©2001 DASSAULT SYSTEMES-R2

Collaborative Systems Lifecycle Management and Traceability

- CS9 -

User Guide – V1

BPA Delivery 7 for V5R19 (V5.7)

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

Modification Tracking

Version	Date	Done by	Modification
	15 Sep 2008	NJZ	Document creation
D6W42.3	15 Oct 2008	NJZ/CBZ	Document verification
D7W23.3	26 May 2009	CBZ	Add Delete/Restore from Trash for Functions, Systems and IVVQ objects Add Req/IVVQ Traceability Matrix Add Baseline feature
D7W32.2	04 Aug 2009	CBZ	Update screenshot of Traceability Matrix with Req Chapter

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

Table of Contents

1. INTRODUCTION 7

1.1. Scope and purpose 7

1.2. Related Documentation 7

1.3. Definitions 8
1.3.1. Glossary 8
1.3.2. Pictograms 8

2. COLLABORATIVE SYSTEMS LIFECYCLE MANAGEMENT AND TRACEABILITY OVERVIEW 9

2.1. Functional overview 9

3. USER INTERFACE PRESENTATION 11

3.1. Collaborative Systems Lifecycle Management and Traceability Link control user guide 11

3.2. Adding a decision to a general or hierarchical link 11
3.2.1. Function description 11

3.3. Adding a decision to an object 15
3.3.1. Function description 15

3.4. Delete a link 16
3.4.1. Function description 16

4. COLLABORATIVE SYSTEMS LIFECYCLE MANAGEMENT AND TRACEABILITY HISTORY MANAGEMENT AND AUDIT USER GUIDE 18

4.1. History view 19
4.1.1. Function description 19

4.2. History report 20
4.2.1. Function description 20

5. COLLABORATIVE SYSTEMS LIFECYCLE MANAGEMENT AND TRACEABILITY TRACEABILITY MATRIX 24

5.1. Allocate Requirements to Functions 24
5.1.1. Function description 24

5.2. Allocate Requirements to Systems 25
5.2.1. Function description 25

5.3. Requirements to Requirements traceability matrix 26

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

5.3.1. Function description 26

5.4. Requirements to Functions traceability matrix 31
5.4.1. Function description 31

5.5. Functions to Systems traceability matrix....33
5.5.1. Function description 33

5.6. Requirements to IVVQ traceability matrix....34
5.6.1. Function description 34

5.7. Customizing its own traceability matrix....35
5.7.1. Function description 35

6. COLLABORATIVE SYSTEMS LIFECYCLE MANAGEMENT AND TRACEABILITY UNDELETE 36

6.1. Object deletion 36
6.1.1. Function description 36

6.2. Delete all objects in the Trash....36
6.2.1. Function description 36

6.3. Delete objects in the Trash....38
6.3.1. Function description 38

6.4. Restore objects in the Recycle Bin....39
6.4.1. Function description 39

6.5. Lifecycle operations....42
6.5.1. Function description 42

7. COLLABORATIVE SYSTEMS LIFECYCLE MANAGEMENT AND TRACEABILITY BASELINE....44

7.1. Create Baseline....44
7.1.1. Function description 44

8. APPENDIX A – BPA PROVIDED DATA....47
8.1.1. Templates....47

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

List of figures and tables

Table 1 - Acronyms 8
Table 2 - Pictograms..... 8

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

Copyright Notice

Copyright © 2009. Dassault Systèmes, All Rights Reserved.

This guide is delivered subject to the following conditions and restrictions:

CONFIDENTIAL - This document contains unpublished, confidential and proprietary information of Dassault Systèmes.

This document or any part thereof shall not be reproduced or transferred to other documents or formats, disclosed to others or used for any purpose other than that for which it is furnished, without the prior written consent of Dassault Systèmes.
It shall be returned to Dassault Systèmes upon request.

Dassault Systèmes is a registered trademark of Dassault Systèmes.

All other trademarks belong to their respective owners.

ENOVIA SmarTeam is a registered trademark of Dassault Systèmes.

Microsoft Windows and Windows XP are registered trademarks of Microsoft Corporation in the United States and/or other countries.

1. Introduction

This document describes the user guide for the BPA Collaborative Systems Lifecycle Management and Traceability.

This document is divided into the following sections:

- Collaborative Systems Lifecycle Management and Traceability overview
- Collaborative Systems Lifecycle Management and Traceability Link control user guide
- Collaborative Systems Lifecycle Management and Traceability History Management and Audit User Guide
- Collaborative Systems Lifecycle Management and Traceability Traceability Matrix
- Collaborative Systems Lifecycle Management and Traceability Undelete

1.1. Scope and purpose

Systems Lifecycle Management and Traceability (SLM&T) provides key services for end to end, cross discipline, full life cycle management and traceability from Requirements to Product. It Covers Life cycle management of all systems engineering objects, history and audit trail, change management, control and justification tools. By tracing in specific tables the history of all objects and by controlling the links, it is possible for the user to justify all his actions through decision objects, and recover traceability reports showing the exact links between all objects. Additional services allow to undo delete operations and to control requirement revisions and change.

SLM&T capabilities are essential for companies that need to insure complete traceability and answer regulations. It offers:

- **Compliance to Standards and Maturity Models**
  - Offers systematic tools to insure compliance to SE standards such as EIA 632, ISO 15288, ...
  - Change management, configuration management and traceability insures compliance with CMMI and other SE Maturity Models (EIA 731, SECAM)
- **A Controlled and Justified approach**
  - Traceability and Control eases the V&V and certification process.
  - Adding Justification information allows to explicit the Design Rationale and to trace not only requirements but why such requirements.
  - Impact analysis and change control allows efficient cost-effective design.

1.2. Related Documentation

There documents give complementary useful information for daily use of the BPA.

- Collaborative Systems Engineering – License Use Management (CSE_licenseUseManagement_R19D7.doc)
- Collaborative Systems Engineering – Data Model Documentation (CSE_DataModelDocumentation_R19D7.doc)
- Collaborative Systems Engineering – Requirement Management Implementation guide (RM9_ImplementationGuide_R19D7.doc)

- ENOVIA SmarTeam - Editor Installation Guide
- ENOVIA SmarTeam - Editor Administrator Guide
- ENOVIA SmarTeam - Editor User Guide

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

- ENOVIA SmarTeam - Foundation Installation Guide
- ENOVIA SmarTeam - Foundation Administrator Guide
- ENOVIA SmarTeam - Foundation User Guide

1.3. Definitions

1.3.1. Glossary

Acronym	Definition
BPA	Business Process Accelerator
PDIR	Program Directory
CSE	Collaborative System Engineering

Table 1 - Acronyms

1.3.2. Pictograms

Symbol	Usage
	Create primary requirement
	Creating primary requirements from MS Clipboard
	Decomposing requirements
	Derived Requirement
	Updating requirements
	View requirements change history
	Provide requirement history report
	Requirements Module
	Requirements Chapter
	Trace to original document
	Allocate requirement to test and validation plan
	Allocate requirement to function
	Allocate a requirement to a system
	Declare a requirement to requirement dependency
	Publishing a report matrix
	Publishing a requirements document into Word
	Reordering
	Capture Text Requirement
	Capture Picture Requirement
	Markup requirements for capture
	Automatic requirements capture
	Reset Global
	Requirement Folder
	Unallocated objects
	Generate Traceability Matrix
	Baseline tree

Table 2 - Pictograms

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

2. Collaborative Systems Lifecycle Management and Traceability overview

2.1. Functional overview

SML&T provides the following functionalities:

- **Link control & justification**
  The link control and justification capabilities allow to capture the rationale of related objects to any design activities and to capitalize on this capture knowledge at any design step.
  This includes the capabilities to:
  - Control link creation, deletion and modification by asking confirmation on those operations.
  - Explicit the nature of the links created: “satisfies”, “justifies” … by typing the links. And expressing the direction of the Link: who is target, who is source.
  - This capability of “link control” can be configured for all links in the database (hierarchical and general links).
  - Allow the creation of Decisions on links ranging from a simple commentary to the attachment of a document.
  - Depending on customer process, decision can be applied to any SmarTeam relation or object. The creation of a Decision can for example be done from one or more Requirements, one or more Functions, etc.

- **History Management**
  SLM&T is tracking any requirements modification so we can access at any time to the modification history directly in SLM&T.
  SLM&T is tracking any modification so we can make object audit and trail reports trough the SMARTQUICKREPORT ability.

- **Traceability matrix**
  Four matrices are defined by default:
  The first traceability matrix shows the requirements to requirements allocations (Requirements dependencies). This matrix allows, for example to control the impact of a requirement modification.
  The second traceability matrix is showing the requirements to functions allocation (Requirements - Functions dependencies). This matrix allows controlling the impact of a requirement modification on the functional definition of the product.
  The third traceability matrix is showing the functions to system allocation (Functions - Systems dependencies).
  The fourth traceability matrix is showing the Requirements to IVVQ allocation (Requirements – IVVQ dependencies)
  This matrix allows controlling the impact of a requirement modification on the IVVQ results of the product.

- **Derivation Traceability Matrix**
  Traceability matrices export recursive relationships between objects. The depth is limited to five levels.
  For each retrieved derived item, the modules directly linked as parents are exported in Excel.

- **Undelete**

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

The Undelete functionality secures the delete operation by offering a Recycle Bin system to allow restoring objects deleted by mistake.

- **Baseline management**
  The Baseline functionality allows identifying system engineering items configuration. A baseline is a reference, never modified, neither altered, neither enhanced.

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

3. User Interface presentation

3.1. Collaborative Systems Lifecycle Management and Traceability Link control user guide

Link control can be configures on certain links by the administrator. It can be defined on hierarchical links (composition links in a tree) or logical links (all the other links). In the example below, link control is configured on the Requirement – Requirement general (logical) link.

When Link control is configured, each time you create, update or delete a link, the link control window pops up.
By default, the CSE solution is provided with that mechanism hooked on requirements-requirements links and requirements-functions links.

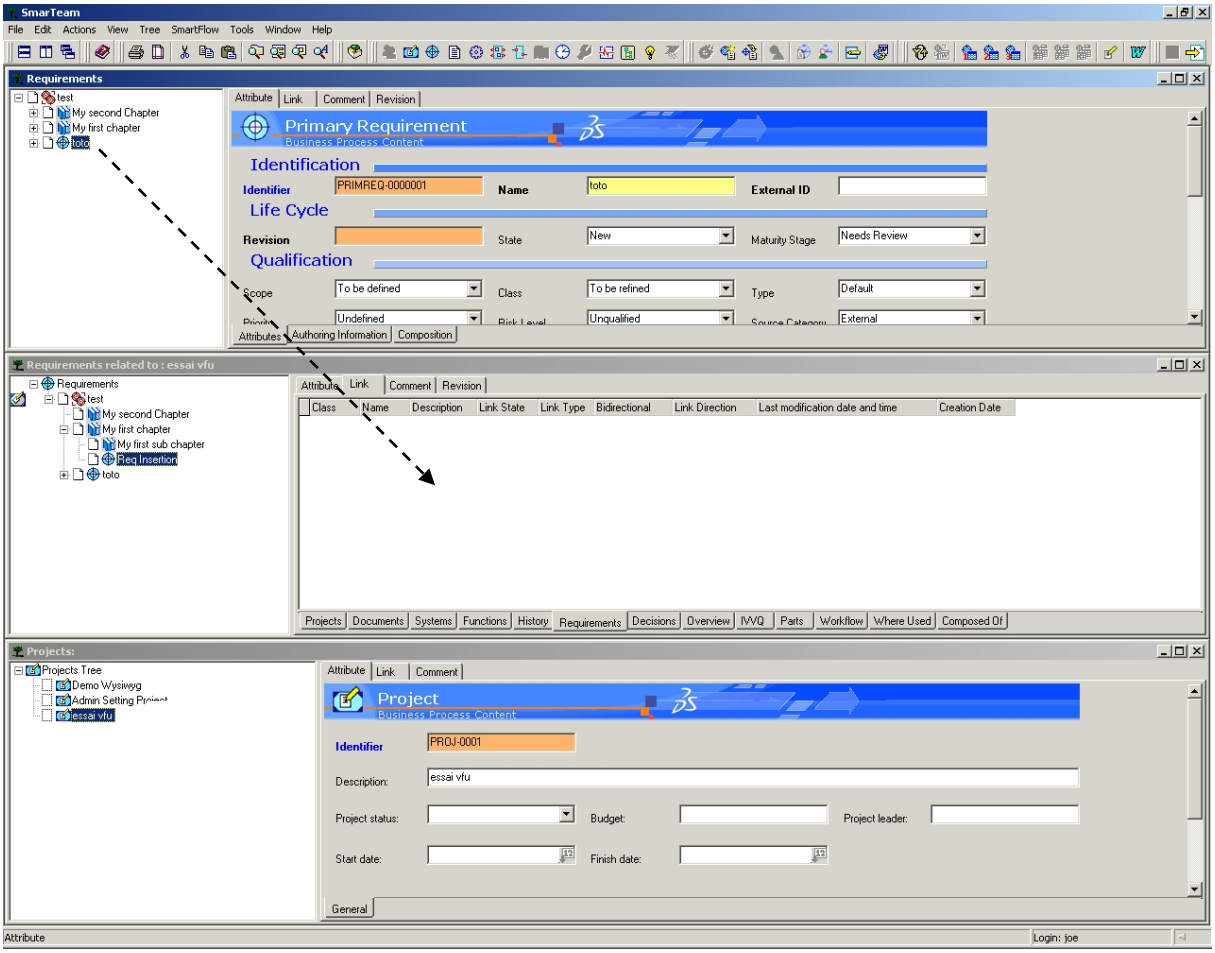
3.2. Adding a decision to a general or hierarchical link

3.2.1. Function description

When creating a general link between two objects, the link control will pop up, the user being required to fill in some information.

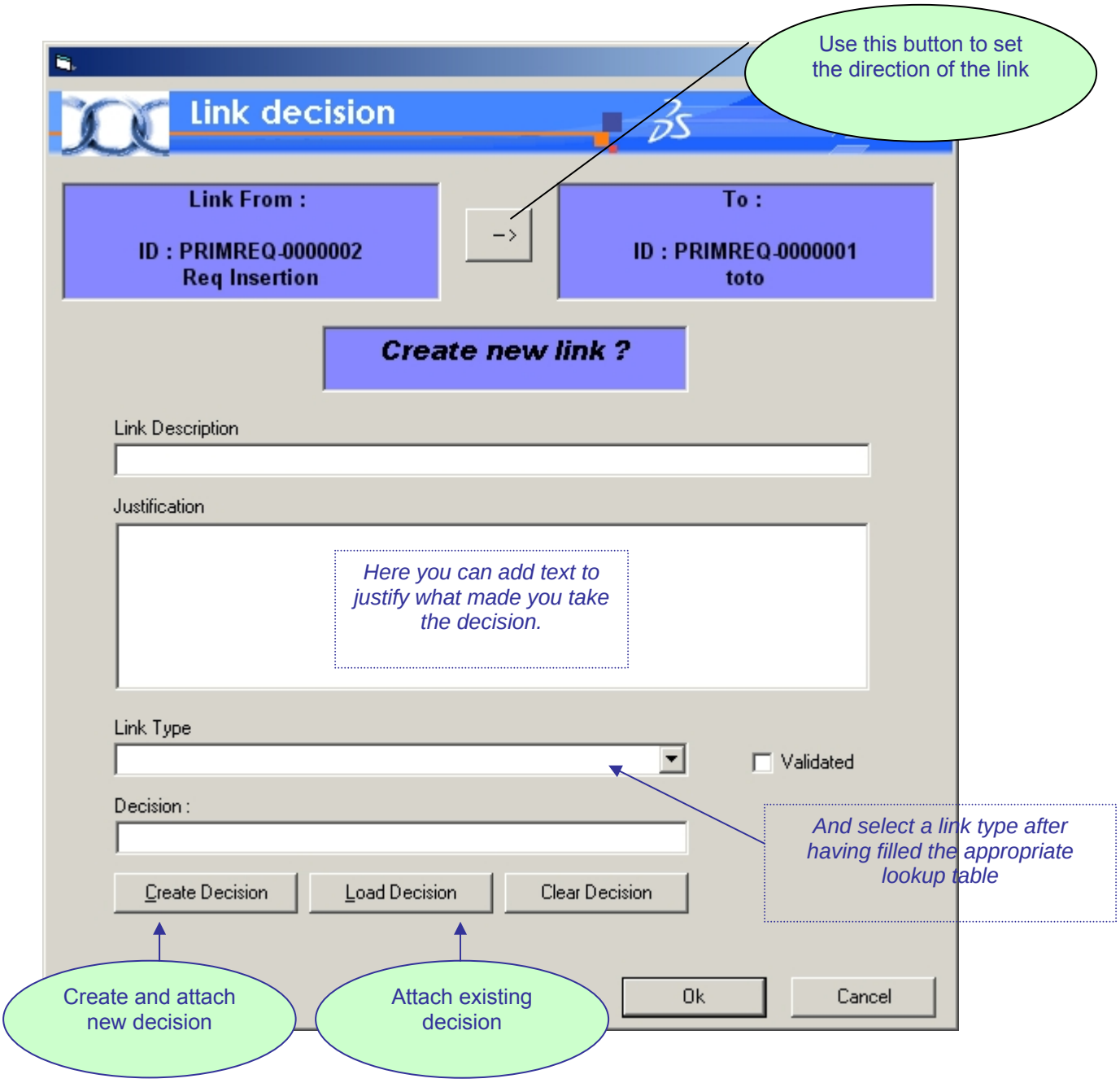
Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

To create a link between two requirements for instance, you can drag one requirement in the Link tab of the other:



Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

Here is the window you would get:

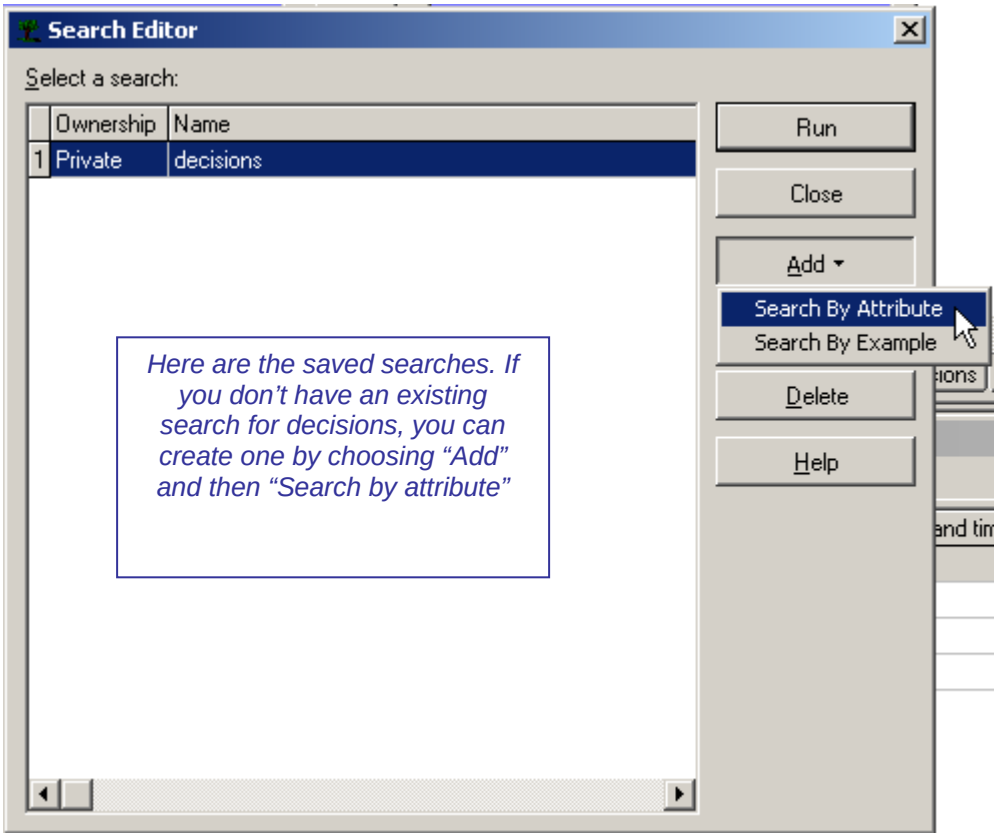


If you want to set a different direction that the one by default, you simply click on the direction icon. Between two objects A and B, you can have:

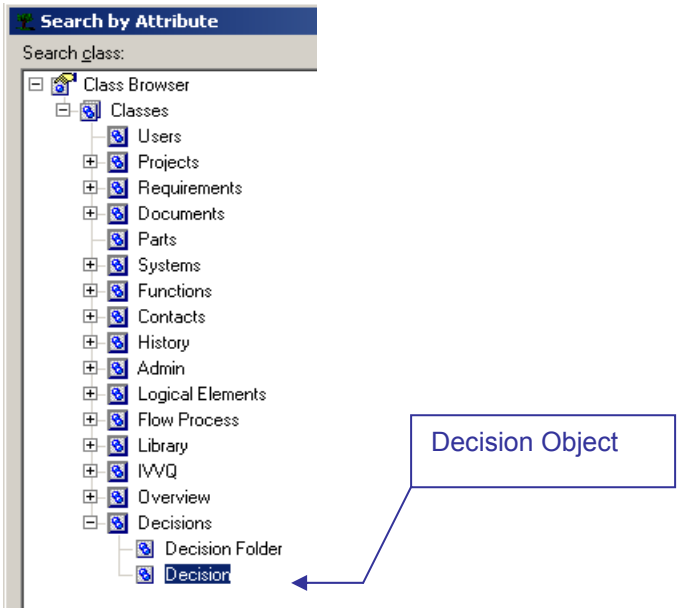
- A link from A to B (A → B)
- A link from B to A (B → A)
- A no directional link (when there is no source and no target)

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

To attach an existing decision, when clicking on the load decision button, you will access to the following search window:

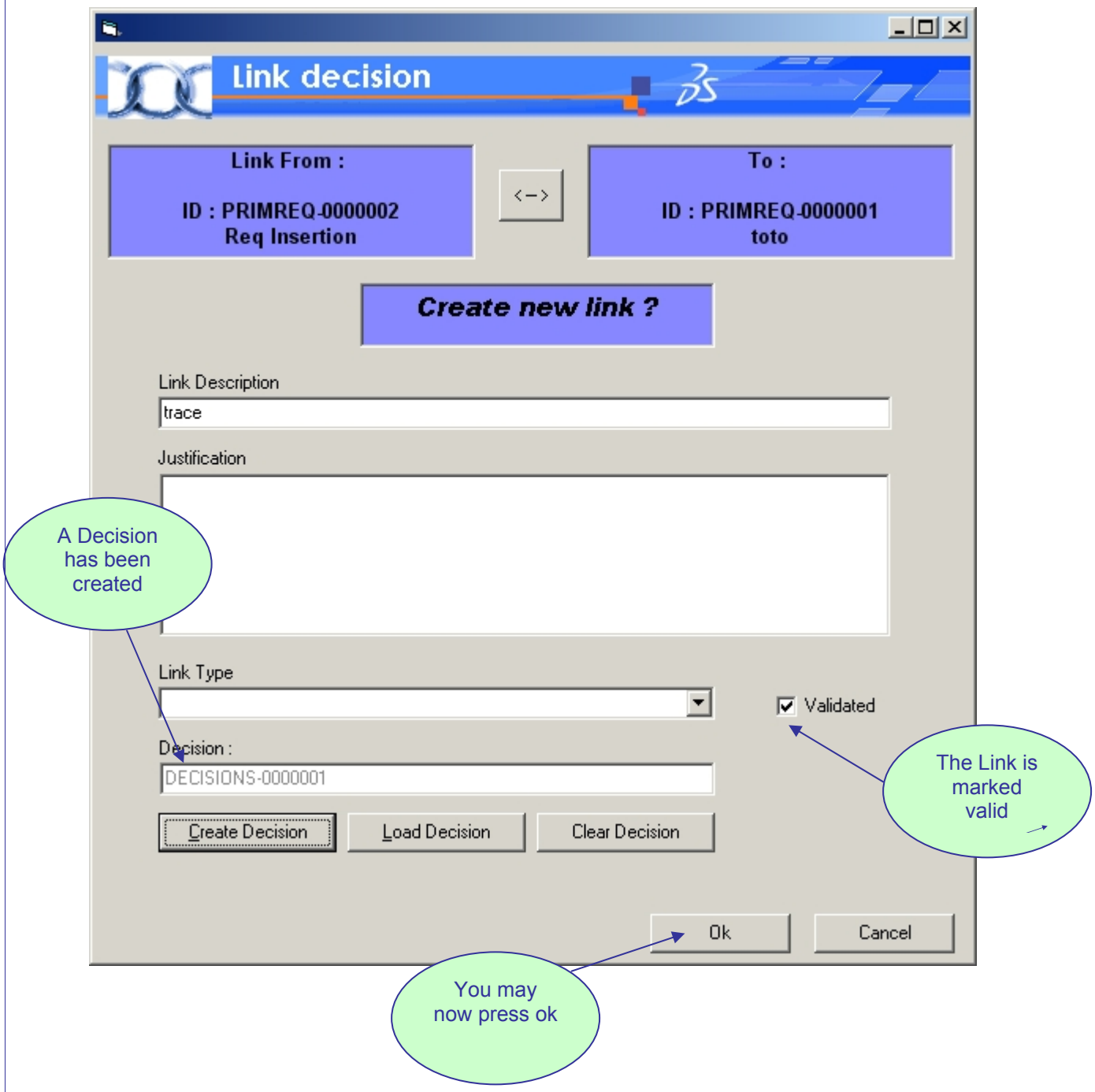


In case you create a search, you will have to choose the decision class as a search attribute as shown below, and for better convenience you may save this search if you wish to use it later.



Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

Then once all attributes are filled you may press ok to generate the link :

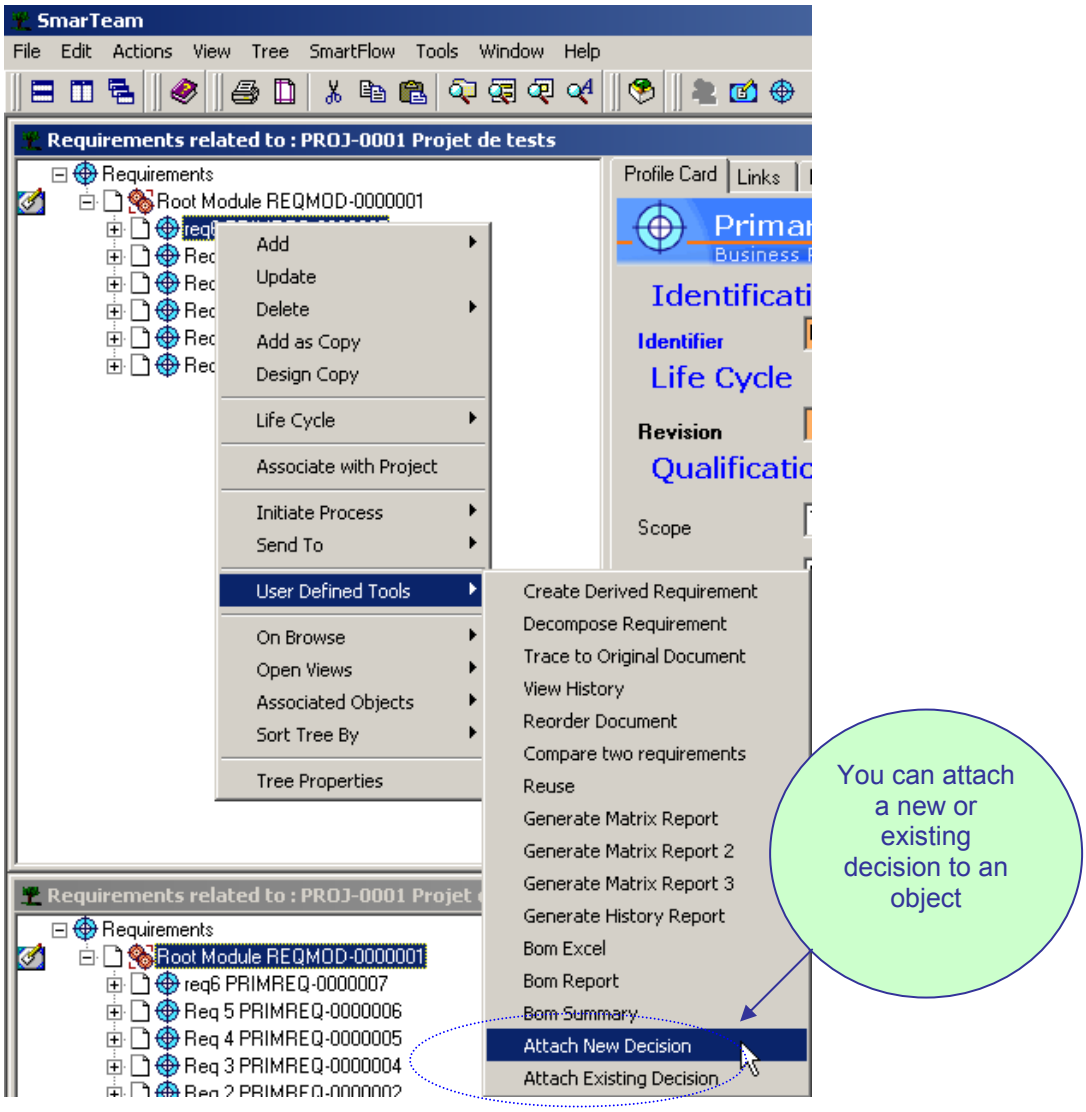


3.3. Adding a decision to an object

3.3.1. Function description

Adding a decision to an object is done by selecting a function in the “user defined tools” contextual menu.

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

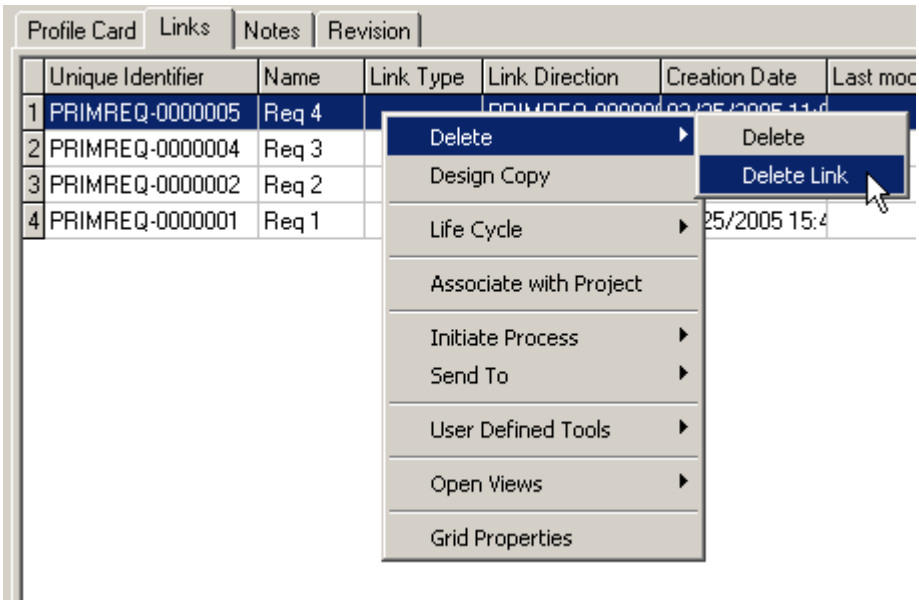


3.4. Delete a link

3.4.1. Function description

All links created can be deleted. It is simply done by selecting Delete Link in the contextual menu of a link as on the picture below:

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.



Deleting a link

Then the Link Control interface pops up to ask delete confirmation. Once confirmed by the user, the link is deleted.

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

4. Collaborative Systems Lifecycle Management and Traceability History Management and Audit User Guide

SLM&T is providing a full traceability of the modifications and to log them in the database, SLM&T is able to track and to log all the modifications in the database as electronic record objects.

The system administrator can define in all the modifications that are going to be tracked and logged in the database (Add, Update, Delete…)

History Management is the ability to track modifications

- Description of change
- Modification date
- User who made the modification
- …

Notes

SLM&T is providing the capability to track and log all modifications description (when / who / what) at an **UPDATE/DELETE/ADD…** operation on any kind of objects (Requirements per default).
History functions can be associated to all the objects inside the data model.

Refer to SLM&T Administration guide documentation for further detail about customizing your application.

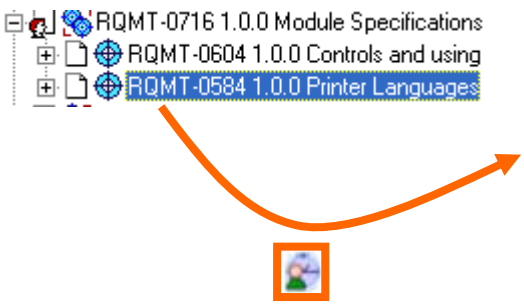
Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

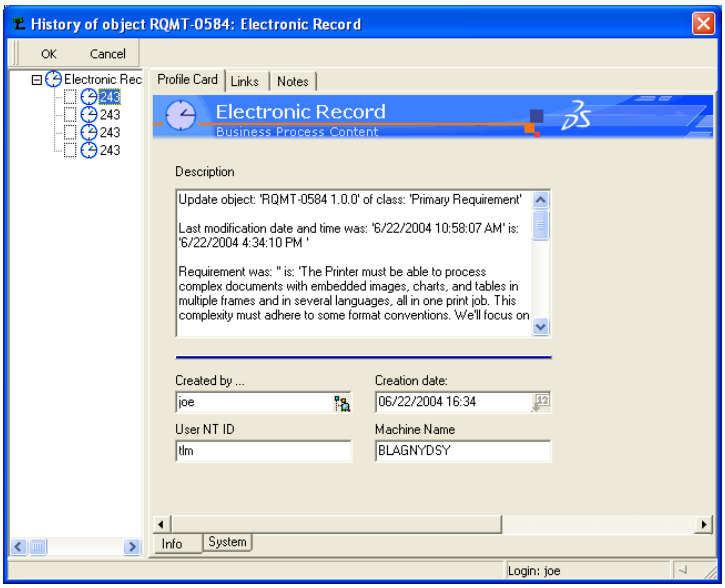
4.1. History view

4.1.1. Function description

- Multi selection is not allowed for history view command
- Show directly in a pop up windows all modifications for a selected object
- For each attributes, the system display older value and the new one.

From a tracked object (Primary requirement for example), Click on the History view function and SLM&T will display all the modification performed on the object in a popup window





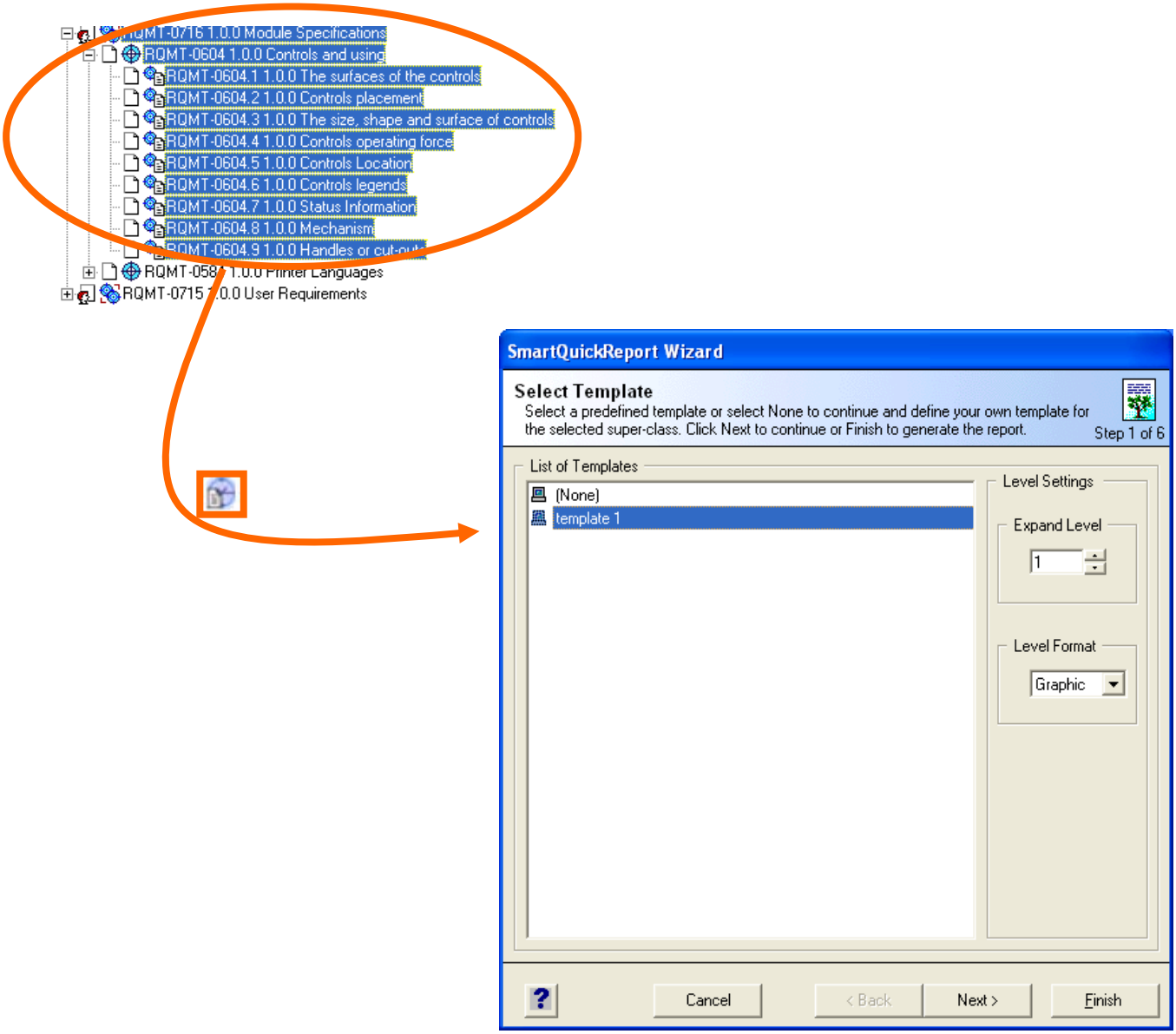
Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

4.2. History report

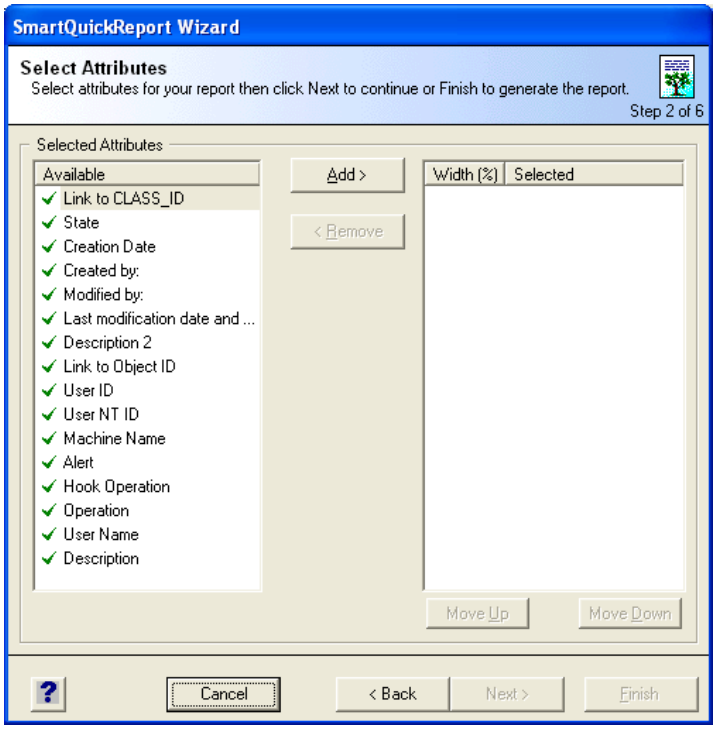
4.2.1. Function description

- Available for a set of objects (one to n)
- Export trough SmartQuickReport the history objects
- Select the attributes to display inside the report
- Possibility to create Report Template's
- Possibility to export into a file (Excel, Word)

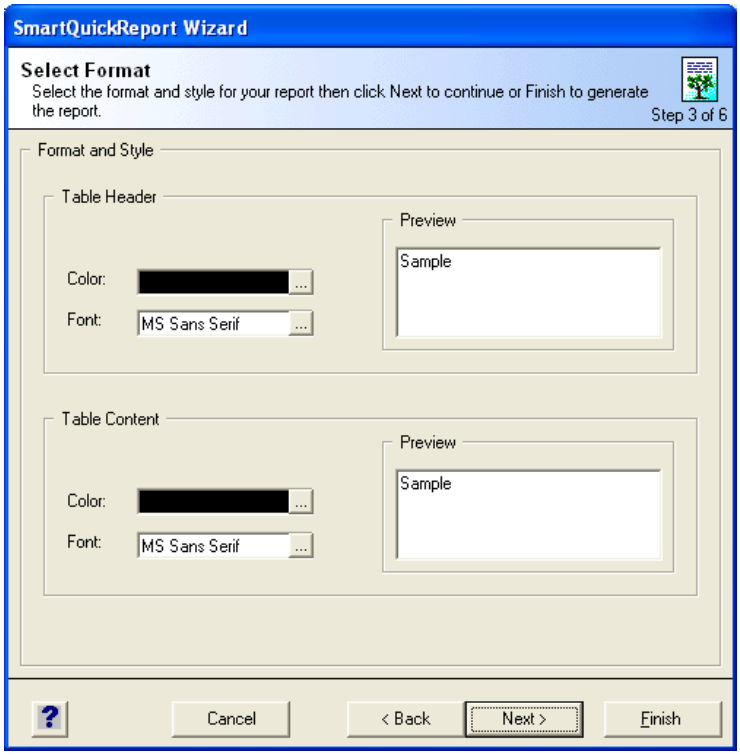
From a multiselection of tracked object, Click on the History Report icon to launch the SmartQuickReport function, select your template or create a new one then click on finish to generate the report.



Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

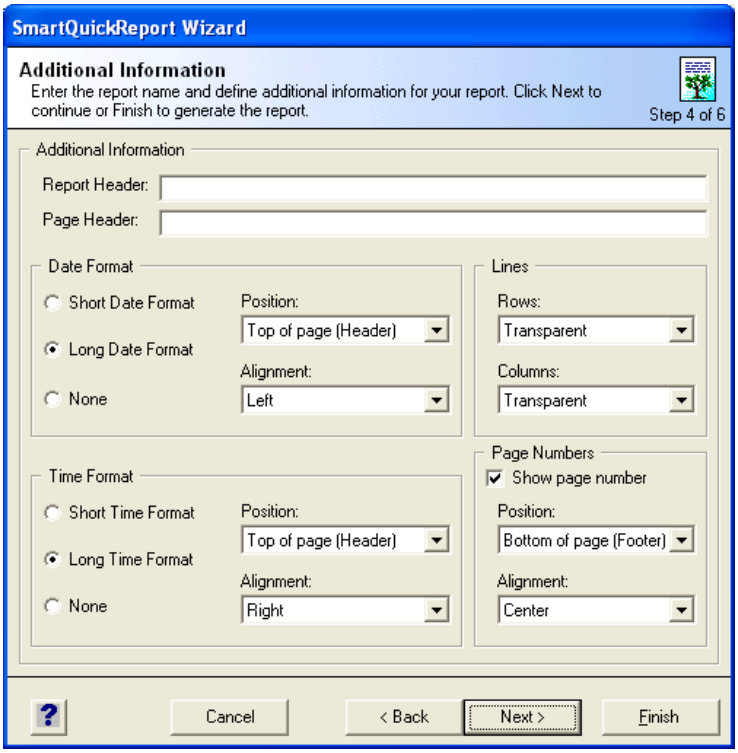


Choose the attributes you want to publish in the document and add them in the right column then click next.

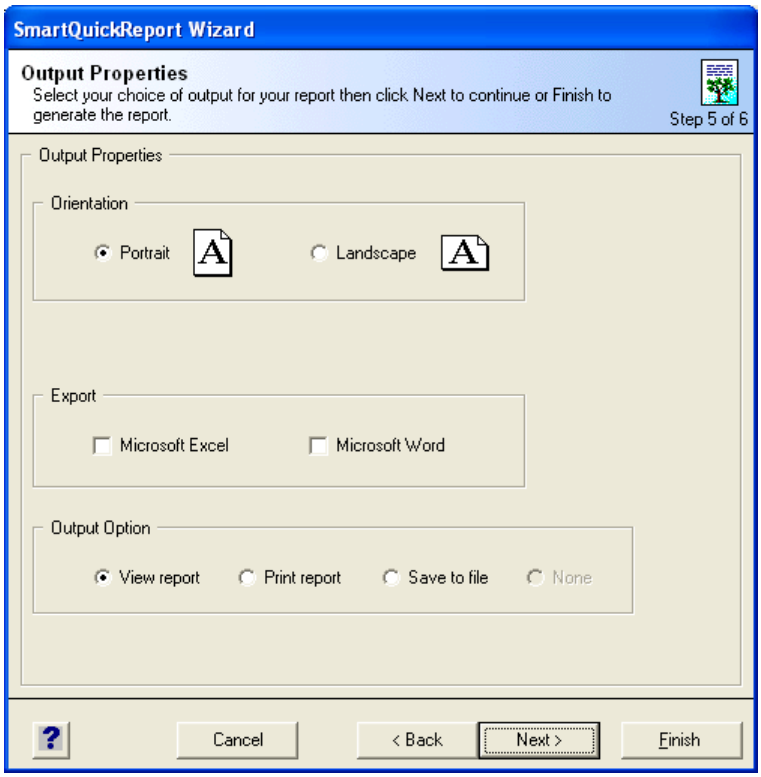


Modify the formatting style of your document and click next.

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.



Modify the formatting of your document and click next.



Choose where you want to export your document (Excel, Word…) then click Finish to effectively publish the report.

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

SmartQuickReport

Zoom 100%

Thursday, July 08, 2004

Link to CLASS_ID	Hook Operation	Description
243	Add	Add object: 'RQMT-0584 1.0.0' of class: 'Primary Requirement'
243	Update	Update object: 'RQMT-0584 1.0.0' of class: 'Primary Requirement' Modified by: was: '' is: 'joe ' Last modification date and time was: '12:00:00 AM' is: '6/21/2004 2:28:45 PM ' Source Requirement was: 'The Printer must be able to process complex documents with embedded images, charts, and tables in multiple frames and in several languages, all in one print job. This complexity must adhere to some format conventions. We'll focus on the page description language (or PDL) which is a specia document formatting language specially made for computer communication with printers. We'll use standard languages to describe document formats such as PostScript, which uses a markup language to describe text formatting and image informatior that could be processed by printers, or the Printer Control Language (PCL). PostScript and PCL are widely adopted PDLs and are used by most printer manufacturers. PDLs work on the same principle as computer programming languages. When a document is ready for printing, the PC or workstation takes the images, typographical information, and document layout, and uses them as objects that form instructions for the printer to process. The printer then translates those objecl into rasters, a series of scanned lines that form an image of the document (called Raster Image Processing or RIP), and prints the output onto the page as one image, complete with text and any graphics included. This work-flow makes printing documents of any complexity uniform and standard, allowing for little or no variation in printing from one printer to the next. PDLs are designed to be portable to any format, and scalable to fit several paper sizes. ' is: 'The Printer must be able to process complex documents with embedded images, charts, and tables in multiple frames and in several languages, all in one pri job. This complexity must adhere to some format conventions. We'll focus on the page description language (or PDL) which is a specialized document formatting language specially made for computer communication with printers. We'll use standard languages to describe document formats such as PostScript, which uses a markup language to describe text formatting and image informatior that could be processed by printers, or the Printer Control Language (PCL). PostScript and PCL are widely adopted PDLs and are used by most printer manufacturers. PDLs work on the same principle as computer programming languages. When a document is ready for printing, the PC or workstation takes the images, typographical information, and document layout, and uses them as objects that form instructions for the printer to process. The printer then translates those objecl into rasters, a series of scanned lines that form an image of the document (called Raster Image Processing or RIP), and prints the output onto the page as one image, complete with text and any graphics included. This work-flow makes printing documents of any complexity uniform and standard, allowing for little or no variation in printing from one printer to the next. PDLs are designed to be portable to any format, and scalable to fit several paper sizes. '
243	Update	Update object: 'RQMT-0584 1.0.0' of class: 'Primary Requirement' Last modification date and time was: '6/21/2004 2:28:45 PM' is: '6/22/2004 10:58:07 AM '

Microsoft Excel - Book1

File Edit View Insert Format Tools Data SmarTeam Window Help

A3 *

	A	B	C	D
1	LEVEL	Link to CLAS	Hook Operat	Description
2	*	243	Add	Add object: 'RQMT-0584 1.0.0' of class: 'Primary Requirement'
				Update object: 'RQMT-0584 1.0.0' of class: 'Primary Requirement' Modified by: was: '' is: 'joe ' Last modification date and time was: '12:00:00 AM' is: '6/21/2004 2:28:45 PM ' Source Requirement was: 'The Printer must be able to process complex documents with embedded images, charts, and tables in multiple frames and in several languages, all in one print job. This complexity must adhere to some format conventions. We'll focus on the page description language (or PDL) which is a specialized document formatting language specially made for computer communication with printers. We'll use standard languages to describe document formats such as PostScript, which uses a markup language to describe text formatting and image information that could be processed by printers, or the Printer Control Language (PCL). PostScript and PCL are widely adopted PDLs and are used by most printer manufacturers. PDLs work on the same principle as computer programming languages. When a document is ready for printing, the PC or workstation takes the images, typographical information, and document layout, and uses them as objects that form instructions for the printer to process. The printer then translates thos ' is: 'The Printer must be able to process complex documents with embedded images, charts, and tables in multiple frames and in several languages, all in We'll use standard languages to describe document formats such as PostScript, which uses a markup language to describe text formatting and image info PostScript and PCL are widely adopted PDLs and are used by most printer manufacturers. PDLs work on the same principle as computer programming languages. When a document is ready for printing, the PC or workstation takes the images, tu

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

5. Collaborative Systems Lifecycle Management and Traceability Traceability Matrix

The traceability matrix report applies for any two classes of objects which have a general link between them: for example the Requirements-Requirements traceability matrix.
The Requirements-Requirements traceability matrix is a report from the requirements database or repository
The Requirements-Requirements traceability Matrix is used to verify that all started and derived requirements are allocated to system components and other deliverables (forward trace). The matrix is also used to determine the source of requirements (backward trace). Requirements traceability includes tracing to things that satisfy the requirements such as capabilities, design elements, manual operations, tests, etc.
The traceability matrix is also used to ensure all requirements are met and to locate affected system, function components when there is a requirements change. The ability to locate affected objects allows the impact of requirements changes on the system and functional definition to be determined, facilitating cost, benefit, and schedule determinations. The purpose of a requirements traceability matrix is to help ensure the object of the requirements conforms to the requirements by associating each requirement with the object via the traceability matrix.

Systems or Software are developed in stages, each with products that can be associated with products of the previous stage, creating the ability to trace from the requirements through the products and from the products back to the requirements.

In SLM&T, four traceability matrices are configured by default:

- the Requirements-Requirements traceability matrix
- the Requirements-Functions traceability matrix
- the Functions-Systems traceability matrix
- the Requirements-IVVQ traceability matrix

But using Admin Settings, the administrator can create any traceability matrix needed between two SmarTeam classes which have a general link between them.
The user can customize:

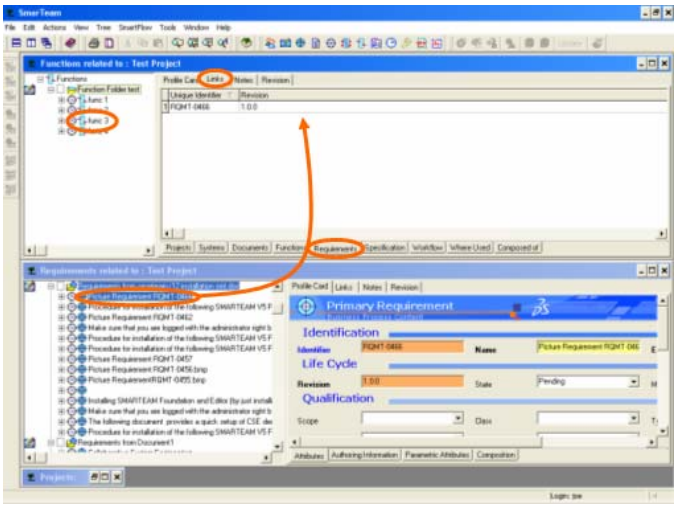
- the title of the matrix
- the two classes of objects
- the mode of selection of the objects of the two classes (all objects in current project, a sub-selection, all objects in different projects or a sub-selection of objects in different projects)
- the attributes of class objects to display in row header and column header (i.e TDM_ID or TDM_DESCRIPTION)
- the link class attributes to display in cells (each on a different line in the cell)
- the Excel template used for report
- the mode of parsing in tree objects (Drilldown)
- the attribute to display with colors
- a condition for a link class attribute that must be verified

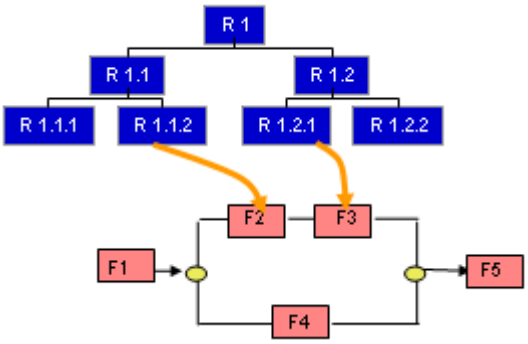
5.1. Allocate Requirements to Functions

5.1.1. Function description

Allocating requirements to functions consists in creating general links between a requirement and a function.

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

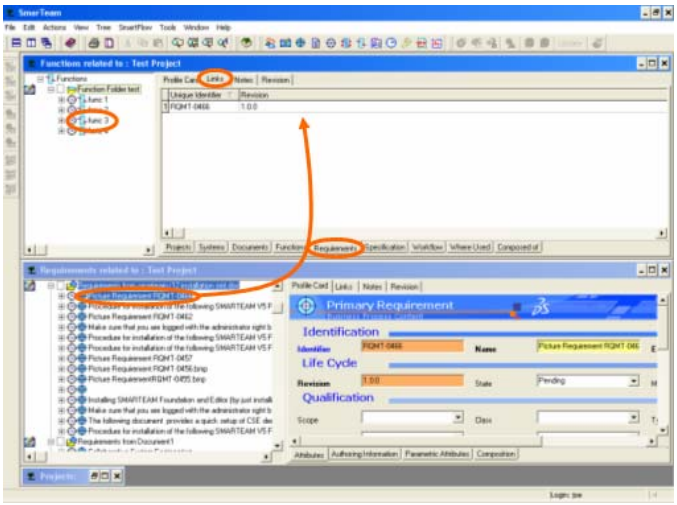


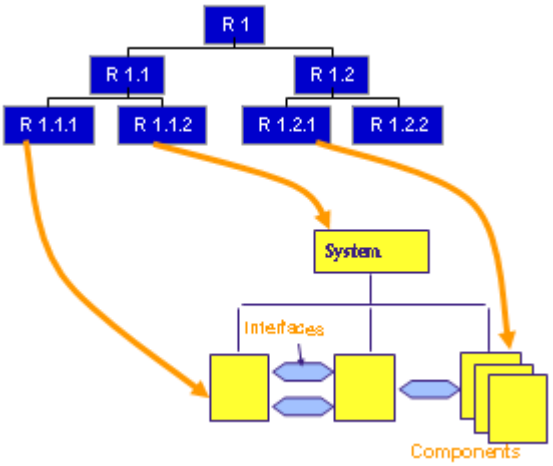


5.2. Allocate Requirements to Systems

5.2.1. Function description

Allocating requirements to systems consists simply in creating a general links between a requirement and a system.





Notes

You can create such links in ENOVIA SmarTeam very easily by just using Drag and Drop feature.

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

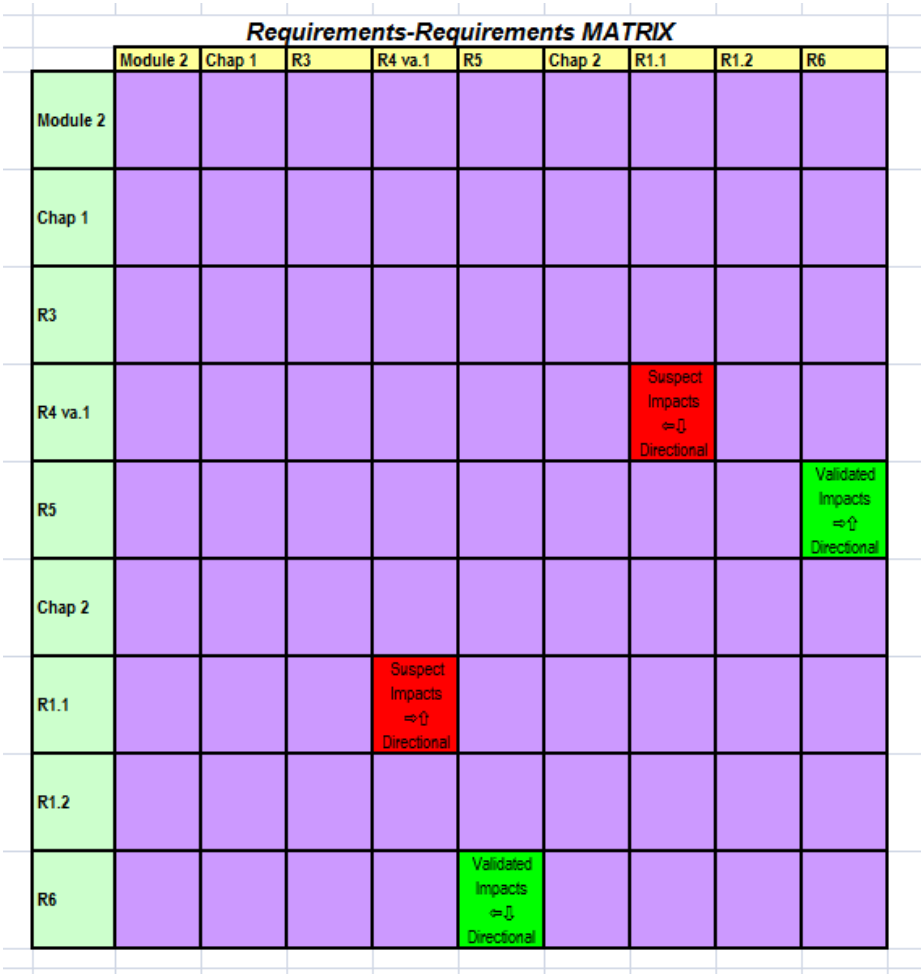
5.3. Requirements to Requirements traceability matrix

5.3.1. Function description

The first traceability Matrix is showing the requirements to requirement allocation (Requirements dependencies). This matrix allows controlling the impact of a requirement modification for example.
This matrix is required during the validation loop. This publishing operation is using a company template for document formatting purpose.

- With Automatic selection configured in admin settings for the 2 classes (SELECTALL mode)

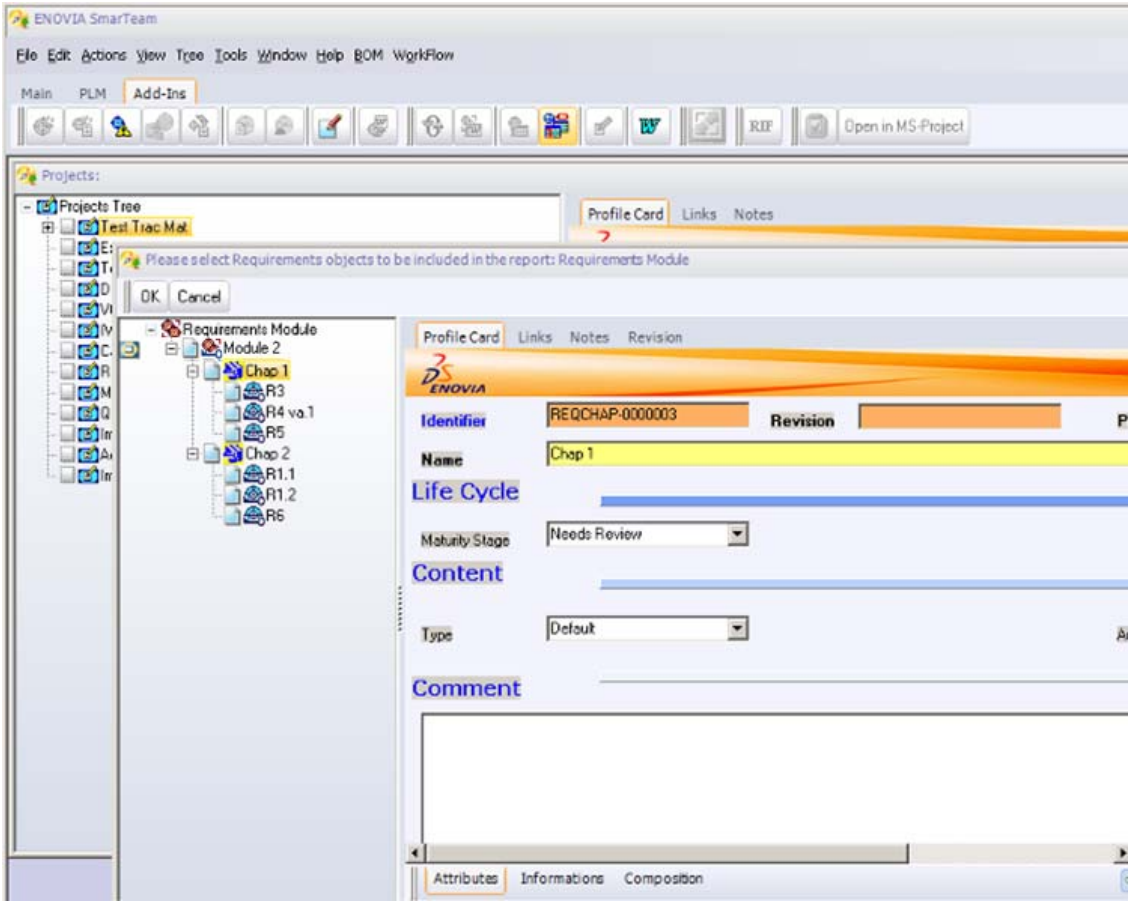
From the project tree view you select a project and then you click on the "Generate Traceability Matrix" Icon. A GUI is displayed. Select "Requirements requirements traceability matrix" and you will get the resulting matrix:
You will see the validated allocations with green color, and the suspect allocations with red color as customized by default admin settings



Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

● With Manual selection configured in admin settings (MANUAL mode) for first class and Automatic selection for second class (SELECTALL mode)

From the project tree view you select a project and then you click on the "Generate Traceability Matrix" Icon. A GUI is displayed. Select "Requirements requirements traceability matrix". For the class object configured with manual selection, you have to select the objects used for report (i.e Chap1 for the Requirements first class in the example below)



and then you will get the resulting matrix:
You will see the validated allocations with green color, and the suspect allocations with red color as customized in admin settings by default

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

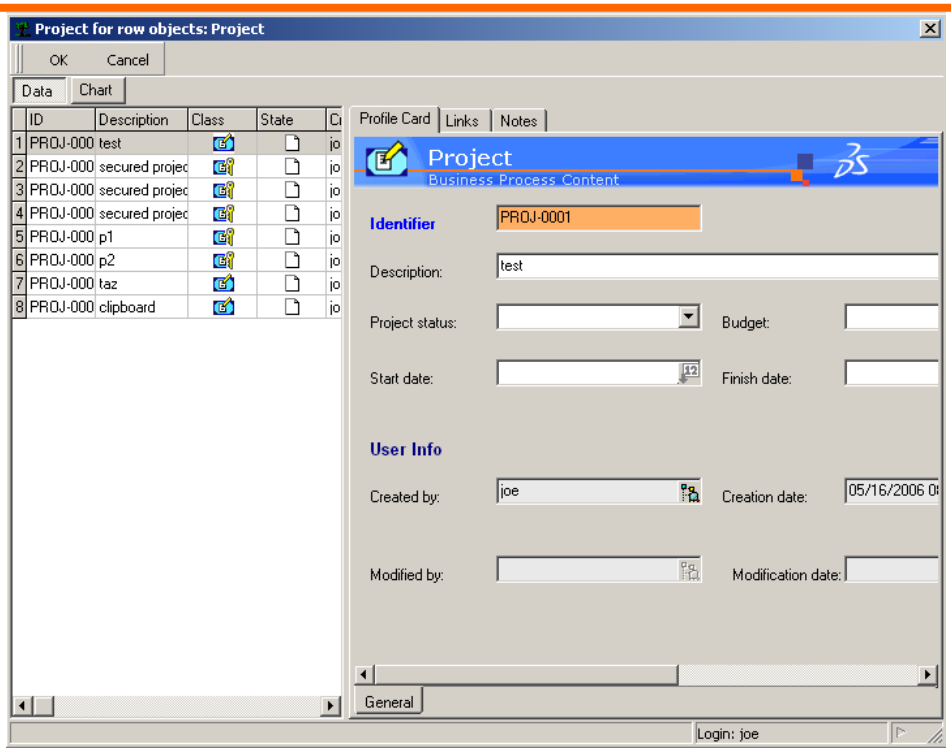
Requirements-Requirements MATRIX

	Module 2	Chap 1	R3	R4 va.1	R5	Chap 2	R1.1	R1.2	R6
Chap 1									
R3									
R4 va.1							Suspect Impacts ⇦⇩ Directional		
R5									Validated Impacts ⇨⇧ Directional

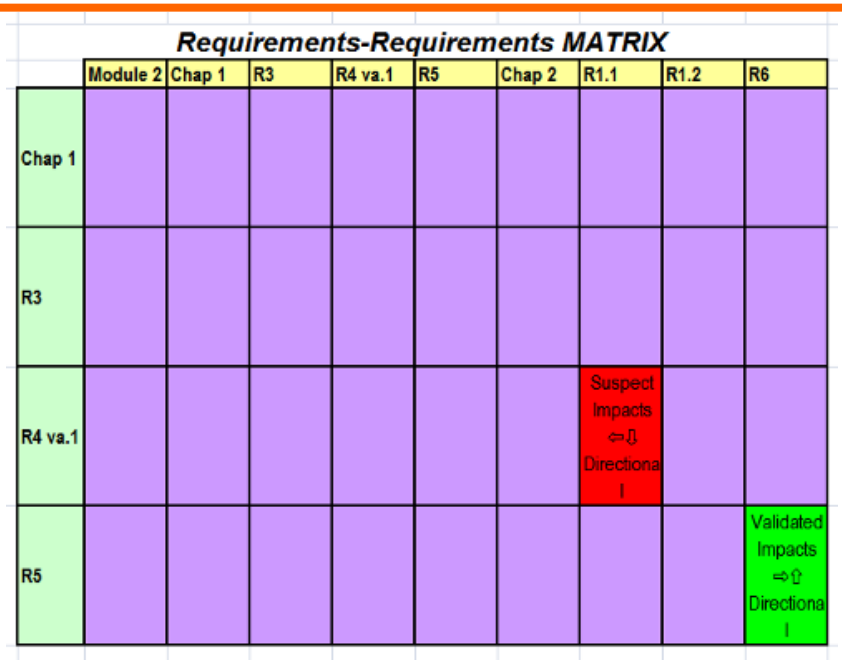
Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

- With Automatic selection for different project configured in admin settings for the 2 classes (PROJECTSELECTALL mode)

From the project tree view you select a project and then you click on the "Generate Traceability Matrix" Icon. A GUI is displayed. Select "Requirements requirements traceability matrix". You have to select the first project as displayed below.



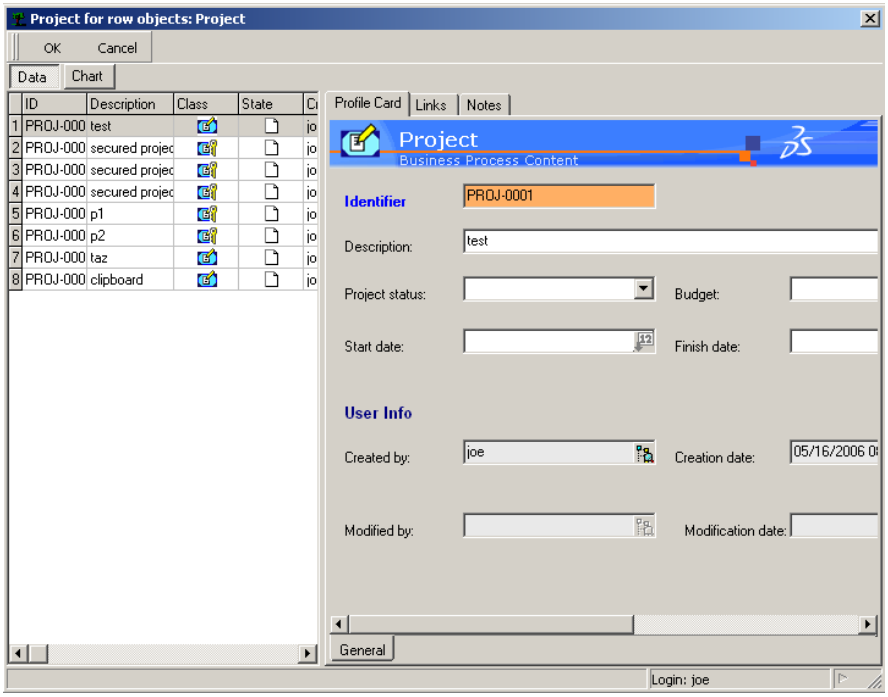
Then select the other project for the row elements and then you will get the resulting matrix:



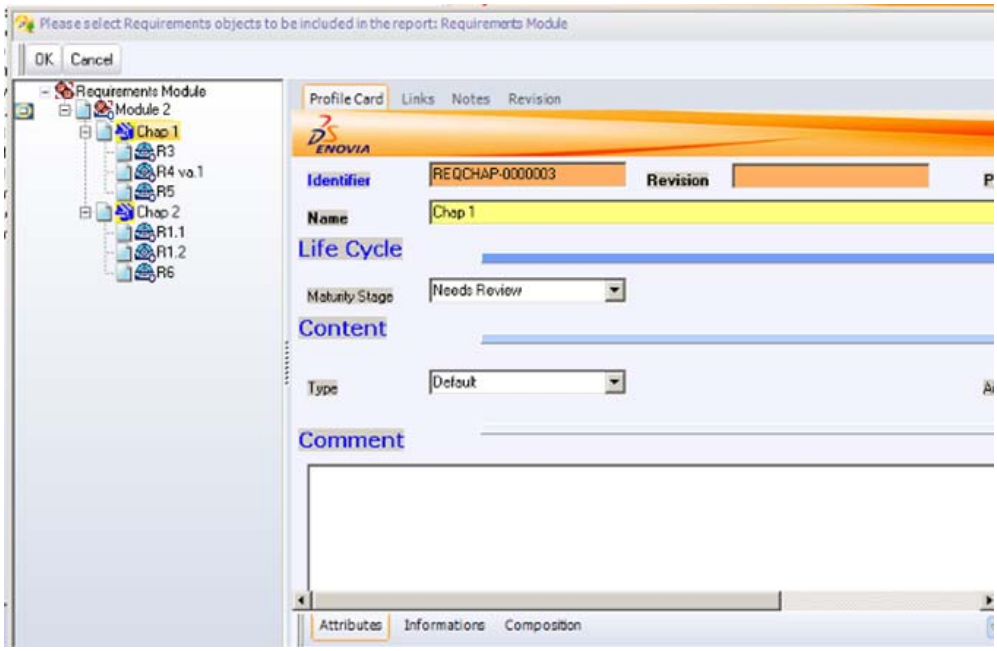
Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

- With Manual selection for different project configured in admin settings for the 2 classes (PROJECTSELECTMANUAL mode)

From the project tree view you select a project and then you click on the "Generate Traceability Matrix" Icon. A GUI is displayed. Select "Requirements requirements traceability matrix". You have to select the first project as displayed below.

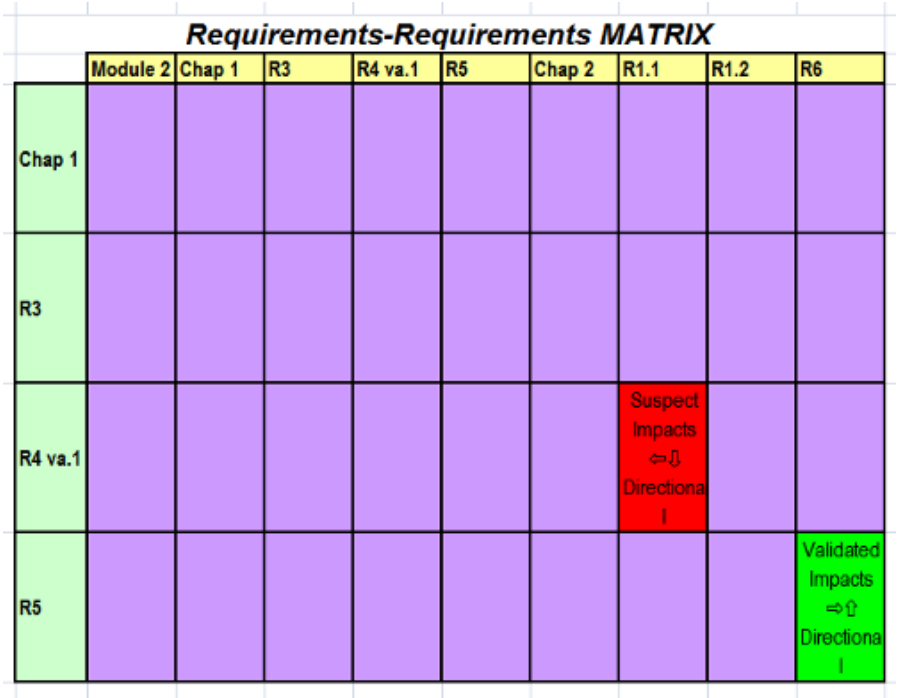


For the first class object, you have to select the objects used for report.



Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

Then select the project for the row elements and the objects to display. Then you will get the resulting matrix.



5.4. Requirements to Functions traceability matrix

5.4.1. Function description

The second traceability matrix shows the requirements to functions allocation (Requirements - Functions dependencies).
This matrix allows controlling the impact of a requirement modification on the functional definition of the product. This publishing operation is using a company template for document formatting purpose.

- With Automatic selection configured in admin settings for the 2 classes (SELECTALL mode)

From a project you click on the "Generate Traceability Matrix" Icon. A GUI is displayed. Select "Requirements functions traceability matrix" and you will get the resulting matrix.
You will see the validated allocations in green color and the suspect allocations in red color as customized in admin settings by default

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

Requirements to Functions Matrix

	Function 1	Function 2	Function 3
Module 2			
Chap 1			
R3	Suspect Default ⇨⇧ Directional		
R4 va.1		Suspect Default ⇦⇩ Directional	
R5	Validated Default ⇦⇩ Directional		
Chap 2			
R1.1			
R1.2			
R6			

- With Manual selection configured in admin settings (MANUAL mode)

The user has to select a project, click on “Generate Traceability Matrix” Icon and select the objects that he wants to display. Then the report is shown.

- With Automatic selection for different project configured in admin settings (PROJECTSELECTALL mode)

The user has to select a project, click on “Generate Traceability Matrix”, then select the projects for the elements in row and column. Then the report is shown.

- With Manual selection for different project configured in admin settings (PROJECTSELECTMANUAL mode)

The user has to select a project, click on “Generate Traceability Matrix”, then select the project for the elements in row, select the object to display. Then select the project for the elements in column and select the objects to display. Then the report is shown.

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

5.5. Functions to Systems traceability matrix

5.5.1. Function description

The third traceability matrix shows the functions to system allocation (Functions - Systems dependencies). This matrix allows controlling the impact of a functional modification on the system architecture definition of the product. This publishing operation is using a company template for document formatting purpose.

- With Automatic selection configured in admin settings for the 2 classes (SELECTALL mode)

From a project you click on the "Generate Traceability Matrix" Icon. A GUI is displayed. Select "Functions systems traceability matrix" and you will get the resulting matrix.
You will see the validated allocations in green color and the suspect allocations in red color as customized in admin settings by default

Functions to Systems Matrix

	Sys 1	Sys 2	Sys 3
Function 1	Suspect Default ⇨⇧ Directional	Validated Default ⇨⇧ Directional	
Function 2	Suspect Default ⇦⇧ Bidirectional		Validated Default ⇨⇧ Directional
Function 3		Validated Default ⇦⇩ Directional	

- With Manual selection configured in admin settings (MANUAL mode)

The user has to select a project, click on "Generate Traceability Matrix" Icon and select the objects that he wants to display. Then the report is shown.

- With Automatic selection for different project configured in admin settings (PROJECTSELECTALL mode)

The user has to select a project, click on "Generate Traceability Matrix", then select the projects for the elements in row and column. Then the report is shown.

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

- With Manual selection for different project configured in admin settings (PROJECTSELECTMANUAL mode)

The user has to select a project, click on “Generate Traceability Matrix”, then select the project for the elements in row, select the object to display. Then select the project for the elements in column and select the objects to display. Then the report is shown.

5.6. Requirements to IVVQ traceability matrix

5.6.1. Function description

The fourth traceability matrix shows the requirements to IVVQ allocation (Requirements - IVVQ dependencies).
This matrix allows controlling the impact of a requirement modification on the IVVQ definition of the product.
This publishing operation is using a company template for document formatting purpose.

- With Automatic selection configured in admin settings for the 2 classes (SELECTALL mode)

From a project you click on the “Generate Traceability Matrix” Icon. A GUI is displayed. Select “Requirements IVVQ traceability matrix” and you will get the resulting matrix.
You will see the validated allocations in green color and the suspect allocations in red color as customized in admin settings by default

Requirements to IVVQ Matrix

	IVVQ Mod	IVVQ Sheet 1	IVVQ Result	IVVQ Sheet 2	IVVQ Sheet 3
Module 2					
Chap 1					
R3		Validated Default ⇦⇩ Directional			
R4 va.1					
R5					
Chap 2					
R1.1		Validated Default ⇨⇧ Directional			
R1.2				Suspect Default No direction Direction Not Set	
R6					Validated Default ⇦⇩ Directional

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

- With Manual selection configured in admin settings (MANUAL mode)

The user has to select a project, click on “Generate Traceability Matrix” Icon and select the objects that he wants to display. Then the report is shown.

- With Automatic selection for different project configured in admin settings (PROJECTSELECTALL mode)

The user has to select a project, click on “Generate Traceability Matrix”, then select the projects for the elements in row and column. Then the report is shown.

- With Manual selection for different project configured in admin settings (PROJECTSELECTMANUAL mode)

The user has to select a project, click on “Generate Traceability Matrix”, then select the project for the elements in row, select the object to display. Then select the project for the elements in column and select the objects to display. Then the report is shown.

5.7. Customizing its own traceability matrix

5.7.1. Function description

Note
Refer to CSE Requirement Management Implementation guide documentation for further detail about customizing your own traceability matrix

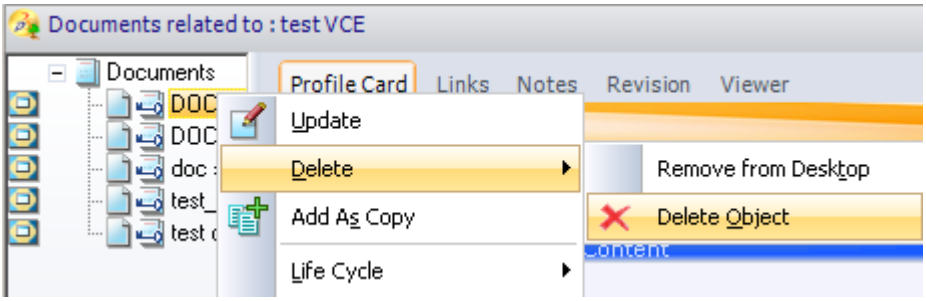
Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

6. Collaborative Systems Lifecycle Management and Traceability Undelete

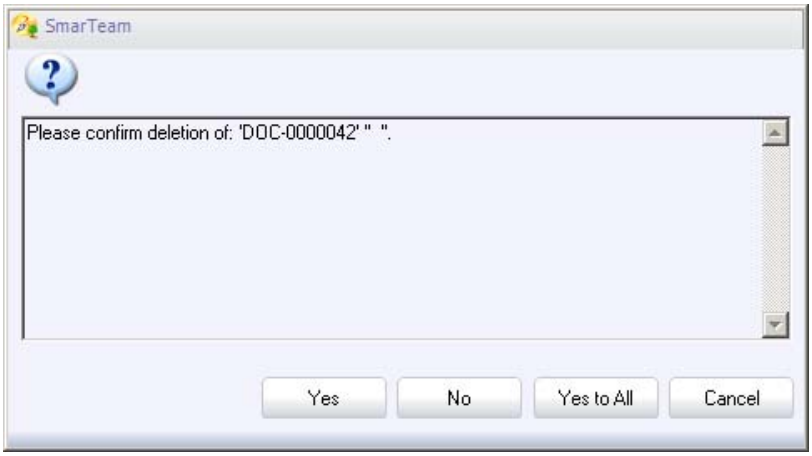
6.1. Object deletion

6.1.1. Function description

To delete temporary an object in ENOVIA SmarTeam, perform as usual



There are several warnings.



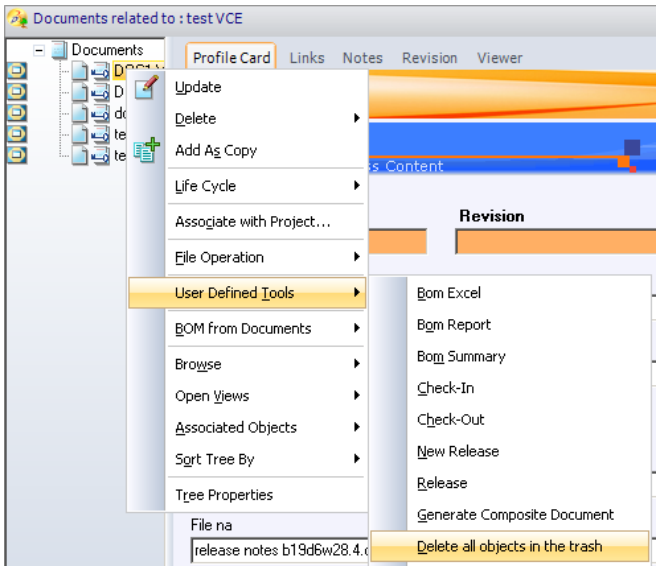
The object is now not visible in ENOVIA SmarTeam. But it is still in the database.

6.2. Delete all objects in the Trash

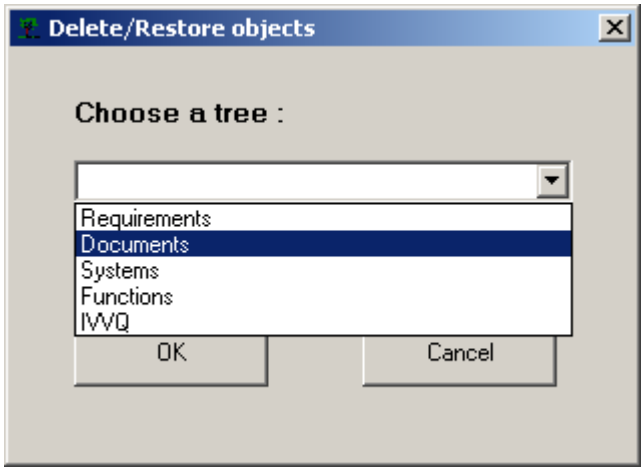
6.2.1. Function description

1. So as to delete permanently all hidden objects of a tree, click on the User Defined Tools *Delete all objects in the trash*;

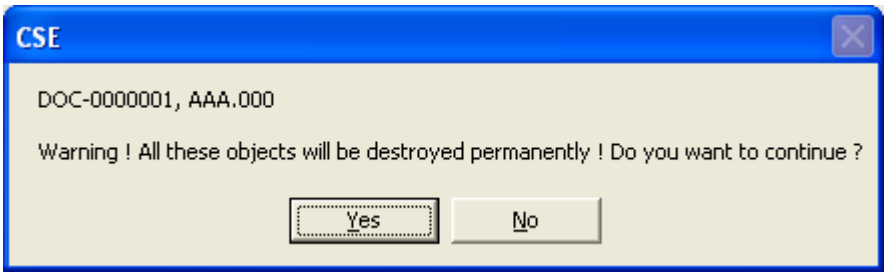
Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.



2. Choose the tree;



3. All the objects that will be destroyed are listed. You have to confirm the permanently deletion.

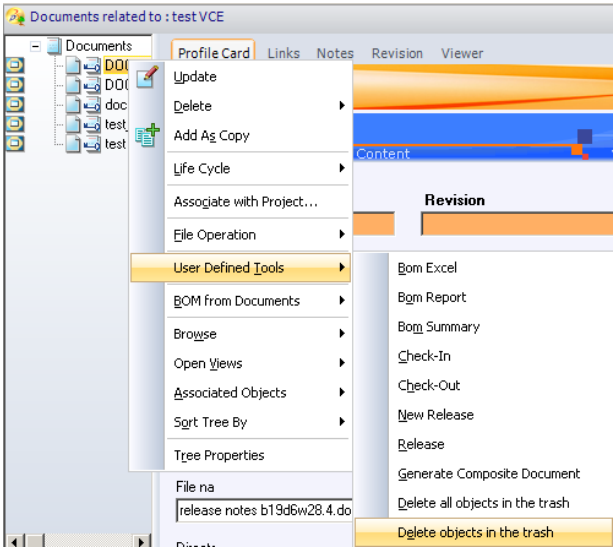


Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

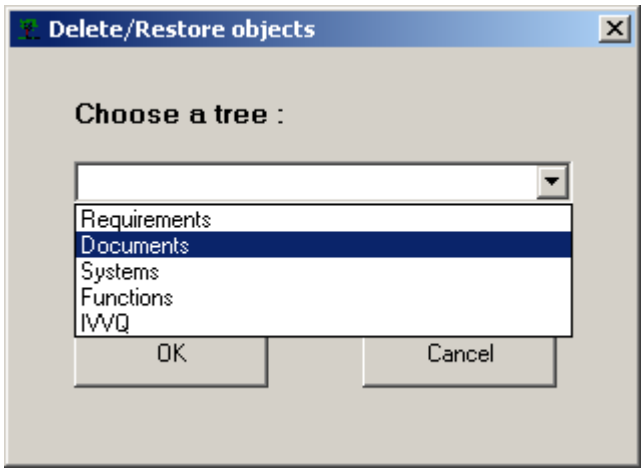
6.3. Delete objects in the Trash

6.3.1. Function description

1. But you can also destroy permanently some of hidden objects and keep other hidden objects. For that, you have to click on the User Defined Tools *Delete objects in the trash*;

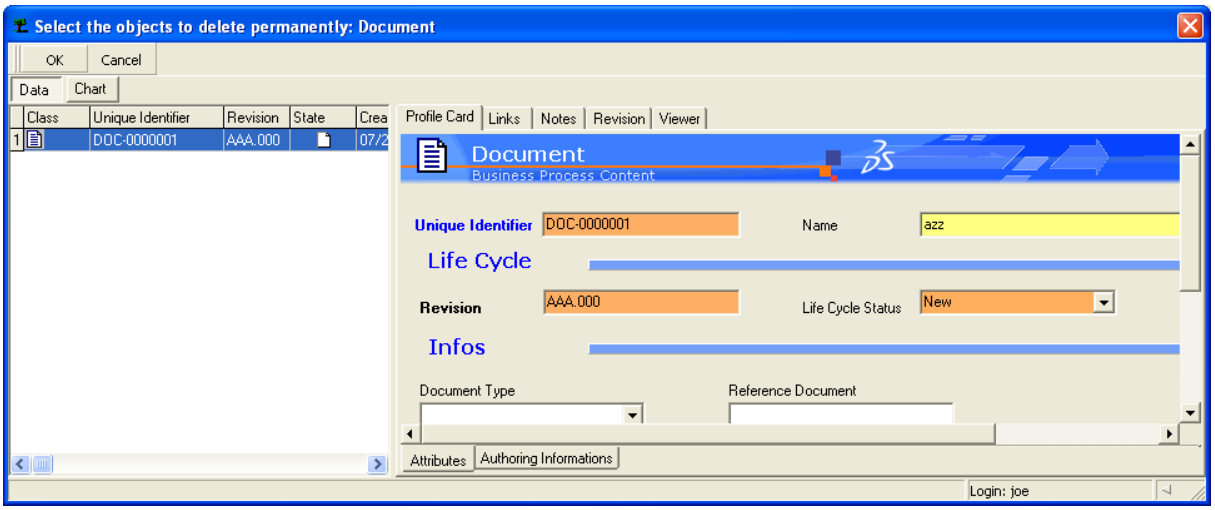


2. Choose the tree;

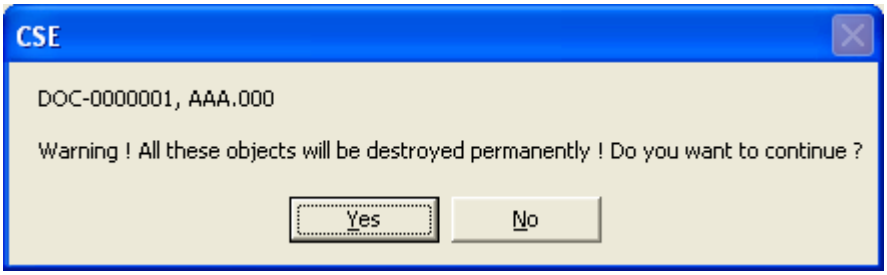


3. Select the objects that will be destroyed and click on *OK*;

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.



4. All the objects that will be destroyed are listed. You have to confirm the permanently deletion.

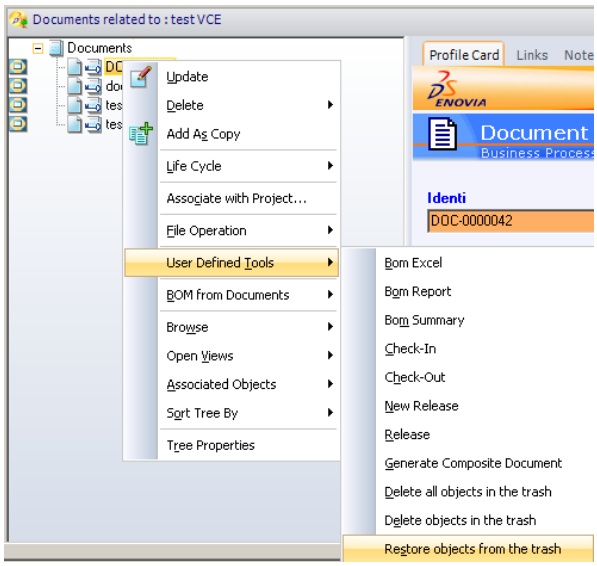


6.4. Restore objects in the Recycle Bin

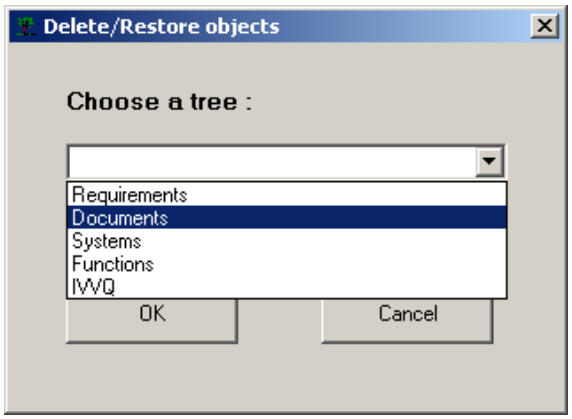
6.4.1. Function description

1. Finally, you can also make hidden objects visible. For that click on the User Defined Tools *Restore objects from the trash*;

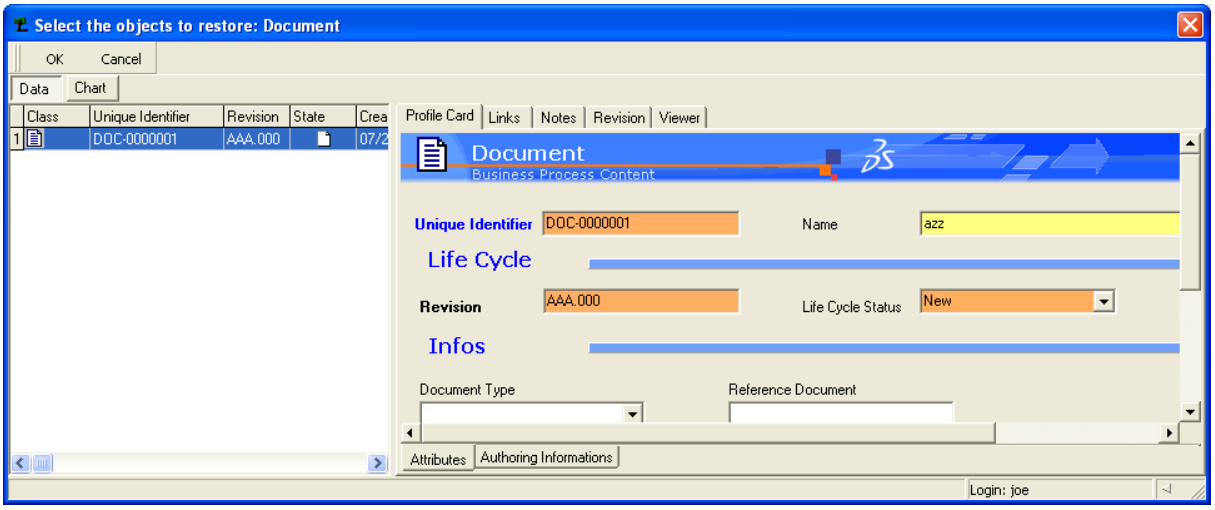
Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.



2. Choose the tree;

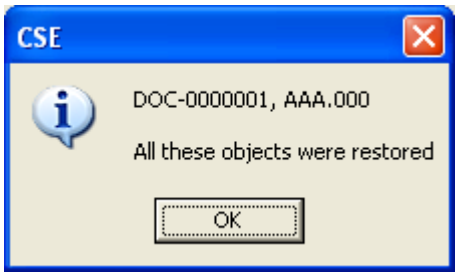


3. Select the objects to restore;



Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

4. A short report is displayed.

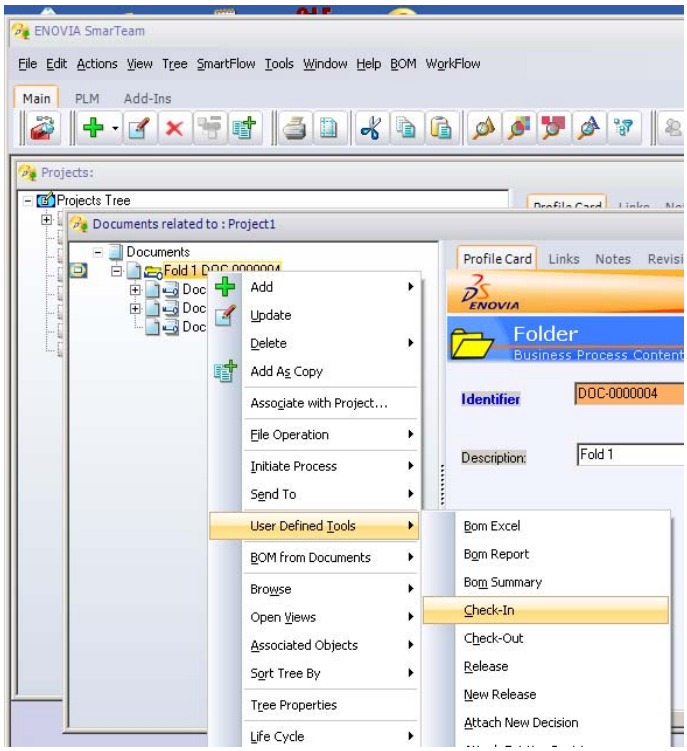


Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

6.5. Lifecycle operations

6.5.1. Function description

About the *lifecycle* operations *Check In* and *Release*, the interface check if there are still hidden objects below the current object.

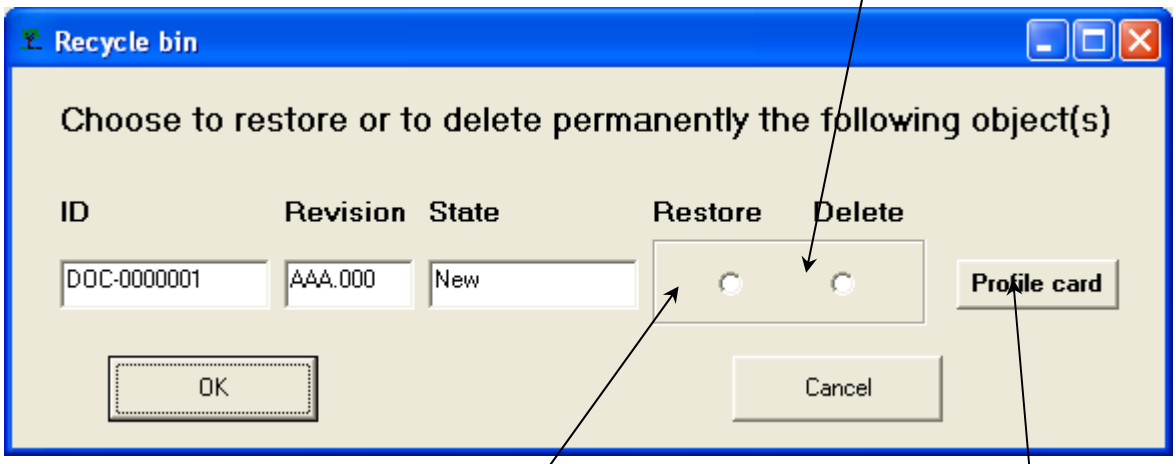


If there are at least one hidden object, the *lifecycle* operation is interrupted.

The “recycle bin” is displayed and the user has to put a status (*Restore* or *Delete*) on these “ambiguous” objects.

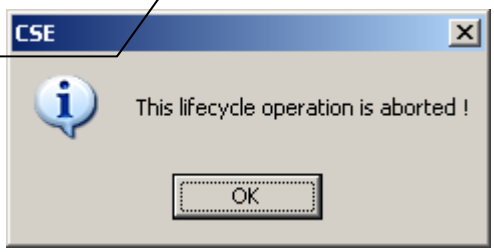
Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

If checked, the object will be deleted permanently after clicking on *OK*



The lifecycle is aborted.

If checked, the object will be restored after clicking on *OK*



Display the profile card of the object

You have to perform the lifecycle operation once again.

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

7. Collaborative Systems Lifecycle Management and Traceability Baseline

The Baseline functionality allows identifying system engineering items configuration. A baseline is a reference configuration for system definition, never modified, neither altered, neither enhanced. Baseline is defined by a set of configuration articles.

“Top” configuration items are the leaf classes that are candidate to be included to a baseline. They are enrolled to a baseline using logical link from these objects to the baseline.

Top Configuration articles are defined by CSE items.
Baseline items can be on the following trees:

- Requirements
- Systems
- Functions
- IVVQ

Baselines can only be made of released items. For each item, the selected revision is enrolled and not another one. If at least one object is not released, none of the sub tree is linked. The user has to be able to retrieve the relations between items configurations at a selected time

When a “top” configuration item is added to a baseline, if it is linked as parent to other objects, the entire sub tree is recursively added too.

In SmarTeam views, only “top” configuration items should be shown as linked to a Baseline object. It means tree views and general links views. “Requirements Module”, “IVVQ Module” and “S F objects” can be shown as linked to baseline; not children items

Logical link between baseline items can not be deleted, modified or added.

There is no lifecycle on Baseline object but a Baseline has two status:

- “Under Construction” when Baseline is built
- “Frozen” when Baseline is created and cannot be modified.

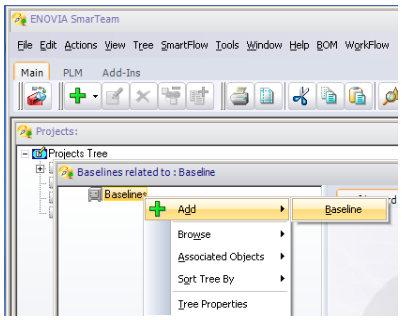
7.1. Create Baseline

7.1.1. Function description

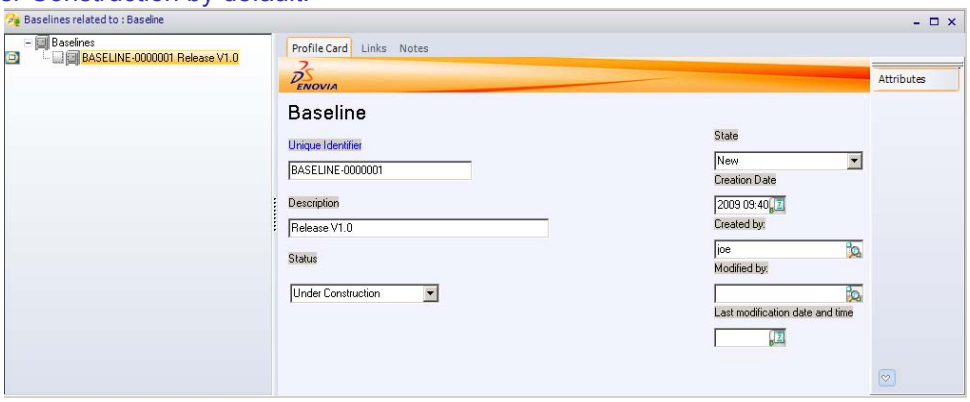
Select the project where you create the Baseline and open the Baseline Tree :

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

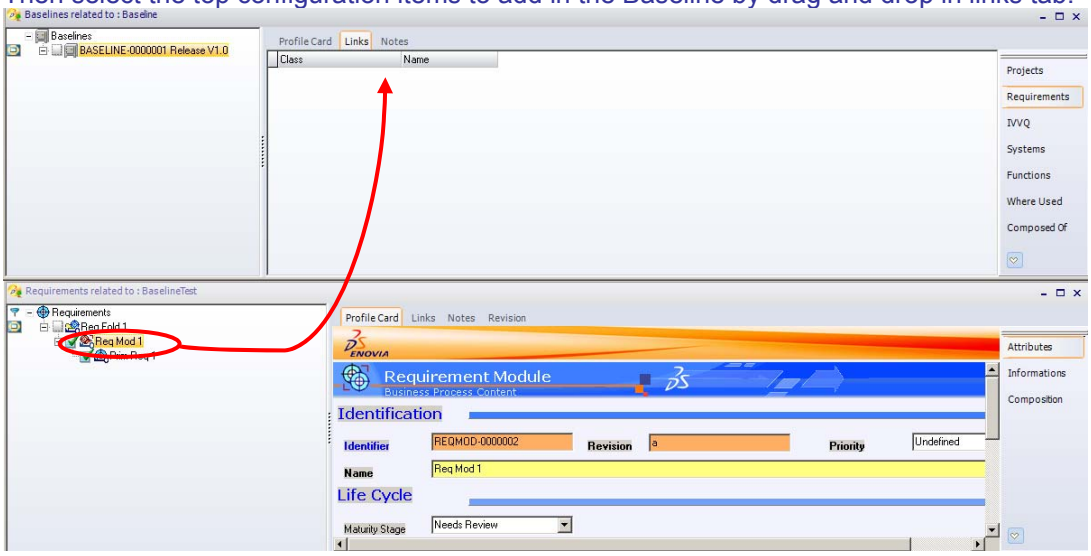
Create the new Baseline object:



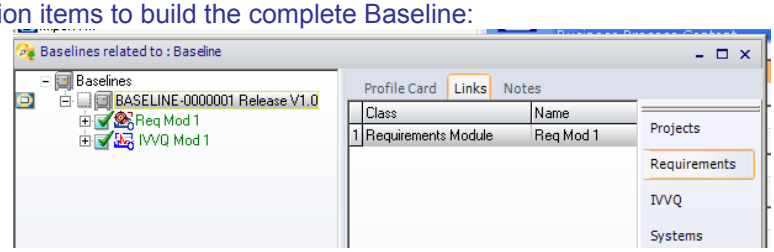
Status is Under Construction by default.



Then select the top configuration items to add in the Baseline by drag and drop in links tab:

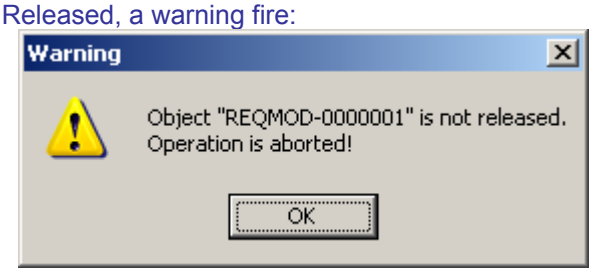


Add all top configuration items to build the complete Baseline:

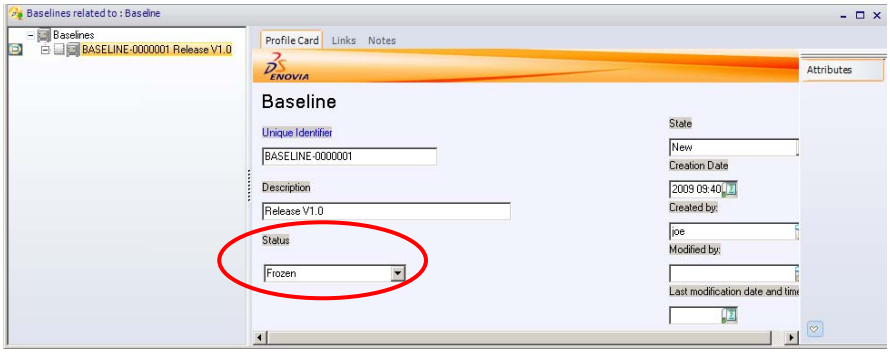


Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

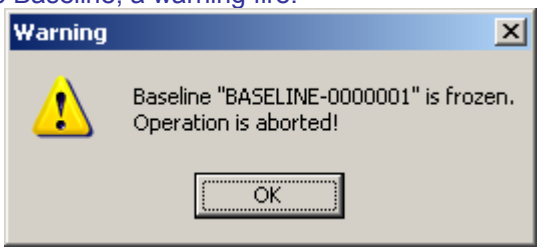
If configuration items are not Released, a warning fire:



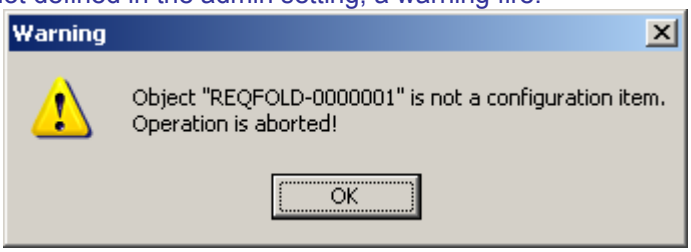
When Baseline is complete, and must not be modified, freeze the configuration by promote the Baseline in Freeze state:



If you try to add or modifying the Baseline, a warning fire:



But using Admin Settings, the administrator define the top configuration items.
If a configuration item is not defined in the admin setting, a warning fire:



Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.

8. Appendix A – BPA provided data

8.1.1. Templates

Notes
CSE is providing by default some report and matrix but you can freely customize your application. Refer to CSE Requirement Management Implementation guide documentation for further detail about customizing your application.

Do not reproduce, copy or use without a license from Dassault Systèmes
© 2009. Dassault Systèmes, All Rights Reserved.