THALES

Research & Technology

Report / Technical Document

MARTE TO CHEDDAR

Install procedure of the MARTE to Cheddar feature

DEPARTMENT / SERVICE	DOCUMENT NUMBER	PAGE
STI / LSE	61565546 108	1/8
	-	REVISION

THALES MARTE to Cheddar (Copyright (c) THALES 2007 All rights reserved) is free software; you can redistribute it and/or modify it under the terms of the Eclipse Public License as published in http://www.eclipse.org/legal/epl-v10.html

DOCUMENT CONTROL

	- the : 21/11/07	A the:	B the:	C the:	D the:
Written by	E. MAES				
Signature					
Approved par					
Signature					

Revision index	Modifications
А	
В	
С	
D	

Research & Technology

2/8

THALES MARTE to Cheddar (Copyright (c) THALES 2007 All rights reserved) is free software; you can redistribute it and/or modify it under the terms of the Eclipse Public License as published in http://www.eclipse.org/legal/epl-v10.html

CONTENTS

3/8

1.	PURPOSE	4
2.	DOCUMENTS	4
2.1.	MANDATORY	4
2.2.	REFERENCE	4
3.	ACKNOWLEDGMENT	4
4.	CONTENT OF THIS DISTRIBUTION	4
5.	INSTALLATION PROCEDURE	5
6.	FEATURE OVERVIEW	5
6.1.	CHECK A UML-MARTE MODEL	6
6.2.	EXPORT A UML-MARTE MODEL FOR A CHEDDAR USE	7
7.	CONTACT INFORMATION	8

THALES MARTE to Cheddar (Copyright (c) THALES 2007 All rights reserved) is free software; you can redistribute it and/or modify it under the terms of the Eclipse Public License as published in http://www.eclipse.org/legal/epl-v10.html

1. PURPOSE

This document details the installation procedure and gives an overview of the available features of MARTE to Cheddar.

2. DOCUMENTS

2.1. MANDATORY

[N/A] Not applicable

2.2. REFERENCE

[OMG MARTE]	OMG MARTE official web site (<u>http://www.omgmarte.org/</u>)			
[MARTE]	UML profile for MARTE, Beta 1 (<u>http://www.omg.org/cgi-bin/doc?ptc/2007-08-04</u>)			
[MARTE4RSA]	MARTE UML Profile implementation for Rational Software Architect 7.0 (http://www.omgmarte.org/Documents/MARTE4RSA/MARTE_RSA_1.0.0.zip)			
[CHEDDAR]	Scheduling Analysis tool (<u>http://beru.univ-brest.fr/~singhoff/cheddar/Cheddar-2.0-</u> win32-bin.zip)			
[CHEDDAR INFO]	Cheddar web site (http://beru.univ-brest.fr/~singhoff/cheddar/index-fr.html)			
[ATL]	Modeltransformationtool(<u>http://www.sciences.univ-</u> nantes.fr/lina/atl/www/atldemo/adt_am3.zip)			
[ATL INFO]	ATL web site (<u>http://www.eclipse.org/m2m/atl/</u>)			

3. ACKNOWLEDGMENT

Thales Research and Technology STI/LSE has implemented the MARTE2Cheddar feature.

The following persons have contributed to the software development and documentation : Nicolas VIENNE, Eric MAES.

4. CONTENT OF THIS DISTRIBUTION

This software is delivered as an Eclipse that contains Eclipse features and plug-ins that allow one to transform a UML-MARTE model (in a Rational Software Architect format using the MARTE implementation for RSA [MARTE4RSA]) into an XML file readable by the scheduling analysis tool cheddar:

- MARTE2Cheddar directory
 - o *eclipse* directory

Research & Technology

61565546 108

4/8

THALES MARTE to Cheddar (Copyright (c) THALES 2007 All rights reserved) is free software; you can redistribute it and/or modify it under the terms of the Eclipse Public License as published in http://www.eclipse.org/legal/epl-v10.html

- features directory
 - com.thalesgroup.marte.cheddar. Top-level feature with documentation and an example
- plugins directory
 - com.thalesgroup.atl : Functions for using ATL with MARTE
 - *com.thalesgroup.atl.marte.rsa* : Specific functions for using ATL with MARTE for transformation of a model using [MARTE4RSA].
 - *com.thalesgroup.cheddar* : Cheddar metamodel + EMF generated code
 - com.thalesgroup.cheddar.edit. Cheddar edit + EMF generated code
 - com.thalesgroup.cheddar.editor : Cheddar editor + EMF generated code
 - com.thalesgroup.java.log : Functions for displaying messages configuration
 - com.thalesgroup.marte.menu : Menu extension for MARTE use
 - *com.thalesgroup.cheddar.MARTE2cheddar* : Transformation of a UML-MARTE model to a XML file readable by cheddar.
- .eclipseextension file

<u>Note</u>: source code and related documentation are located in the plug-in archive files, along with the binaries and resource files.

5. INSTALLATION PROCEDURE

The software included in this distribution has been developed and tested with IBM Rational Software Architect version 7.0.0. It can also be installed on Eclipse 3.2.1 version.

The installation procedure is the following:

- Unzip the archive and copy the MARTE2Cheddar directory in your file system
- Start Rational Software Architect or Eclipse 3.2.1
- In the Help menu, go to Software Updates > Manage Configuration
- Right-click on Rational Software Architect
- Select Add > Extension Location...
- Browse your file system and select the MARTE2Cheddar /eclipse directory you just unzipped
- Restart Rational Software Architect or Eclipse 3.2.1

6. FEATURE OVERVIEW ¹

A UML-MARTE Model may contain several analysis context elements. Each of the analysis context elements will be transformed to a different XML file to be read by the Cheddar tool.

The features are :

61565546 108

THALES MARTE to Cheddar (Copyright (c) THALES 2007 All rights reserved) is free software; you can redistribute it and/or modify it under the terms of the Eclipse Public License as published in http://www.eclipse.org/legal/epl-v10.html

¹ An example is provided in this distribution : JosefilCheddar.emx

- Checking a UML-MARTE Model that will be exported for a Cheddar use.
- Exporting a UML-MARTE Model to a Cheddar file.

Those features can be realized on a RSA UML Element on which the stereotype <<SaAnalysisContext>> is applied if Rational Software Architect platform is used. In that case, an export will create a corresponding XML file and the cheddar tool can be automatically launched opening that file.

It also can be realized on .emx files. In that case, an export will create as many corresponding XML file as there are analysis context in the model.

6.1. Check a UML-MARTE model

This feature allows one to check a UML-MARTE model developed using [MARTE4RSA].

To do so, select the desired file and select the MARTE Models Check/Check Model for Cheddar Export action. (See Figure 1.)

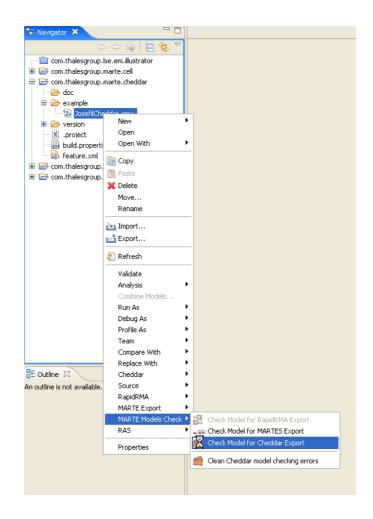


Figure 1: Check Model for Cheddar Export

Research & Technology

61565546 108

6/8

THALES MARTE to Cheddar (Copyright (c) THALES 2007 All rights reserved) is free software; you can redistribute it and/or modify it under the terms of the Eclipse Public License as published in http://www.eclipse.org/legal/epl-v10.html

The potential model errors will be displayed in the Problems Eclipse View.

6.2. Export a UML-MARTE Model for a Cheddar use

This feature allows one to export a UML-MARTE model developed using [MARTE4RSA] to an XML files that can be read by [CHEDDAR].

To do so, select the desired file and select the MARTE Export/Export to Cheddar action. (See Figure 2.)

写 Navigator 🗙		ŋſ	
4	> 🗟 🖻 🕵 🤊	7	
com.thalesgroup.	marte.cell		
SosefilCh	oddar omv		
🗉 🗁 version	New	•	
.project	Open		
🚽 🛅 build.properti	Open With	•	
→ 🎼 🍰 feature.xml 🖅 🥭 com.thalesgroup.	Сору		
🗄 🗁 com.thalesgroup.			
	💢 Delete		
	Move		
	Rename		
	迠 Import		
	🛃 Export		
	🔊 Refresh		
	Validate		
	Analysis	►	
	Combine Models		
	Run As	►	
	Debug As	•	
	Profile As	≁	
	Team	×	
	Compare With	•	
	Replace With	•	
🗄 Outline 🛛	Cheddar	•	
An outline is not available.	Source	•	
	RapidRMA	•	
	MARTE Export	₽	🛃 Export to RapidRMA
	MARTE Models Chec	k۲	Export to MARTES
	RAS	►	🥌 Export to Cheddar
	Properties		Export to Cheddar and Run

Figure 2: Export to Cheddar

XML files will be generated in the file directory.

It is possible to run cheddar from the Eclipse platform. For that, you have to complete Cheddar preference page informations. (See Figure 3.)

Research & Technology

61565546 108

7/8

THALES MARTE to Cheddar (Copyright (c) THALES 2007 All rights reserved) is free software; you can redistribute it and/or modify it under the terms of the Eclipse Public License as published in http://www.eclipse.org/legal/epl-v10.html

ype filter text	Cheddar		$\diamond \bullet \diamond$
€ General	Preferences for the MARTE2Cheddar transformation		
Active Correlation Techni Agent Controller Analysis Ant Ant Ant Ant Cheddp CommonSReporting EMFT JET Transformation Help Install/Update Java Logging Model Validation Model Validation Modeling Plug-in Development RAS Requirement Managemer Run/Debug Team Thalesgroup Log Validation	Select Cheddar executable file:	C:\02_TOOL\cheddar\Cheddar-2.0-win32-bin\cheddar.exe	Browse
Web and XML		Restore Defaults	Apply

Figure 3: Cheddar Preference Page

7. CONTACT INFORMATION

If you want more information about this software, or if you want to provide feedback, please contact:

- Eric MAES (eric.maes@thalesgroup.com) •
- Laurent RIOUX (laurent.rioux@thalesgroup.com)

Research & Technology

61565546 108

8/8

THALES MARTE to Cheddar (Copyright (c) THALES 2007 All rights reserved) is free software; you can redistribute it and/or modify it under the terms of the Eclipse Public License as published in http://www.eclipse.org/legal/epl-v10.html