

MDG Integration for TcSE User Guide

Welcome to the MDG Integration Version 2.0 for Siemens PLM Teamcenter Systems Engineering (TcSE). The MDG Integration for TcSE takes the high-level modeling power of Enterprise Architect and the Unified Modeling Language and directly integrates it with TcSE.



MDG Integration for TcSE User Guide

Introduction

by Simon Zhang

MDG Integration for TcSE takes the high-level modeling power of Enterprise Architect and the Unified Modeling Language, and directly integrates it with Teamcenter Systems Engineering.

MDG Integration for TcSE User Guide

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Foreword

MDG Integration for TcSE takes the high-level modeling power of Enterprise Architect and the Unified Modeling Language, and directly integrates it with TcSE.

1 Welcome

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Welcome to the MDG Integration for Siemens PLM Teamcenter Systems Engineering (TcSE) - Enterprise Architect MDG Add-In, Version 2.0.

The Add-in extends the capability of Enterprise Architect to enable you to work with models simultaneously in both Enterprise Architect and TcSE. The MDG Integration for TcSE Add-In works with the **Corporate**, **Business & Software Engineering**, **Systems Engineering**, and **Ultimate** editions of Enterprise Architect.

Getting Started

For instructions on how to register and configure the MDG Integration for TcSE, see Getting Started 10.

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1.4 Support

Technical support for the MDG Integration for TcSE is available to registered users of Enterprise Architect. Responses to support queries are sent by email. Sparx Systems endeavors to provide a rapid response to all product-related questions or concerns.

Registered users can lodge a support request, by visiting: http://www.sparxsystems.com/registered/reg_support.html.

Trial users can contact Sparx Systems with questions regarding their evaluation at: support@sparxsystems.com.

An online user forum is also available for your questions and perusal, at http://www.sparxsystems.com/cgi-bin/yabb/YaBB.cgi.

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1.5 System Requirements

The following software must be installed to use the MDG Integration for TcSE, Version 2.0.

Operating System

Any of the following:

- Windows NT® (SP5 or later)
- Windows XP Professional
- Windows XP Home
- Windows XP Media Edition
- Windows XP Tablet Edition
- Windows 2000 Professional (SP3 or later)
- Windows Vista

Enterprise Architect

Any of the following:

- Enterprise Architect Professional Version 7.5 (or later)
- Enterprise Architect Corporate Version 7.5 (or later)
- Enterprise Architect Business Engineering Version 7.5 (or later)
- Enterprise Architect Systems Engineering Version 7.5 (or later)
- Enterprise Architect Ultimate Version 7.5 (or later)

Other

All of the following:

- Microsoft .NET Framework Version 2.0
- Siemens PLM Teamcenter for Systems Engineering Release 2007.3.2 (or later)
- Siemens PLM Teamcenter for Systems Engineering Office-Live Interface

2 Getting Started

This topic describes how to <u>register</u> 1^{1} the MDG Integration for TcSE Add-In, and how to <u>configure the TcSE</u> <u>server</u> 13^{1} for use with this integration:

- <u>Register the MDG Integration for TcSE</u>
- Configure the TcSE Server 13
- Enable TcSE Project Integration 15

To begin the Enterprise Architect integration in a TcSE Project an Enterprise Architect model must be 'connected' to an *Enterprise Architect project folder*. For further information see the <u>Connect an Enterprise</u> <u>Architect Model</u> be to be the <u>Architect Model</u> be the <u>Connect an Enterprise</u> <u>Architect Model</u> be to be the <u>Connect an Enterprise</u> <u>Architect Model</u> be the <u>Connect an Enterprise</u> <u>Architect Architect Archi</u>

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2.1 Register the MDG Integration for TcSE

To register and activate the MDG Integration for TcSE Add-In, follow the steps below:

- 1. Purchase one or more licenses. Once you have paid for a licensed version of MDG Integration for TcSE, you receive (via email or other suitable means)
 - a license key or keys
 - the address of the web site from which to download the full version.
- 2. Save the license key and download the latest full install package from the address supplied.
- 3. Run the setup program to install the full version.
- 4. Run Enterprise Architect. If this is the first time you have installed MDG Integration for TcSE, an MDG Integration for TcSE About dialog displays, prompting you to register MDG Integration or to continue the trial.

⊗ About Enterprise Archite	ect	X
Enterprise Architect Version 7.5 Model Driven Generation	MDG Integration for TcSE Version 2.0.112 Copyright © 2009 Sparx Systems Pty Ltd Registered OK	

5. To enter the new key click on the Enter Key button. The License Management dialog displays.

Licence Management			×
Use the Add Key button to enter a new re	gistration key.		
Currently Registered Keys:			
Key	Expires	Product	
Add Key	Remove Co	py <u>C</u> lose	Help

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6. Click on the Add Key button. The Add Registration Key dialog displays.

Add Registr	ration Key	\mathbf{X}
Enter Privat	e Key Get Shared Key	_
<u>N</u> ame:	John	
Company:	Sparx Systems	
Copy regis	stration <u>k</u> ey into space below, then press OK button	
	OK Cancel Help	

- 7. Copy the license key from the email and paste it into the **Copy registration key...** field, to avoid typing mistakes.
- 8. Click on the **OK** button. The full version of MDG Integration for TcSE is now available for use with your version of Enterprise Architect.

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2.2 Configure the TcSE Server

After registering MDG Integration for TcSE, you must configure the *Package.Location* web application parameter for your TcSE installation. To do this, follow the steps below:

1. Connect to the Web Application Configuration page in the TcSE server Administrative Tools website.:



2. Add the following to the Package.Location configuration parameter:

%EATCSE_HOME%\eatcse.jar;%EATCSE_HOME%\swt.jar

🏉 http://vm2k3tcse:8080/tcr/ugs/te	:/req/configter.jsp - Windows Inte	ernet Explorer	
			Google
Ele Edit View Favorites Iools He Google 8 -	lp arch ∲ 🧔 ▾ 🐈 ▼ 🤷 ▾ 🏠 Bookm	narks • 🛛 🔍 Find • 🍣 Check • 🎦 AutoFill	🔨 • 🕥 Sign In •
🚖 🏟 - 🔝 - 🖶 - 🔂 <u>Pag</u>	ge 🕶 🍈 T <u>o</u> ols 👻 🔞 👘 🖏 🖏		
			o marcates no poung.
Package.Location	%EATCSE_HOME%\ea] None	Path on client machine to the "jar" file(s) you want included in the clients "classpath". This must be semi-colon delimited list. List also supports OS environment variable convention. Example has all supported syntax: C:apps/sample1.jar;% ENV_VARIABLE% 'sample2.jar;% ENV_VARIABLE%

The %EATCSE_HOME% environment variable is defined when MDG Integration for TcSE is installed. It

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specifies the path to which the product is installed on the computer.

3. Click on the **Update** button to confirm and save the changes.

2.3 Enable TcSE Project Integration

The following topics describe how to configure TcSE Projects for MDG integration with Enterprise Architect:

- <u>Set User Privileges</u> 15
- <u>Configure a TcSE Project</u>

See Also

- Use the MDG Integration in TcSE 18
- Model Management 21

2.3.1 Set User Privileges

For the TcSE project integration to function correctly the following user privileges must be assigned to the respective TcSE users:

- TcSE Project Configuration:
 - Project Administrator
 - Architect
 - Script Author.
- TcSE & EA Project Integration:
 - Architect.

For further information on assigning user privileges in TcSE projects, see the *Teamcenter Systems Engineering* documentation.

2.3.2 Configure a TcSE Project

Configuring a TcSE project for integration with Enterprise Architect enables the TcSE project to connect to Enterprise Architect projects and to exchange model data via import and export. It also enables the model data to be synchronized between Enterprise Architect and TcSE using the **Update** command.

The configuration process defines the language Schema and mapping rules for inclusion into the TcSE project. The schema defines the TcSE subtypes, property definitions and activators that contain the Enterprise Architect modeling data. The mapping rules, used to create the TcSE schema, are stored as an activator in the TcSE project. The mapping is loaded automatically by the integration environment to automatically resolve the type and property definitions between TcSE and Enterprise Architect.

Configure a TcSE Project for Integration with Enterprise Architect

1. To configure a TcSE Project for Integration with Enterprise Architect, select the **Enterprise Architect | Configure** menu option in the TcSE Administration view. The Confirmation dialog displays:

Confirmation	×
The selected project is not configured for integration with Enterprise Architect. Configure this proje	ct now?
<u>Y</u> es <u>N</u> o	
Note:	
After the TcSE Project has been configured for Integration with Enterprise	

Architect, this menu option will allow you to Configure Options 30.

2. Click on the **Yes** button to configure the current project for integration with Enterprise Architect. The Schema Configuration dialog displays.

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Schema Mappir	Configuration Ig Mode: UML 2 (Comp	lete)	View/Edit Map	
Map Re	equirements Elements as	Requirement		
🔽 Inc	ude Reference Links for	Elements & Relationships in Diagrams		
🔽 Inc	ude Common Diagram E	elements (text, boundry, hyperlinks)		
Extended	Languages			
	Archimate	MDG Technology for ArchiMate		
	BPMN1.1	MDG Technology for BPMN		
	DDS	DDS		
	IDL	IDL		
	SoaML	SoaML		
	SOMF	SOMF		
	SPEM	SPEM		
	SysML1.1	MDG Technology for SysML 1.1		

Option	Description
Mapping Mode	Enables you to select one of the pre-configured mapping modes for the reference UML. Select the mode that best suits the integration requirements.
Map Requirements Elements as	Specifies the TcSE type that will be used to map Enterprise Architect's Requirements elements into.
	Requirement: to map into a TcSE Requirement subtype
	 Building Block: to map into a TcSE Building Block subtype
	Note: to map into a TcSE Note subtype
	 none: to define no mapping rule into TcSE
Include Reference Links for Elements & Relationships in Diagrams	Select this checkbox to include mapping rules for referencing occurrences of <i>Elements</i> and <i>Relationships</i> in <i>Diagrams</i> .
	By default this creates a Generic Link subtype in TcSE between the diagram and the selected element or relationship.
Include Common Diagram Elements (text, boundary, hyperlinks)	Select this checkbox to include mapping rules for common drawing elements that may exist in Enterprise Architect model diagrams.
	Such elements include: <i>Text</i> shapes, <i>Boundary</i> objects, <i>Hyperlinks</i> , <i>Legends</i> , and <i>Note</i> objects.

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- Click on the View/Edit Map... button to open the <u>Schema Map Editor</u> 35th dialog for viewing/editing the schema's mapping definitions.
- Select each of the checkboxes in the Extended Languages section to include any mapping definitions for domain-specific modeling languages available in Enterprise Architect's MDG Technologies. Such extended languages include common modeling languages like: Business Process Modeling Notation (BPMN) MindMapping SOA Modeling Language (SoaML) System's Modeling Language (SysML)
- Click on the Load from File... button to load a Schema's mapping XML file.
- Click on the Save to File... button to save the current Schema's mapping configuration to a XML file.
- 3. Select the Mapping Mode, any extended languages and other options that are most appropriate for your integration requirements. Click on **OK** button to apply the configuration to the selected TcSE project.

- Project Schema Configuration 33
- Schema Map Editor 35
- <u>Configure Options</u> 30^h

3 Using the MDG Integration in TcSE

In Teamcenter Systems Engineering the MDG Integration displays the following **Enterprise Architect** menu, which is accessible from either the **Tools** menu or the right-click context menu whenever a valid folder is selected within the TcSE project:

🐼 Open in EA	
Model Management	۲
Help	
About	

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Option	Description
Open in EA	Opens the selected item in the corresponding Enterprise Architect model using Enterprise Architect.
Model Management	Opens the Model Management submenu.
Help	Open this Help subsystem.
About	Displays product information for MDG Integration for TcSE.

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3.1 Connect An Enterprise Architect Model

Connecting an Enterprise Architect Model to a folder in TcSE establishes the link between the folder and the Enterprise Architect model. The folder stores the relevant connection information to the model and contains within it any selected model data from Enterprise Architect.

Connect a TcSE Folder to Enterprise Architect

To connect an Enterprise Architect model to a TcSE folder, follow the steps below:

1. At the TcSE Project root, create an Enterprise Architect project folder using the TcSE **Add Subtype** command. This specialized folder maintains the connection information for the Enterprise Architect project, and stores within it the model data selected for integration.

Note:

For the model connection to operate the Enterprise Architect project folder must not be created nested under a previously created Enterprise Architect project folder.

2. Click on the Enterprise Architect project and select the Enterprise Architect | Model Management | Connect EA Model menu command. The Open a UML Model dialog displays.

Note:

If the selected Enterprise Architect project folder is already connected to an existing Enterprise Architect project, a warning message displays confirming that the system is continuing with the command.

🛞 Open a UML Model	
Enterprise Architect Version 7.5 Model Driven Generation	To use MDG Integration, you need to open an Enterprise Architect model. Once you have opened a model, you can link your TcSE Project(s) to UML Packages. Select what model you will open. You can use an existing model file, create a new one or create a connection to a server based repository. Select Model Open an Existing Model Oreate a New Model Connect to a Server Repository
Please select a file	

Option	Description
Open an Existing Model	Enables you to select an existing model to link to your project.
Create a New Model	Creates a new, empty model and links it to your project.
Connect to Server Repository	Enables you to connect to a model on a database repository.

Once a model is connected to an Enterprise Architect project folder, you can begin importing 22 model

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packages from Enterprise Architect, or begin populating your model packages, using the elements provided by the MDG Integration. You can then export 23 your model data to the Enterprise Architect project.

- Import from Enterprise Architect
 22
- Export to Enterprise Architect 23
- Update Package 24

3.2 Model Management

The Enterprise Architect | Model Management menu contains the Model Management submenu.



Option	Description
Connect EA Model	Connects the selected Enterprise Architect project folder to a new or existing Enterprise Architect model. Refer to the <u>Connect an Enterprise Architect Model</u> by topic for more information.
Import from EA	Imports a model from the connected Enterprise Architect model to the selected Enterprise Architect project folder. Refer to the Import from Enterprise Architect 22 topic for more information.
Export to EA	Exports the selected folder to the connected Enterprise Architect model. Refer to the Export to Enterprise Architect 23 topic for more information.
Update Package	Updates the selected package in TcSE with the corresponding model package in the connected Enterprise Architect model. Refer to the Update Package 24 topic for more information.

- Use the MDG Integration in TcSE 18
- Enable TcSE Project Integration 15

3.2.1 Import from Enterprise Architect

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To import a package from Enterprise Architect into the selected TcSE Folder, select the **Enterprise Architect** | **Model Management** | **Import from EA** menu option. The Browse Project dialog displays.

Browse Project	×
 Model System Model Implementation Model (PSM) C# Model DDL Java Model 	
OK Cancel	

Select the required Enterprise Architect package, and click on the **OK** button to import the package into TcSE. The EA-->TcSE Progress dialog displays the progress messages as the process completes.

EA> TcSE Progress	
- Exporting model from Enterprise Architect analyzing model done - Processing model to TcSE refreshing TcSE stereotypes writing model uploading model uploading model Task Complete	
Clos	se:

- Export to Enterprise Architect 23
- Update Package 24

3.2.2 Export to Enterprise Architect

To export the selected package from TcSE into the Enterprise Architect model, select the **Enterprise Architect | Model Management | Export to EA** menu option. The Browse Project dialog displays.

Browse Project	<
Model System Model Implementation Model (PSM)	
OK Cancel	

Select the required Enterprise Architect package, and click on the **OK** button to export the package from TcSE into Enterprise Architect. The TcSE-->EA Progress dialog displays the progress messages as the process completes.

TcSE> EA Progress	×
- Exporting model from TcSE analyzing model done - Processing model done - Importing model to Enterprise Architect done Task Complete	
Close) :

- Import from Enterprise Architect 22
- Update Package 24

3.2.3 Update Package

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To update the selected package in TcSE from the package in the Enterprise Architect model, select the **Enterprise Architect | Model Management | Update Package** menu option. The **Update Progress** dialog displays progress messages as the process completes.

Update	Progress	
- Analy ana do - Analy ana do - Comp do - Upda Upda 1 e 0 r 1 e 0 r do - Upda 0 r do - Upda 1 e 0 r 1 e 0 r 1 e	zing model in Enterprise Architect yzing model ne zing model in TcSE yzing model ne taring models ne ing update rules ne ting TcSE model shing TcSE stereotypes shing TcSE stereotypes dited noved effeshed ne ting EA model edited noved idded deleted ne Complete	
		Close

Click on the **Close** button once the process has completed.

- Import from Enterprise Architect 22
- Export to Enterprise Architect 23
- Model Update 32

4 Using the MDG Integration in Enterprise Architect

In Enterprise Architect you display the MDG Integration for TcSE menu by selecting the **Add-Ins | TcSE** menu. When Enterprise Architect is run stand-alone, the following menu displays:

Add-Ins Settings Window	v <u>H</u> elp
TcSE	Configure
Manage Add-Ins	Help
	About

When Enterprise Architect is run from within TcSE, the following menu displays:

Add-Ins Settings Window	v <u>H</u> elp	
TcSE	Project 🕨	Import from TcSE
Manage Add-Ins	Configure Help	Export to TcSE Update Package
	About	

Option	Description
Import from TCSEImports a folder from the TcSE project to the selected Enterprise Architect packag the Import from TcSE 26 topic for more information.	
Export to TcSE Exports the selected Enterprise Architect package to a TcSE folder. See the Export TcSE 27 topic for more information.	
Update Package Updates the selected Enterprise Architect package with the corresponding folder TcSE. See the Update Package 28 topic for more information.	
Configure	Configures options relevant to the MDG Integration. See the <u>Configure Options</u> of topic for more information.
Help	Opens this Help subsystem.
About	Displays product information for MDG Integration for TcSE.

4.1 Import from TcSE

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To import a package from TcSE into the selected package in Enterprise Architect, select the **Add-Ins | TcSE | Project | Import from TcSE** menu option. The **Select a TcSE Folder** dialog displays.

Select a TcSE Folder
Select Folder
 Example Project EA Example System Model Deployment Model Environment Model Design Model Component Model Analysis
Refresh (F5) OK

Select the required folder in TcSE and click on the **OK** button to import the folder into the selected Enterprise Architect package. The TcSE-->EA Progress dialog displays the progress messages as the process completes.

1	cSE> EA Progress	\mathbf{X}
	Exporting model from TcSE analyzing model done Processing model done Importing model to Enterprise Architect done Task Complete	
	Close	:

- Export to TcSE 27
- Update Package 28

4.2 Export to TcSE

To export the selected Enterprise Architect package into TcSE, select the **Add-Ins | TcSE | Project | Export to TcSE** menu option. The Select a TcSE Folder dialog displays:

Select a TcSE Folder	×	
Select Folder		
 Example Project EA Example System Model Deployment Model Environment Model Obesign Model Component Model Analysis 		
Refresh (F5)	к	

Select the required TcSE folder to export the selected Enterprise Architect package into, and click on the **OK** button to export the package into TcSE. The EA-->TcSE Progress dialog displays the progress messages as the process completes.

Ξ	A> TcSE Progress	\mathbf{X}
	 Exporting model from Enterprise Architect analyzing model done Processing model done Importing model to TcSE refreshing TcSE stereotypes writing model uploading model done Task Complete 	
	Close) .::

- Import from TcSE
- Update Package 28

4.3 Update Package

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To update the selected Enterprise Architect package from the corresponding package in TcSE , select the **Add-Ins | TcSE | Project | Update Package** menu option. The **Update Progress** dialog displays progress messages as the process completes.

Update Progress	X
 Analyzing model in Enterprise Architect analyzing model done Analyzing model in TcSE analyzing model in TcSE analyzing model analyzing models done Comparing models done Applying update rules done Updating TcSE model 1 edited 0 moved 6 refreshed done Updating EA model 1 edited 0 moved 6 added 14 deleted done Update Complete 	
Close	_

Click on the Close button once the process has completed.

- Import from TcSE
- Export to TcSE 27
- Model Update 32

5 Advanced Topics

This topic describes important advanced information on the MDG Integration for TcSE and how it behaves in the following situations:

- <u>Configure Options</u> 30¹
- Model Update 32
- Project Schema Configuration 33
- Schema Map Editor 35

5.1 Configure Options

The Configure Options command allows you to configure how the MDG Integration for TcSE behaves in specific circumstances. It also enables you to modify the Schema and Map of a TcSE project that is configured for use in the integration environment.

To configure MDG Integration for TcSE, you can either select the **Enterprise Architect | Configure** menu option in the TcSE Administration view, or select the **Add-Ins | TcSE | Configure** menu option on Enterprise Architect. The Configure TcSE Options dialog displays the following options.

Configure	e TeSE Options		
Packag	e Update from Enterprise Architect		Schema & Map Options
Items th	at exist in TcSE but not in EA:		Edit Map
	Delete III TCSE		Import Export
Teamce	nter Connectivity		
Mode:	Mixed Mode		Add Extended Language
		ОК	Cancel Help

Options for Package Update from Enterprise Architect

Option	Description
Mark as deleted	Package updates from Enterprise Architect mark removed items as 'deleted' in TcSE.
Delete in TcSE	Package updates from Enterprise Architect permanently remove deleted items in TcSE.

Options for Teamcenter Connectivity

Option	Description
Mixed Mode	Establishes a connection to TcSE using both the Server and Client connectivity modes for optimum integration performance.
Client Mode	Establishes a connection to TcSE through the Client interface.
Server Mode	Establishes a connection to TcSE directly to the Server.

Schema & Map Options

Button	Description		
Edit Map	Opens the <u>Schema Map Editor</u> to view/edit the mapping rules defined for the selected TcSE project.		
Import Imports the schema mapping rules from a XML file.			
Export Exports the current schema mapping rules to a XML file.			
Add Extended Adds additional extended languages to the TcSE schema and mapping ru Language Adds additional extended languages to the TcSE schema and mapping ru			

Note:

For best performance set Teamcenter Connectivity to Mixed Mode.

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- <u>Configure a TcSE Project</u>
- Model Update 32
- Schema Map Editor 35

5.2 Model Update

32

The Model Update process automates the task of synchronizing the model data in a TcSE project folder with the connected Enterprise Architect model.

The action the update process takes on a model item depends on the condition that model item is in, and where the command itself is invoked: whether via the $\underline{\text{TcSE}}_{24}$ or via the $\underline{\text{Enterprise Architect}}_{28}$ menus.

Model Item Condition	From Enterprise Architect	From TcSE	
Unchanged in both models	No action.	No action.	
Changed/Edited	No action in Enterprise Architect.	No action in TcSE.	
	Item edited in TcSE.	Item edited in Enterprise Architect.	
Moved	No action in Enterprise Architect.	No action in TcSE.	
	Item moved in TcSE.	Item moved in Enterprise Architect.	
Exists in 'from' model, but not	No action in Enterprise Architect.	Item refreshed in TcSE.	
in 'to' model	Item added in TcSE.	Item added in Enterprise Architect.	
Exists in 'to' model, but not in	No action in Enterprise Architect.	No action in TcSE.	
'from' model	Item deleted (or marked) in TcSE.	Item deleted in Enterprise Architect.	

- Update Package (TcSE) 24
- Update Package (Enterprise Architect)

5.3 Project Schema Configuration

UML Type	TcSE Base Type	TcSE Parent Type Name		
Element	Building Block	UML Building Block		
Feature	Port	UML Port		
Relationship	Connection	UML Connection		
Diagram Building Block		UML Diagram		

The default UML types are mapped to the following TcSE object types:

When a TcSE project is configured for integration with Enterprise Architect, it modifies the project's schema in the following ways:

- 1. It creates an activator, called *EATcSE_Mappings*, which defines the rules that the MDG Integration uses to map model artifacts between Enterprise Architect and TcSE. It relates *Elements*, *Relationships*, *Diagrams* and *Properties* in Enterprise Architect models to their corresponding counterparts in TcSE.
- 2. It creates the definitions for each of the TcSE Types and Properties defined in the mapping.
- 3. Additional schema definitions for *Menus, Activators,* and *Reports* that provide convenient access to Enterprise Architect model data in the TcSE environment.
- 4. System-level *Type* and *Property* definitions that are used to store essential Enterprise Architect model data to ensure proper operation of the integration environment.



By modifying the rules defined in the *EATcSE_Mappings* activator, it is possible to change the way in which TcSE Types and Properties are mapped into Enterprise Architect. Use the Edit Map... command in the <u>Configure Options</u> and command to edit these mapping rules.

Mapping Modes

MDG Integration for TcSE provides a range of Mapping Modes to suit your project's integration requirements. Refer to the <u>Configure a TcSE Project</u> 15^{h} for more information.

- <u>Configure a TcSE Project</u>
- <u>Configure Options</u> 30¹

5.4 Schema Map Editor

The Schema Map Editor allows you to view/edit the mapping rules that define how model *Elements*, *Relationships*, *Diagrams* and *Properties* in an Enterprise Architect project are represented in a TcSE project:

🗐 🗳 UML	Langu	Jage						
The Elements Lang		uage	UML		Extend Language			
		le						
 Diagrams 	Alias	•	UML 2 ((Complete)				
G Properties → Contract → C	Desc	cription	UML 2 m	napping for all e	elements, relationships a	and features		
 Relationships 	Elem	ent Prefix	, UML		Diagram Prefix	UML		
ー 喧 Diagrams	Prop	erty Prefix	UML		- Relationship Prefix	UML		
BPMN1.1 □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□	Scher	ma Mapping]			TCSE		
····· 🖻 Relationships		Туре	^	Stereotype	ICSE Type	Subtype	TCSE Parent	ICSE Prefix
Diagrams		ActivityInit	ial		Building Block	ActivityInitial		UML
······ 4= 1 dgs	Þ	ActivityPa	rameter		Port	ActivityParameter		UML
		ActivityPa	rtition		Building Block	ActivityPartition		UML
		ActivityRe	gion		Building Block	ActivityRegion		UML
		Actor			Building Block	Actor		UML
		AIUMLTy			Building Block			
		Artifact			Building Block	Artifact		UML
		Associatio	nEle		Building Block	AssociationElem		UML 🗹
		Add	Del	lete				

The Schema Map is an XML document which contains a collection of mapping rules for both the base *UML* and the user-defined *Extended Languages*. Each of the languages contain groups of rules that govern how model information is exchanged between Enterprise Architect and TcSE.

Mapping Rule Groups

Each of the mapping rules are arranged into a collection of groups for each language:

Group	Description
Elements	Defines the set of mapping rules for model elements such as Classes, Ports, Packages, Attributes and Operations.
Features	Defines the set of mapping rules for element features such as Constraints, Parameters, Arguments, Tags and Relationship Ends.
Relationships	Defines the set of mapping rules for relationships such as Associations, Dependencies, Transitions and Flows.
Diagram	Defines the set of mapping rules for diagrams such as Class Diagrams, Statecharts and Sequence Diagrams.
Properties	Defines the set of mapping rules for properties defined in Elements, Relationships and Features.
Tags	Defines the set of mapping rules that map a TcSE Property to a Tagged Value in an Extended Language.

Editing the Schema Map

The Language and Schema Mapping panels allow you to edit general mapping properties for the selected languages, as well as the mapping rules defined in each of the above groups.

Language

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The **Language** panel allows you to modify the default **Prefixes** attached to every *Type* and *Property* definition defined in TcSE. Attaching a prefix to the name of a type definition allows the MDG Integration for TcSE to support data interchange between multiple modeling languages that define a language construct with duplicate type names.

Schema Mapping

The **Schema Mapping** panel allows you to define the mapping rules for each of the constructs defined in the selected group. A rule is simply defined by associating an Enterprise Architect construct to a *TcSE Type* and *TcSE Subtype*.

- A construct in Enterprise Architect can be excluded by the integration by deleting its corresponding rule, or by defining a *'null rule'* (where the TCSE Type is set to nothing).
- **Grayed-out rows** represent rules that are marked as *read-only* and cannot be modified. They typically define system-level rules that access system-level properties used to maintain data-integrity between Enterprise Architect and TcSE to ensure correct operation of the Integration environment.
- A **parent subtype** can be defined to group common type definitions together under a single parent subtype by specifying the subtype in the TcSE Parent column. By default, MDG Integration for TcSE automatically creates these parent subtypes during the project configuration process.
- By default, the value of the **TcSE Prefix** is obtained from the corresponding *Prefix* defined in the *Language* panel. A custom Prefix value can be specified for any mapping rule.

- <u>Configure a TcSE Project</u>
- <u>Configure Options</u> 30^A

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