

IBM Rational Rhapsody® - IBM Rational Software Architect RealTime edition®

Integration



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1. INTRODUCTION

This document describes how to import models created in IBM Rational Software Architect RealTime® into Rhapsody.

2. REQUIRED SOFTWARE

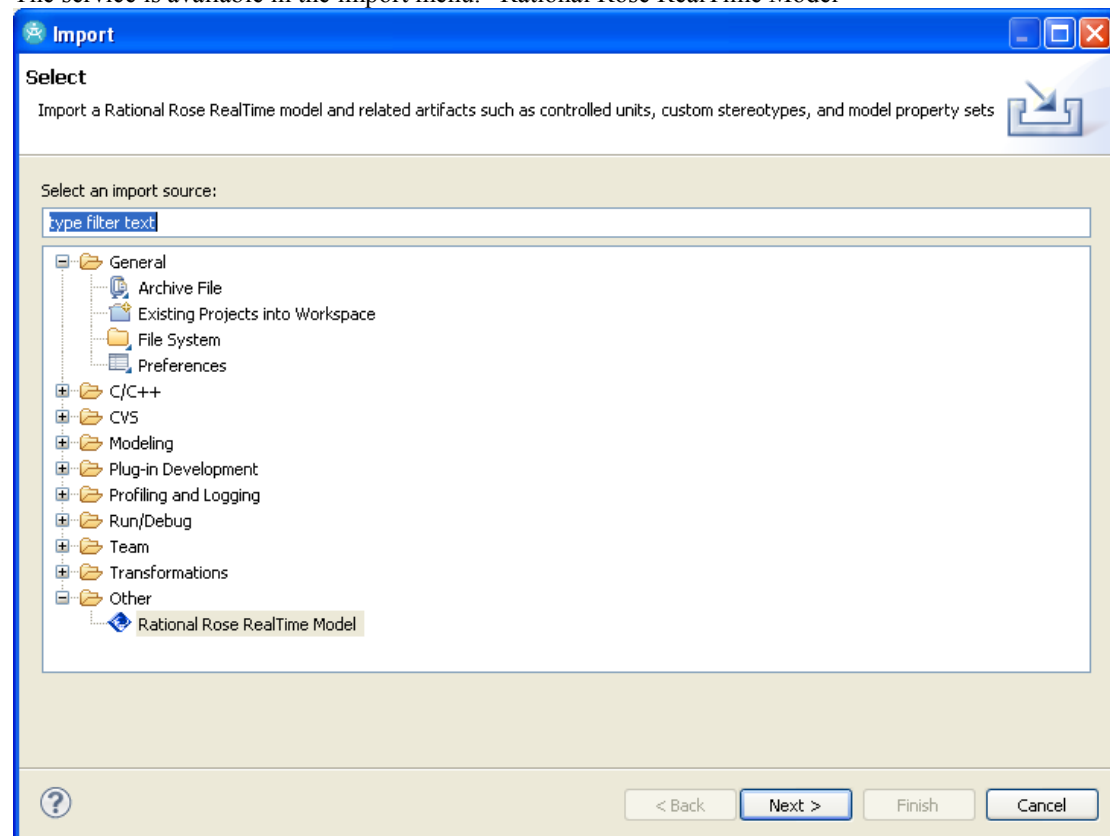
- IBM Rational Rhapsody® version 7.6 or higher.
- IBM Rational Software Architect RealTime 8.0.2 ® or higher.

The Toolkit runs on Windows platforms, with any **Java 1.5** virtual machine (JSDK or JRE 1.5.x or higher).

3. MIGRATING FROM IBM RATIONAL ROSE REALTIME

Please follow the documentation in IBM Rational Software Architect RTE for more details.

The service is available in the import menu: “Rational Rose RealTime Model”



4. EXPORTING FROM IBM RATIONAL SOFTWARE ARCHITECT RTE

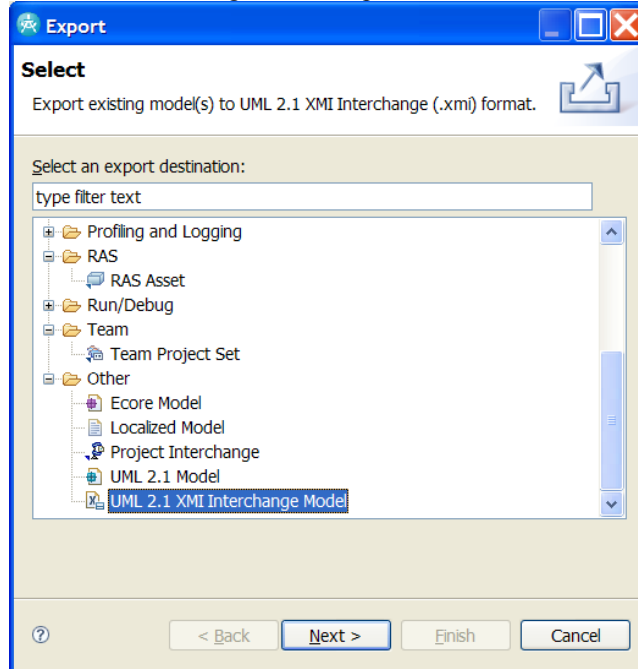
4.1. RSA RealTime semantic import

RSA Realtime is natively able to export models in a standard format.

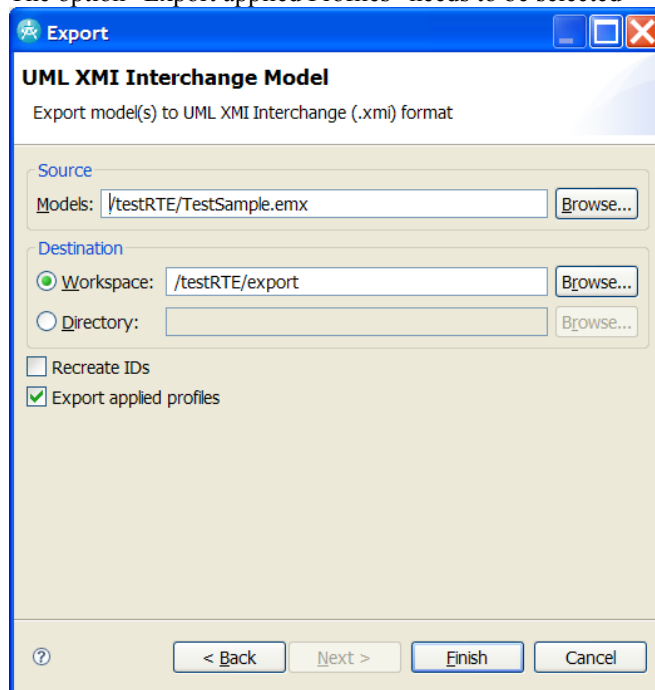
Workflow

1. Export an RSA RealTime model

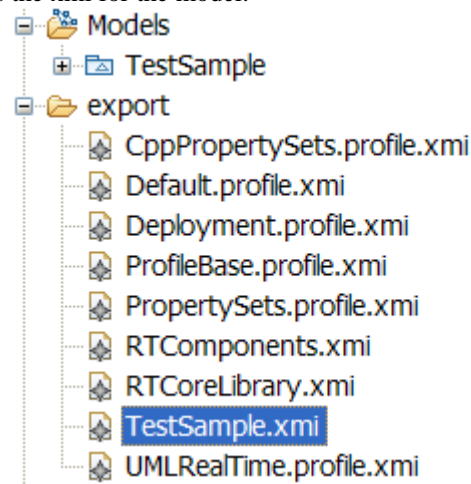
- a. Select the Model, Right click, Export... Choose UML 2.1 XMI Interchange Model



- b. The option "Export applied Profiles" needs to be selected



- c. It will create several xmi files. The one with the same name than the exported model is the xmi for the model.



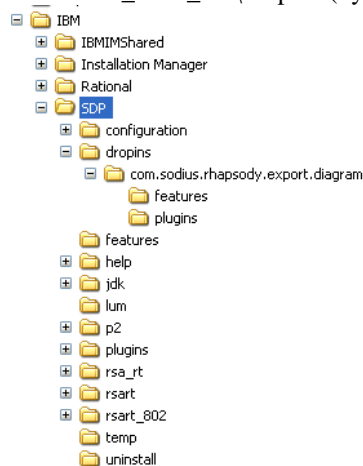
4.2. RSA RealTime semantic and diagrams import

The XMIToolkit is also able to import diagrams generated by RSA RealTime.

The workflow is comparable to the classical import of RSA RealTime model. Due to the fact that RSA RealTime does not export diagrams natively, it requires a new kind of export.

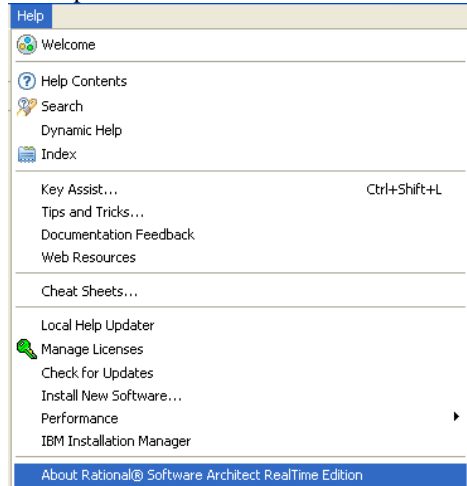
Installation of the Diagram Exporter plugin

1. Close RSA RT
2. In folder INSTALL_RHP\Sodius\XMI_Toolkit\additions\RSx
3. Copy folder *com.sodius.rhapsody.export.diagram* into
INSTALL_RSA_RT\dropins (by default C:\Program Files\IBM\SDP\dropins)

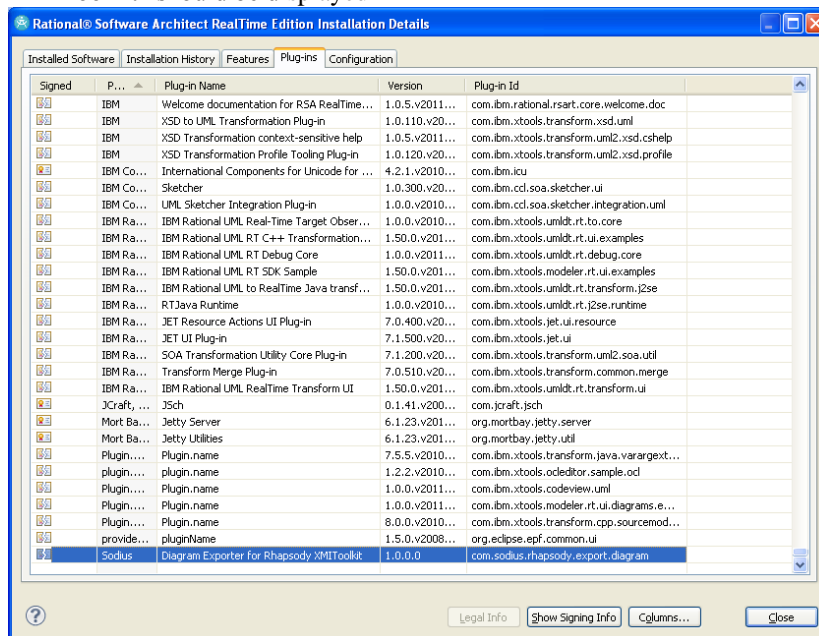


4. Launch RSx

5. in Help>About



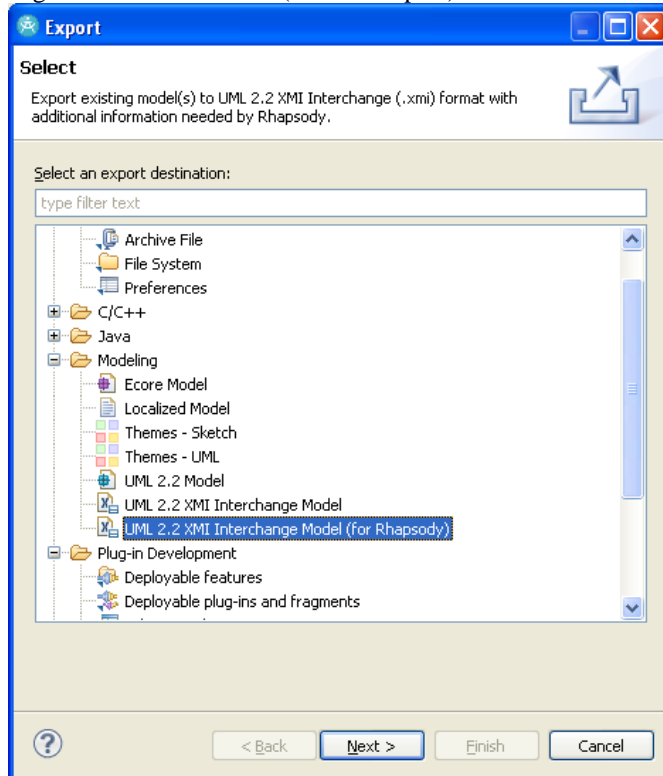
6. in installation details, field “plugins”, the plugin “Diagram Exporter for Rhapsody XMIToolkit” should be displayed



Usage of Diagram Exporter

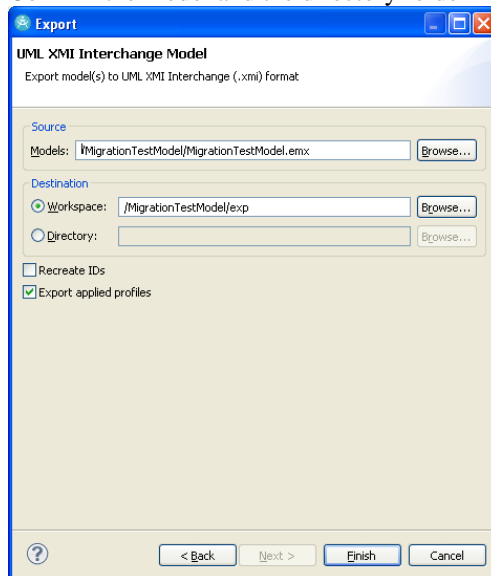
1. In RSA RT, open a model to export

2. Right click on the Model (or File>Export)



and select UML 2.2 XMI Interchange Model (for Rhapsody)

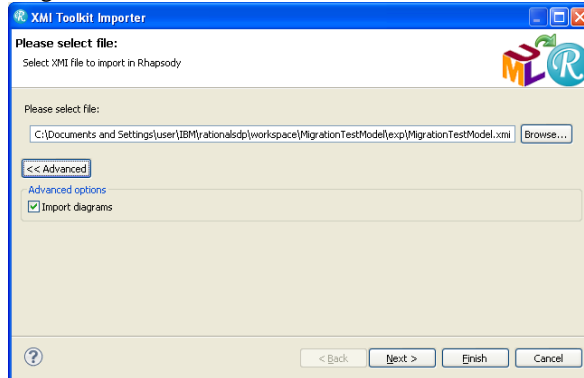
3. Confirm the model and the directory folder



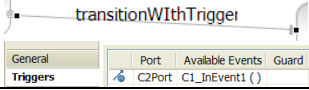
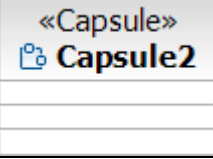
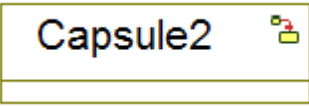
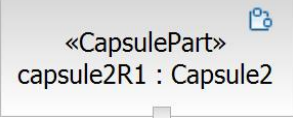
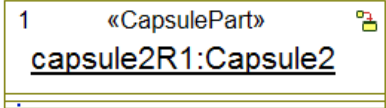

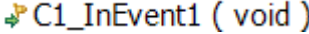
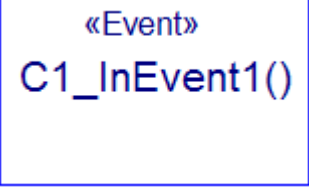
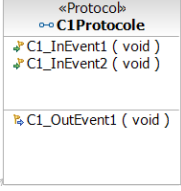
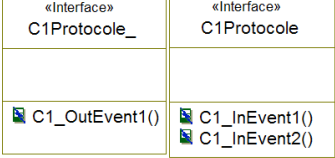
4. It will create several XMI plus an additional file, with same name than the model and suffixed by .xmi.id:

5. IMPORTING TO IBM RATIONAL RHAPSODY

Launch the XMIToolkit importer, then select the root xmi file of your model (model name.xmi).
If diagrams were also previously exporter, the XMIToolkit displays an additional option : Import diagrams



6. MAPPING

RSA RTE Element	Comment	Rhapsody Element
<p><i>UML::Trigger with port(On UML::Transition)</i></p>  <p>General Triggers</p> <p>Port C2Port C1_InEvent1 ()</p> <p>Available Events Guard</p>		<p>Usage of IS_PORT method: C1_InEvent1[IS_PORT(C2Port)]</p> <p>Only works in CPP Only one Trigger per Transition</p>
<p><i>UMLRealTime::Capsule</i></p> 		<p>Class</p> 
<p><i>UMLRealTime::CapsulePart</i></p> 		<p><<CapsulePart>>Part</p> 
<p><i>UMLRealTime::Coregion</i></p> 		<p>Not implemented</p>
<p><i>UMLRealTime::In/OutEvent</i></p> 	<p>In UML, In events are stereotyped CallEvent</p>	<p>Event</p> 
<p><i>UMLRealTime::Protocol</i></p> 	<p>A protocol is split in two interfaces :</p> <p>One for InEvents Second for OutEvents. Needed for the connection of ports, made through required/provided interfaces In Rhapsody, In/OutEvent referenced in a protocols are mapped to EventReceptions: Can be used as triggers like in UML</p>	<p>Interface</p> 
<p><i>UMLRealTime::ProtocolContainer</i></p>	<p>The definition of a Protocol (events and interfaces) is contained into a specific package</p>	<p>Package</p>
<p><i>UMLRealTime::RTConnector</i></p>		<p><<RTConnector>>Link</p>
<p><i>UMLRealTime::RTHistorystate</i></p>		<p><<RTHistorystate>>Connector</p>

Limitations

- SequenceDiagram
 - ExecutionOccurrences always drawn
 - Anchor to edge : attached to source
 - Destruction Event not properly displayed
 - BehaviorExecutionSpecification not property displayed
- StateMachines
 - transition name lost
- UseCase
 - Actor possibly too large
- ClassDiagram
 - Port displayed even if it was not in RSA RT