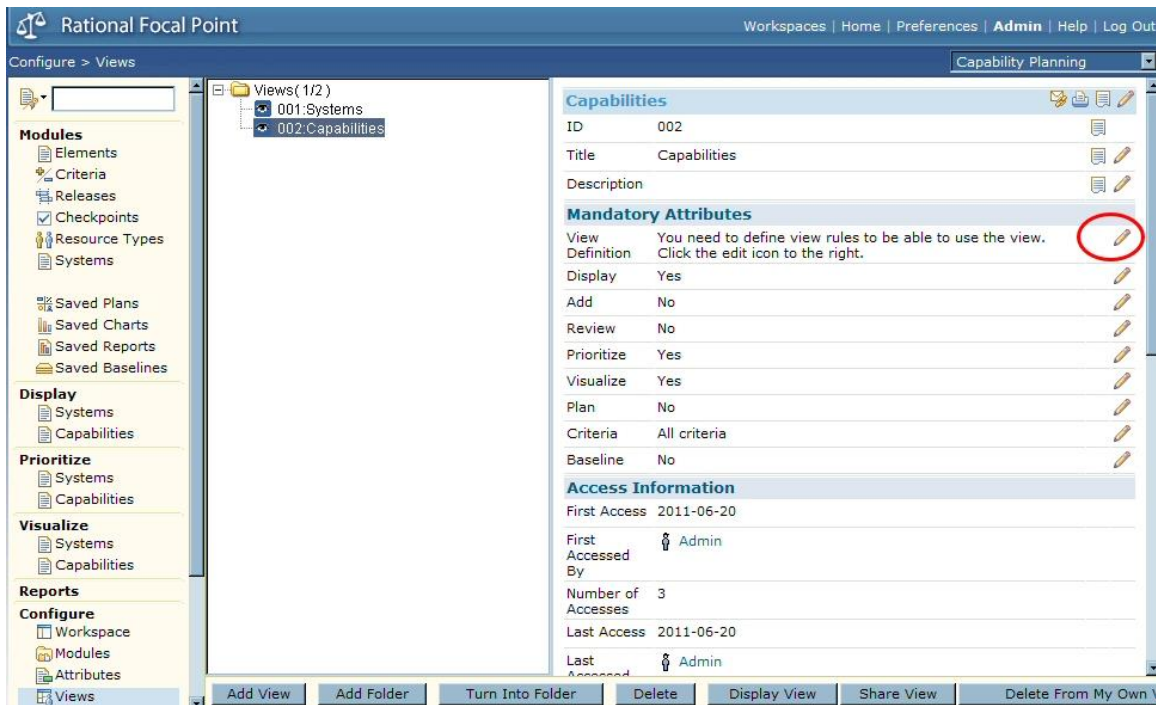
3. On the ensuing dialog, click to specify a rule for the **Criteria** that will show up in this view (see picture below).

4. Specify to *Show elements whose* **type is a folder** is **False**, and click **OK** (see picture below).

5. Click the **Next** button at the bottom of the ensuing dialog to continue specifying the rule.
6. Toggle on the **Editable** choice for all of the attributes that we will be populating with data from System Architect – Title, GUID, and Description (see below).
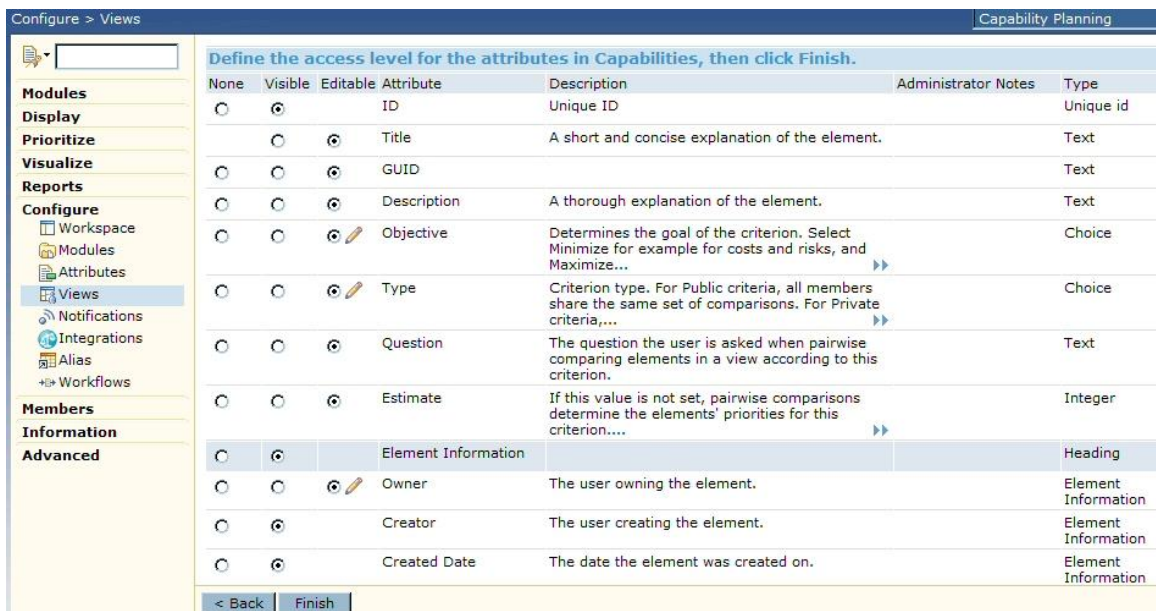
7. Click **Finish**. A summary screen for the View will display, with a summary of the attributes.
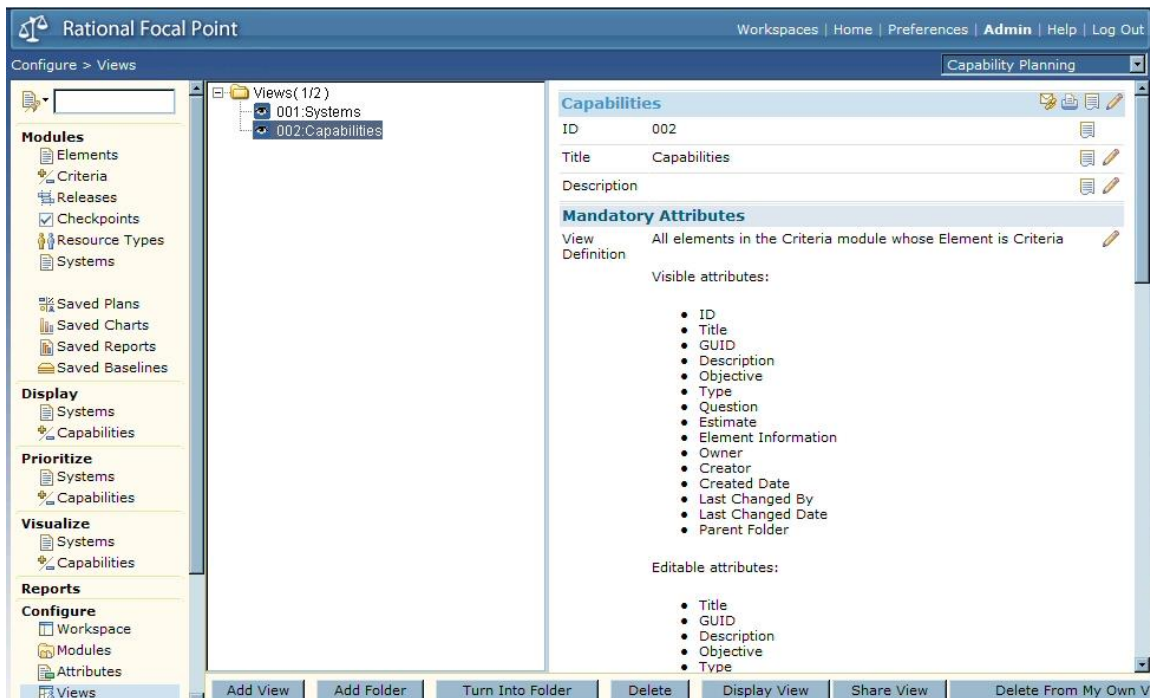
Your Focal Point template is now ready to receive information from System Architect.

Map System Architect Definitions Over to Focal Point

1. In System Architect, select **Tools, Focal Point**.
2. Specify the Focal Point url, your username, and password to log into Focal Point
3. Select to create a new Focal Point profile.
4. Type in the name of the new Focal Point profile.
5. Specify the Focal Point Workspace that you wish to map the information into – in our example we select the Workspace we created above, **Capability Planning**.
6. Specify the view you wish to use for Criteria and the view you wish to use for data -- once you select a workspace (above) the Criteria View and Data View drop-downs will list all views that you created in that workspace in Focal Point to choose from – for Criteria View, we choose Capabilities (the Capabilities view we created above), and for Data View, we choose Systems (the Systems view we created above), and click **Next**.
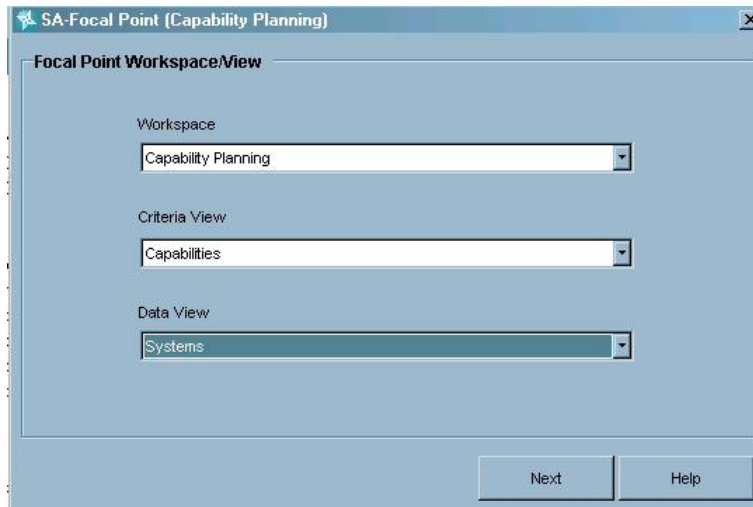
7. Specify the System Architect report *file* (.rpt) that houses the report that will generate criteria, and the report file that houses the report that will generate data – typically this will be the same report file but it doesn't have to be. In our example, both reports that we created above are in the same file, DoDAF_Systems_Capabilities.rpt.

8. Once the report *file* is selected for both criteria and data, you may specify the actual *report* for Criteria and Data – in our example, we choose the **Capabilities** report for criteria, and the **Systems** report for data. Click **Next** after selecting all report files and reports.
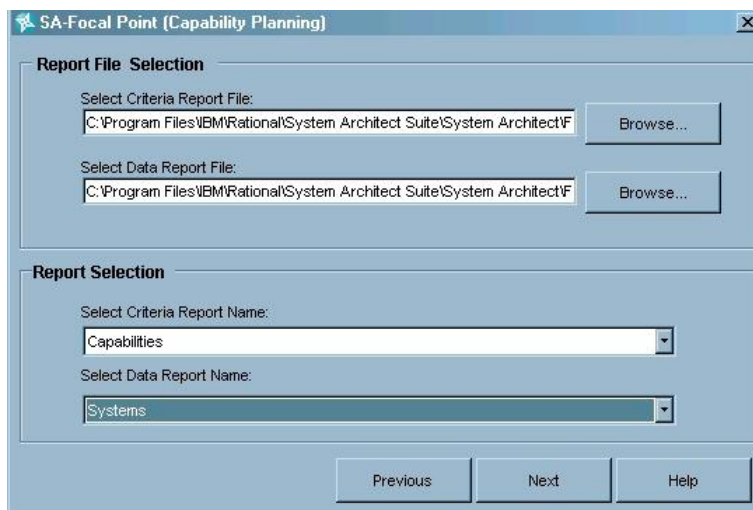
9. Map the System Architect properties to the applicable Focal Point attributes, by selecting a property on the left of the dialog, and the matching attribute on the right, and clicking the **Map** button.
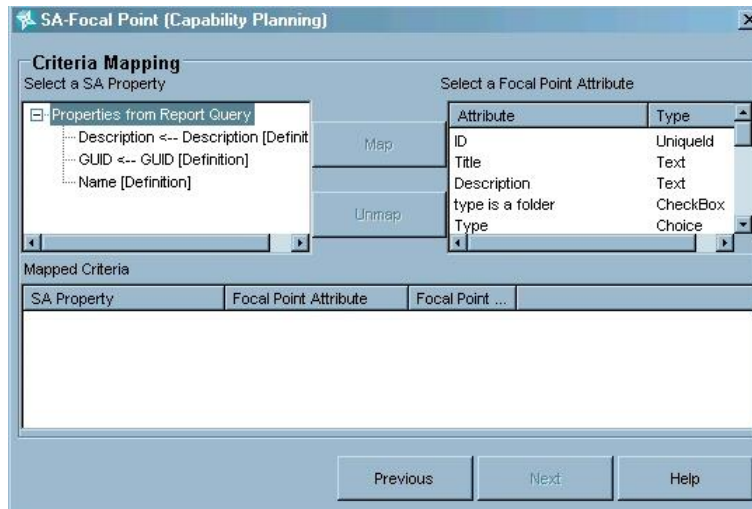
10. For Criteria, we map Name to Title, Description to Description, and GUID to GUID, and click **Next**.
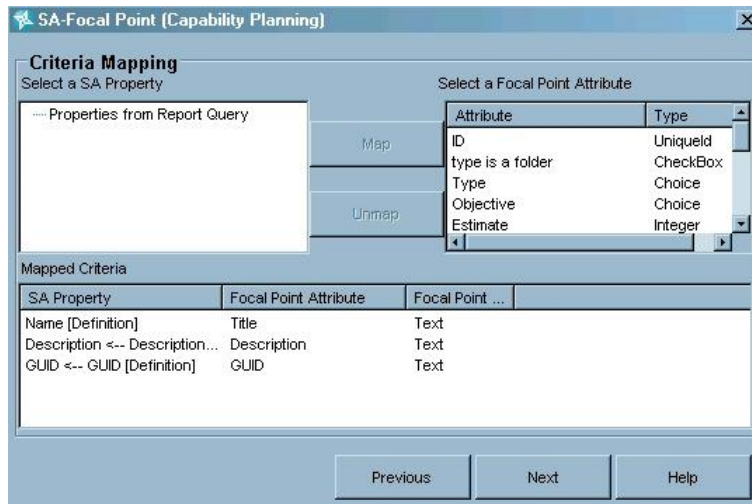

11. For data (Systems), we again map each property on the left with a respective attribute on the right and click Map.
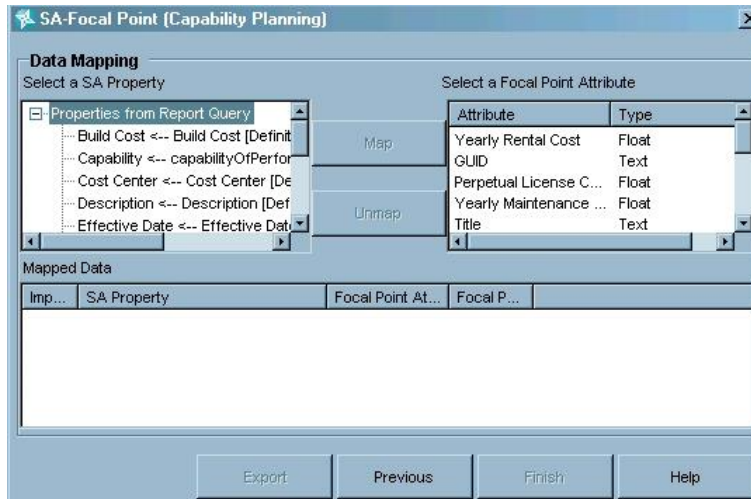
12. Notice that once you map the properties for data, a checkbox appears to the left of the mapped items in the dialog – you do not need to check this checkbox when generating information from System Architect to Focal Point – it is for the reverse direction.
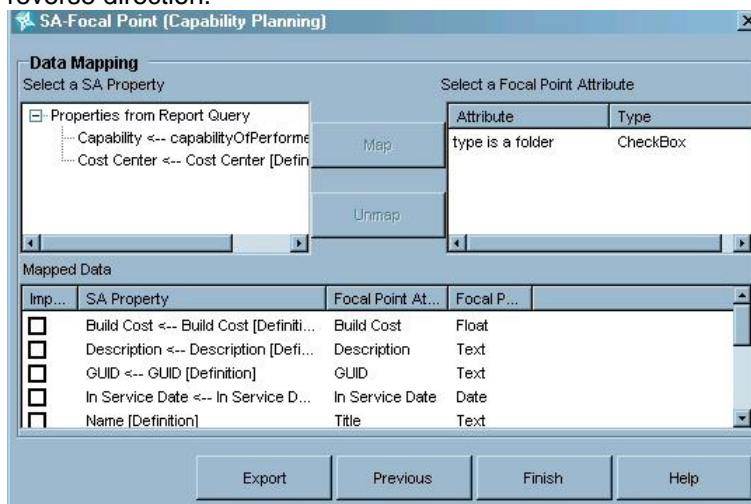

13. Click **Finish**. You will receive a message that the Focal Point profile was created successfully. **Note** that you still have not sent data over to Focal Point – you have just created the profile.
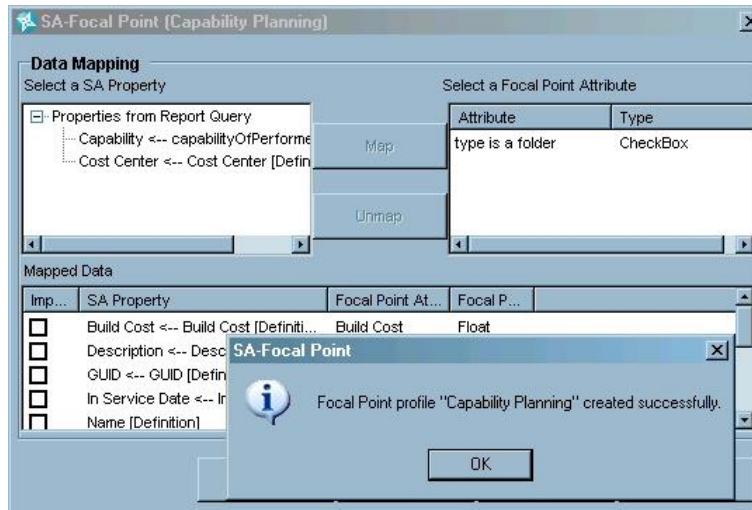
14. Back in the SA-Focal Point integration opening dialog, click the choice **Send data from previously saved Focal Point profile**.

15. Select the Focal Point profile you wish to use to generate information from System Architect to Focal Point and click **Export** – in our example, we choose the **Capability Planning** profile that we created above.
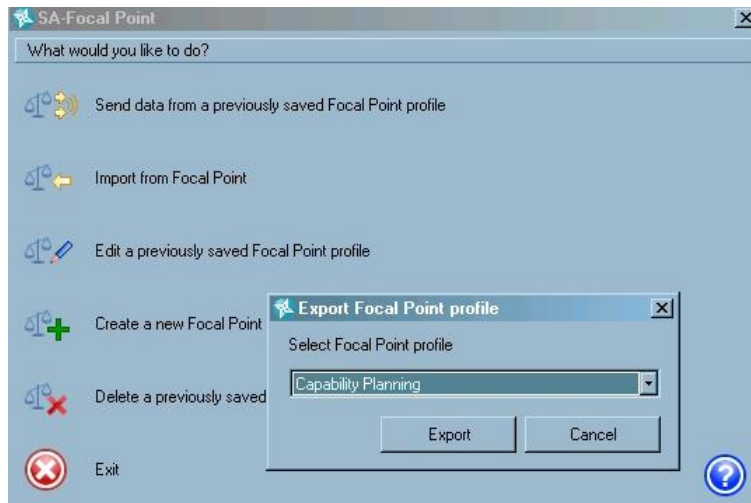
16. The data exports into Focal Point and you are asked if you wish to open Focal Point; you can click **Yes** to open.
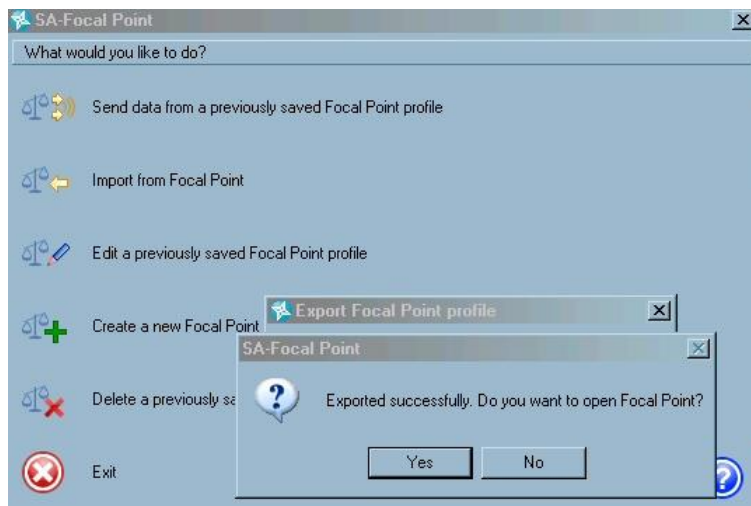

Viewing the System Architect Data in Focal Point

Now that the System Architect data for Capabilities and Systems is in Focal Point, you may start to digest it from a non-architectural view – prioritorizing capabilities, making decisions on what systems support capabilities the best, with consideration for cost, time to market, priority, and so forth.

Let's take a quick look at some of the views.

1. Select **Modules, Systems** to view all of the systems brought in – you can see in the right side that the **In Service Date** and **Effective Date**, as well as costs (and Description and GUID), were brought over from System Architect.

26
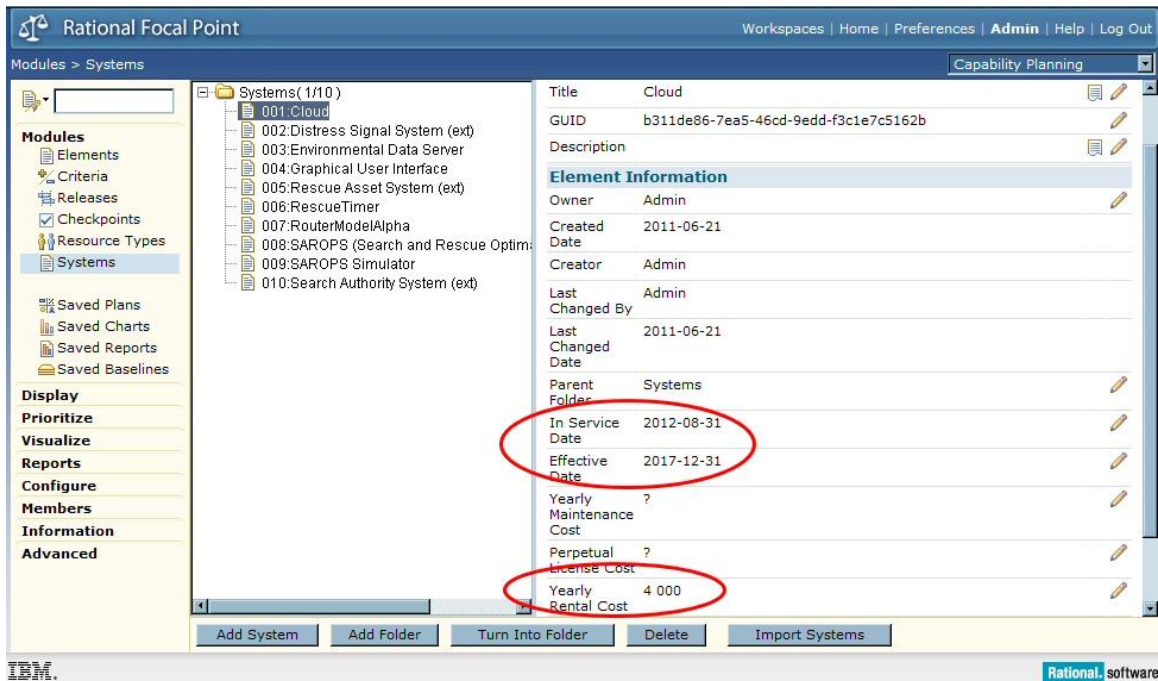
2. Select **Modules, Criteria** to view all of the capabilities brought in – you can see in the right side that the **Description** and **GUID** were brought over from System Architect.
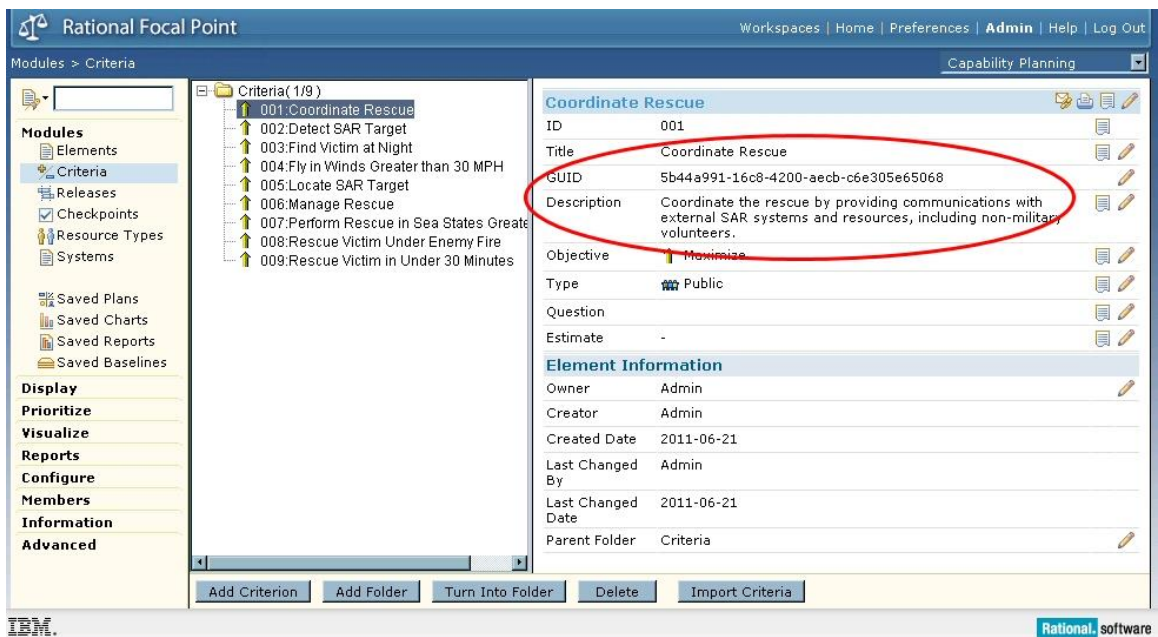
3. Select **Display, Systems**, and then click the Gantt chart button on the top toolbar to view a roadmap of the systems – displaying them as horizontal rectangles from their start date (In Service Date) to their end date (Effective Date).
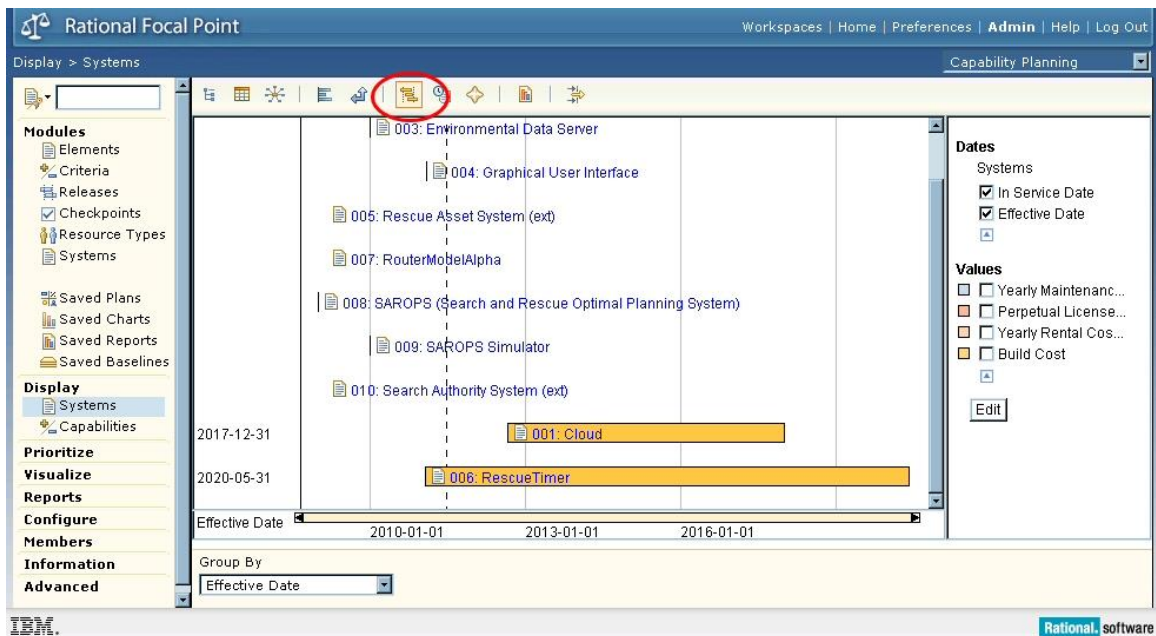
4. Select **Prioritorize, Capabilities**, to get a pair-wise comparison of capabilities. You may start comparing capabilities against one another, specifying how important one is versus another by clicking the much greater than (>> or <<), greater than (> or <) and equal to (=) buttons.
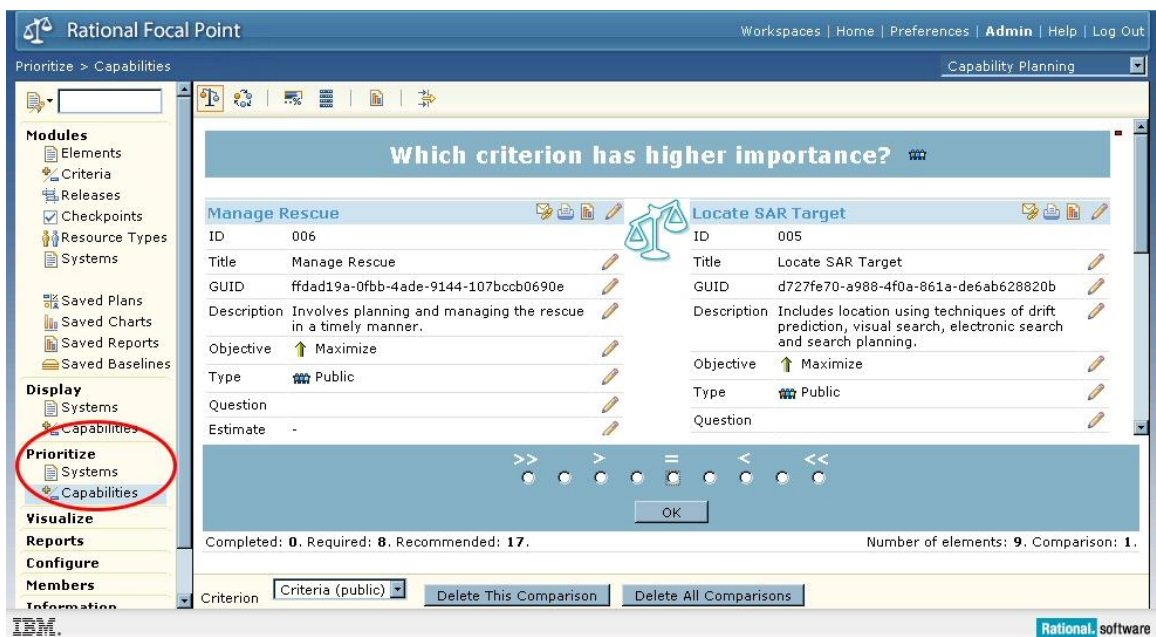
More Information

For more information on DoDAF 2 and System Architect, please visit the following resources:

UNICOM Systems, Inc. A Division of UNICOM Global	System Architect product pages on Unicomsi.com	http://unicomsi.com/products/system-architect/
You Tube	System Architect Train on Youtube	https://www.youtube.com/user/SystemArchitectTrain
Twitter	System Architect on Twitter	https://twitter.com/unicom_sa
Facebook	System Architect on Facebook	https://www.facebook.com/SystemArchitect/
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