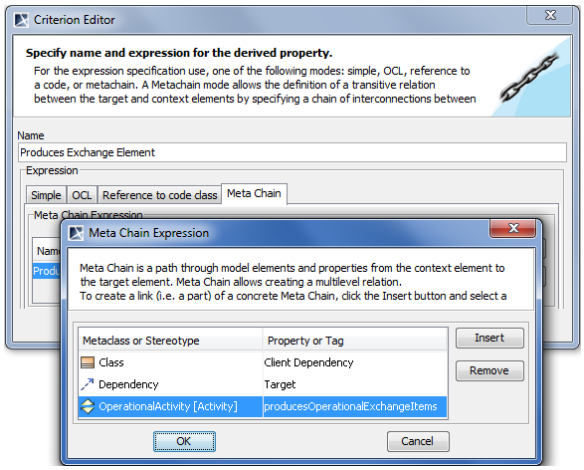
Case Study

Let's say, we need to show Warning Order and Medical Condition exchange elements that are produced and consumed by the performer Search Node. Exchange elements are information indirectly related to the Search Node element.

We will analyze the OV-2 diagram from the DoDAF sample project.

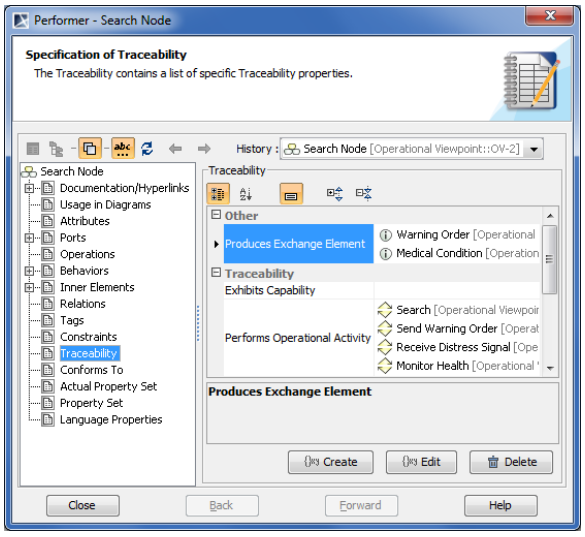
First, we will show the exchange elements produced by the Search Node.

Let's create the **Produces Exchange Element** derived property for the performer *Search Node*. Open the *Search Node* **Specification** window and in the **Traceability** property group click the **Create** button. In the opened **Criterion Editor** dialog, select the **Meta Chain** tab. Then specify the derived property name and the expression for the meta chain as it is shown in the following figure.



Specification of derived property name and expression

In the following figure, you can see that a new subgroup named **Other** is created in the performer **Specification** window. Our created **Produces Exchange Element** derived property is placed under this subgroup. The **Produces Exchange Element** derived property has *Warning Order* and *Medical Condition* exchange elements as its values.



Example of newly created derived property

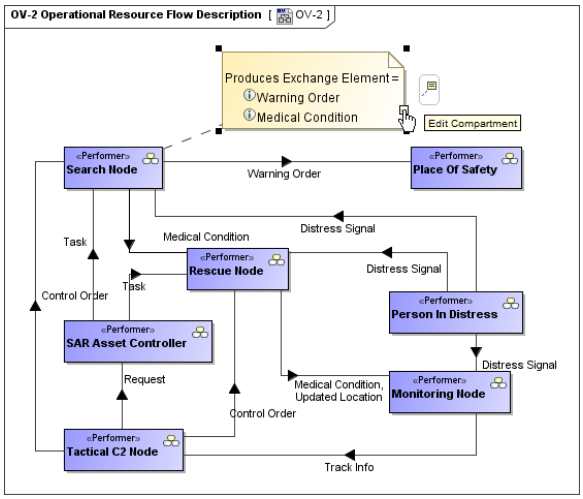
Next, we need to display values of the **Produces Exchange Element** derived property for the *Search Node* performer in the OV-2 diagram.

A derived property is applicable to an element type, not the specific element. In this particular example, our created derived properties are applicable to all performers, not only to *Search Node*.

Related procedure

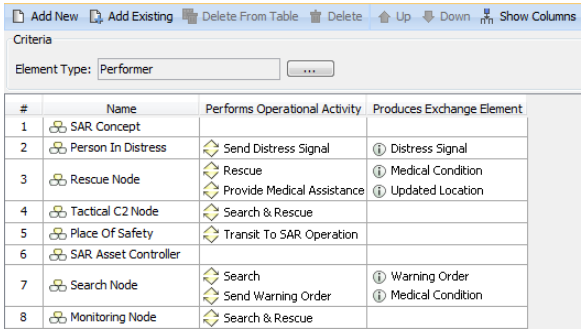
- Displaying Information Indirectly Related to Element through Derived Properties

We can use a Note element wherein we can display information indirectly related to the *Search Node*. Let' s draw a Note and connect it to the Search Node performer. Then click the Edit Compartment as it is shown in the following figure. In the **Compartment Edit** dialog, select the **Element Properties** tab. From the properties list, select to display the **Produces Exchange Element** property. After clicking the **OK** button, *Warning Order* and *Medical Condition* exchange elements are displayed in the Note.



Information indirectly related to Search Node is displayed in Note

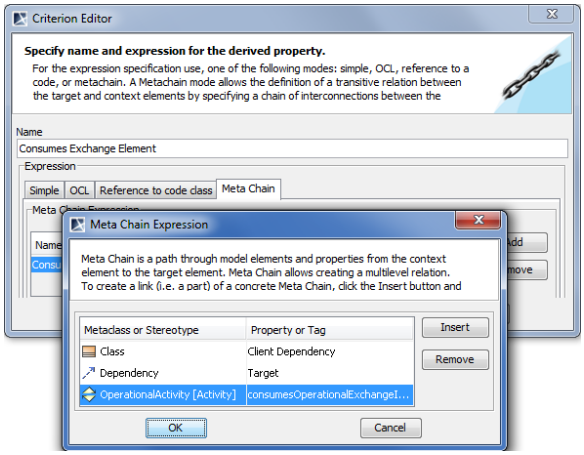
Now, let's create a generic table wherein we can also display information indirectly related to the *Search Node*, as well as to other performers. For that purpose, we select Performer as an **Element Type** and add existing performers to the table. Then we select which information to display as new columns. Previously created **Produces Exchange Element** derived property is also available to add as a new column through the **Show Columns** menu (see the following figure).



#	Name	Performs Operational Activity	Produces Exchange Element
1	SAR Concept		
2	Person In Distress	Send Distress Signal	Distress Signal
3	Rescue Node	Rescue Provide Medical Assistance	Medical Condition Updated Location
4	Tactical C2 Node	Search & Rescue	
5	Place Of Safety	Transit To SAR Operation	
6	SAR Asset Controller		
7	Search Node	Search Send Warning Order	Warning Order Medical Condition
8	Monitoring Node	Search & Rescue	

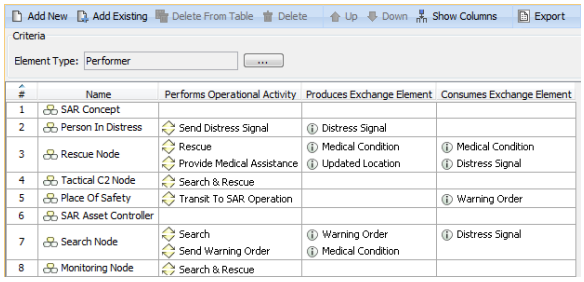
Produces Exchange Element derived property displayed as column

Now, let's create a new derived property directly in the generic table. This property will show which exchange elements are consumed by the performer element. We can do that using the same **Criterion Editor** and doing the same actions as described previously. In the following figure is the example of the **C onsumes Exchange Element** derived property expression.



Consumes Exchange Element derived property expression

When the expression is specified, the newly created derived property is displayed as a new column (see the following figure).



#	Name	Performs Operational Activity	Produces Exchange Element	Consumes Exchange Element
1	SAR Concept			
2	Person In Distress	Send Distress Signal	Distress Signal	
3	Rescue Node	Rescue Provide Medical Assistance	Medical Condition Updated Location	Medical Condition Distress Signal
4	Tactical C2 Node	Search & Rescue		
5	Place Of Safety	Transit To SAR Operation		Warning Order
6	SAR Asset Controller			
7	Search Node	Search Send Warning Order	Warning Order Medical Condition	Distress Signal
8	Monitoring Node	Search & Rescue		

Consumes Exchange Element derived property added as new column