IBM SE Symposium

Roma – 29 Nov 2012

Generazione automatica di documentazione in ambienti complessi

Luca Sentimenti – Requirements Tech Specialist
Gianluca Monticone – Senior Systems Specialist

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Agenda

1. IBM Rational Collaboration Lifecycle Management for System and Software Engineering
2. Demo
3. Questions and Answers

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Rational Solution Portfolio for SSE CLM

Rational solution for Systems and Software Engineering

Open Services for Lifecycle Collaboration

REQUIREMENTS MANAGEMENT
Manage all system requirements with full traceability across the lifecycle
Rational DOORS

QUALITY MANAGEMENT
Achieve "quality by design" with an integrated, automated testing process
Rational Quality Manager

DESIGN MANAGEMENT
Use modeling to validate requirements, architecture and design throughout the development process
Rational Rhapsody & Design Manager

COLLABORATION, PLANNING & CHANGE MANAGEMENT
Collaborate across diverse engineering disciplines and development teams
Rational Team Concert

Jazz

COLLABORATE **AUTOMATE** **REPORT**

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Rational Solution Portfolio for SSE CLM - RM

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COLLABORATE AUTOMATE REPORT

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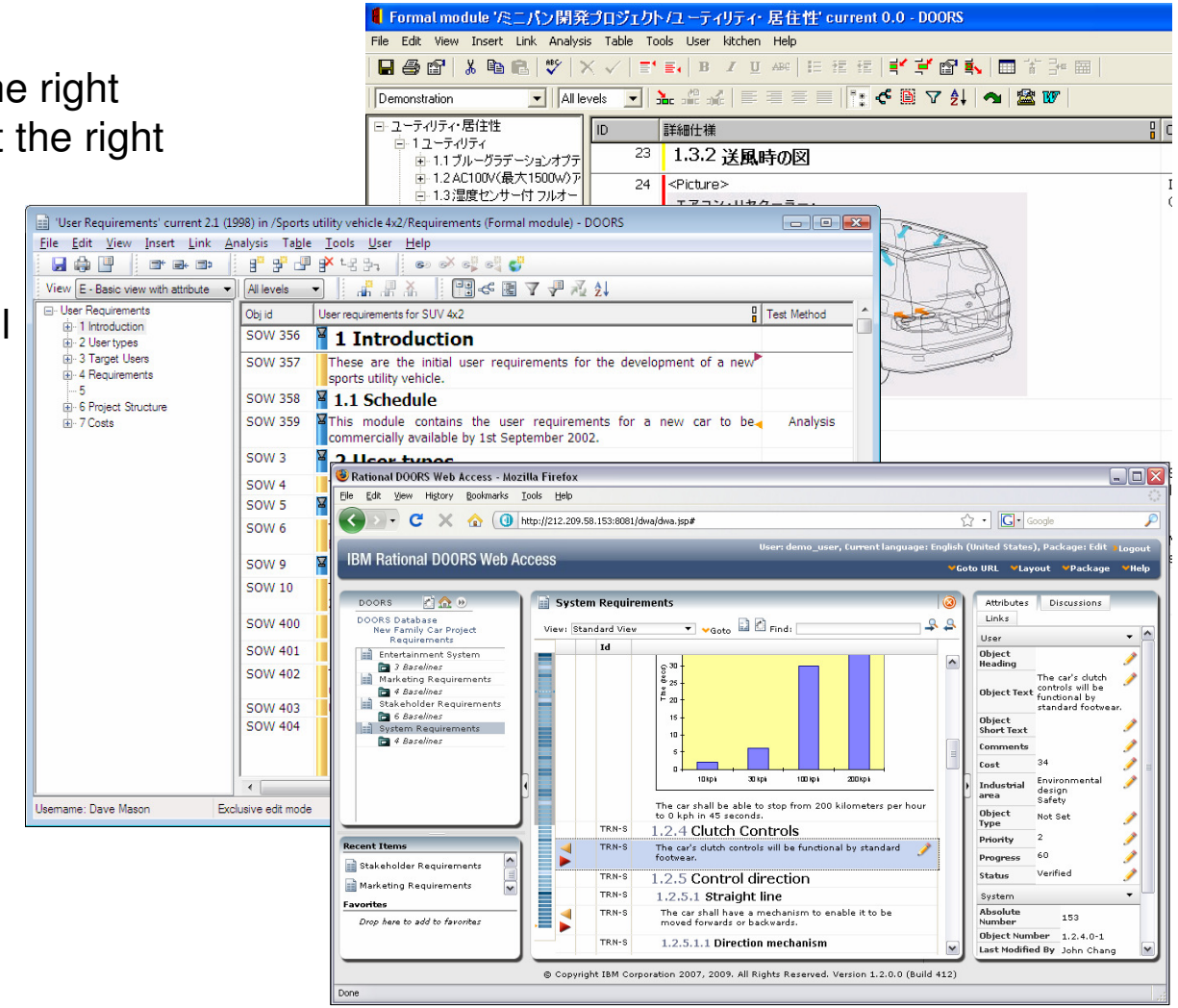
Rational DOORS for Requirement Management

Manage All Requirements Across the Lifecycle and Across Disciplines

- Highly flexible display gives the right people the right information at the right time
- Intuitive interface means you'll be up and running quickly
- Document based for efficient organization and reporting
- Classic or Web Access client both on the same database



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Rational Solution Portfolio for SSE CLM - DM

Rational solution for Systems and Software Engineering

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COLLABORATE AUTOMATE REPORT

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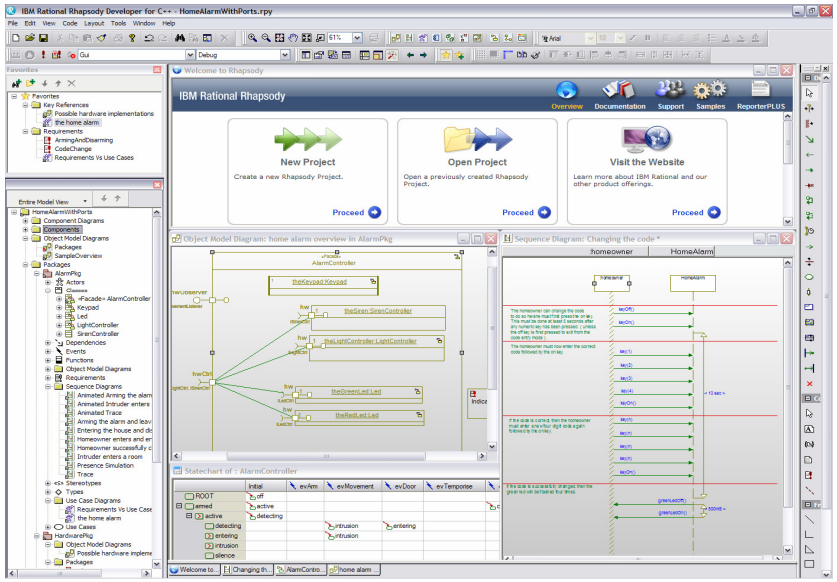
Systems & Software Engineering with Rational Rhapsody®



"Using Rhapsody software improves the quality of the application software that is integral to the series hydraulic hybrid system development process."

Steve Zielinski, Eaton chief engineer for software

Capabilities

- Requirements-driven analysis and design for technical, embedded or real-time solutions, including those based on *multi-core* architectures
- Rapid design validation and verification with frequent simulation and testing
- Development and deployment of complete C, C++, C#, Java and Ada applications

Benefits

- **Build the right product** through non-ambiguous communication and frequent collaboration
- **Eliminate defects early** and increase quality by continually testing the design
- **Reduce development time** by automatically generating applications and documentation
- **Re-use and adapt existing technology** through reverse engineering and product line engineering

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Rational Solution Portfolio for SSE CLM

Rational solution for Systems and Software Engineering

Open Services for Lifecycle Collaboration

PUBLISHING & REUSE

Automated Documents Generation and Asset Management for governance and reuse

Rational Publishing Engine

Rational Asset Manager

COLLABORATE **AUTOMATE** **REPORT**

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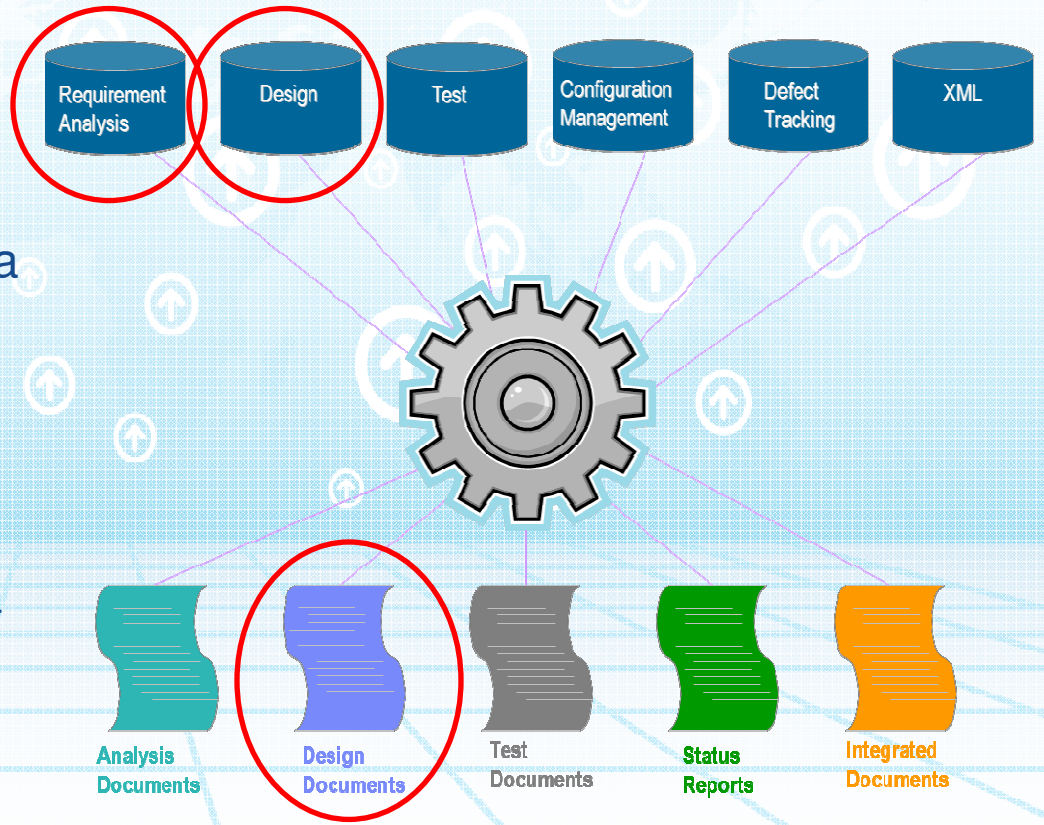
Rational Publishing Engine: document automation across the development lifecycle

- Create documents from data across a wide range of distributed and diverse data sources
- Access data from a wide range of Rational tools
- Access data from third party tools via XML and REST interfaces



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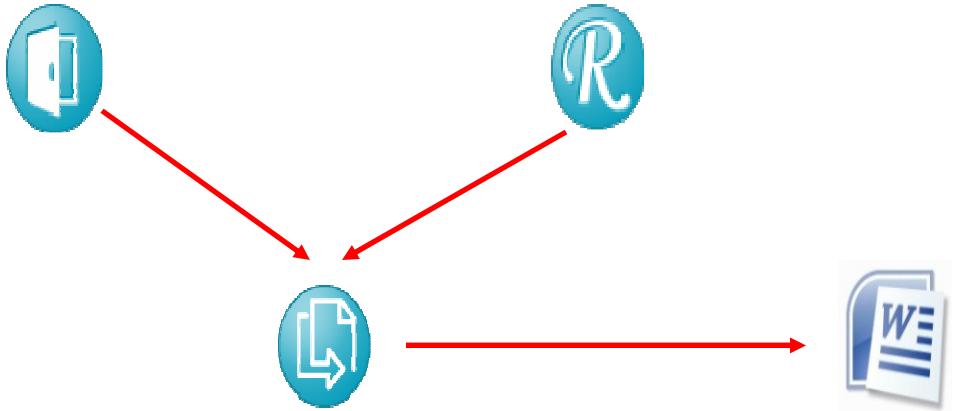
Demo Scenario

- Requirements are managed in Rational DOORS
- Architectural Design is managed in Rational Rhapsody and linked back to Reqs
- Documentation automatically produced by Rational Publishing Engine



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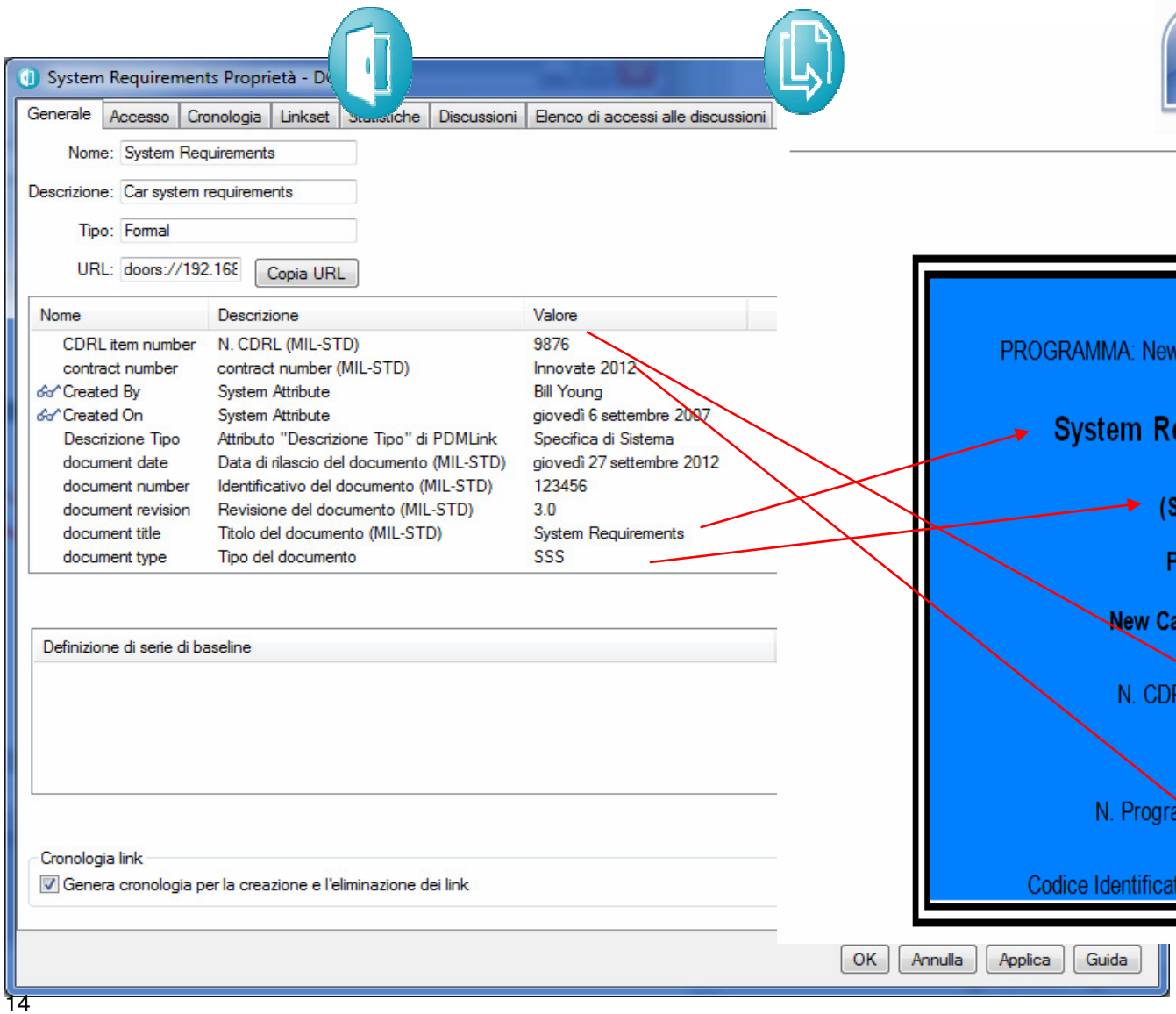
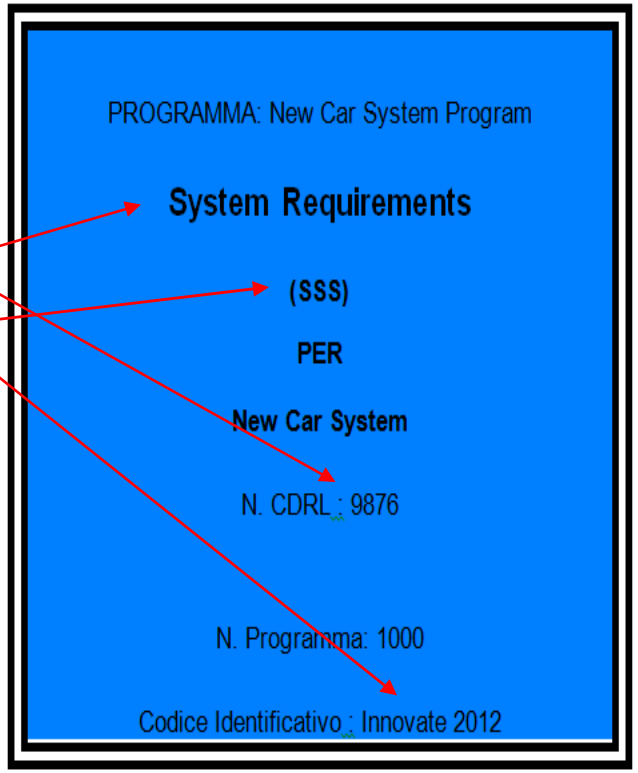
RPE can use DOORS attributes to populate corporate templates





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RPE template can interpretate DOORS attribute in DOORS obj

'System Requirements' corrente 3.0 (Prova) in /New Family Car Project/Requirements (modulo Formale) - DOORS

File Modifica Vista Inserisci Link Analisi Tabella Tool Discussioni Utente PSToolbox Publish RG 7.6.1 Ansaldo Breda CeSiFer Italferr
Sirio Panel Vari ENAV GETS Gestione modifiche MM Admin Guida

Salva (Ctrl+S)

Tutti i livelli

ID	Car system requirements	IsRequirement	Parent Requirement	Title
TRN-SR-5	The car shall be able to move forwards at all speeds from 0 to 220 kilometers per hour on standard flat roads with winds of 0 kilometers per hour, with 280 BHP.	True	TRN-CSR-26 TRN-CSR-27 TRN-CSR-41 TRN-CSR-97	Car Speed
TRN-SR-6	**2.1.1.2 Move backwards**			
TRN-SR-7	The car shall be able to move backwards to a maximum speed of 25 Kilometers per hour.	True	TRN-CSR-30	Backward Speed
TRN-SR-8	**2.1.2 Accelerate car**			

Nome utente: Luca Sentimenti | Modalità di modifica esclusiva

5 Traceability

Requisito di System Requirements		Requisito Satisfies out		
Id	Posizione	Id	Denominazione	Rif.
TRN-SR-5	2.1.1.1.0-1	TRN-CSR-26 TRN-CSR-27 TRN-CSR-41 TRN-CSR-97	Users shall be able to travel at speeds ... Users shall be able to accelerate from 0 ... Users shall be able to travel in safety ... The user shall be able to travel on stan ...	3.1.3.1.1.0-1 3.1.3.1.1.0-2 3.1.5.0-1 3.1.14.0-1
TRN-SR-7	2.1.1.2.0-1	TRN-CSR-30	Users shall be able to move backwards to ...	3.1.3.1.2.0-1
TRN-SR-9	2.1.2.0-1	TRN-CSR-27 TRN-CSR-98	Users shall be able to accelerate from 0 ... The user shall be able to travel up and ...	3.1.3.1.1.0-2 3.1.14.0-2
TRN-SR-10	2.1.2.0-2	TRN-CSR-98 TRN-CSR-124	The user shall be able to travel up and ... Users shall be able to accelerate from 1 ...	3.1.14.0-2 3.1.3.1.1.0-3
TRN-SR-11	2.1.2.0-3	TRN-CSR-	Users shall be able to accelerate from 1	3.1.3.1.1.0-4

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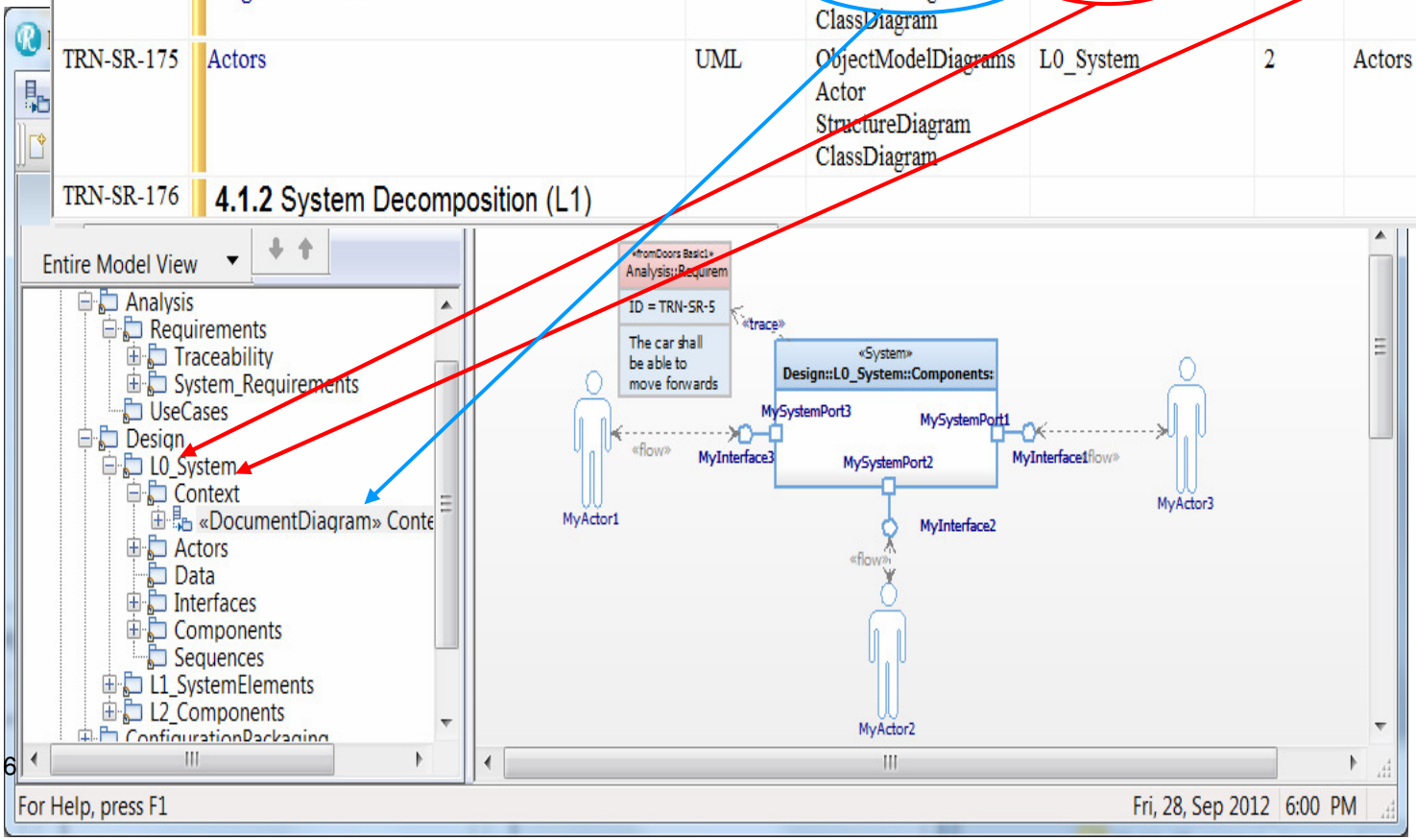
Reqs and Model: Rhapsody export driven from DOORS module

ID	Car system requirements	Object Type	UML Kind	UML Location	UML Level	UML Package
TRN-SR-171	**4 System Architectural Design**					
TRN-SR-172	**4.1 System Components**					
TRN-SR-173	**4.1.1** Context Diagram (L0 view)					
TRN-SR-174	**Descrizione del Context Diagram (L0)** **Diagramma di Context**	UML	ObjectModelDiagrams StructureDiagram ClassDiagram	L0_System	2	Context
TRN-SR-175	Actors	UML	ObjectModelDiagrams Actor StructureDiagram ClassDiagram	L0_System	2	Actors
TRN-SR-176	**4.1.2** System Decomposition (L1)					



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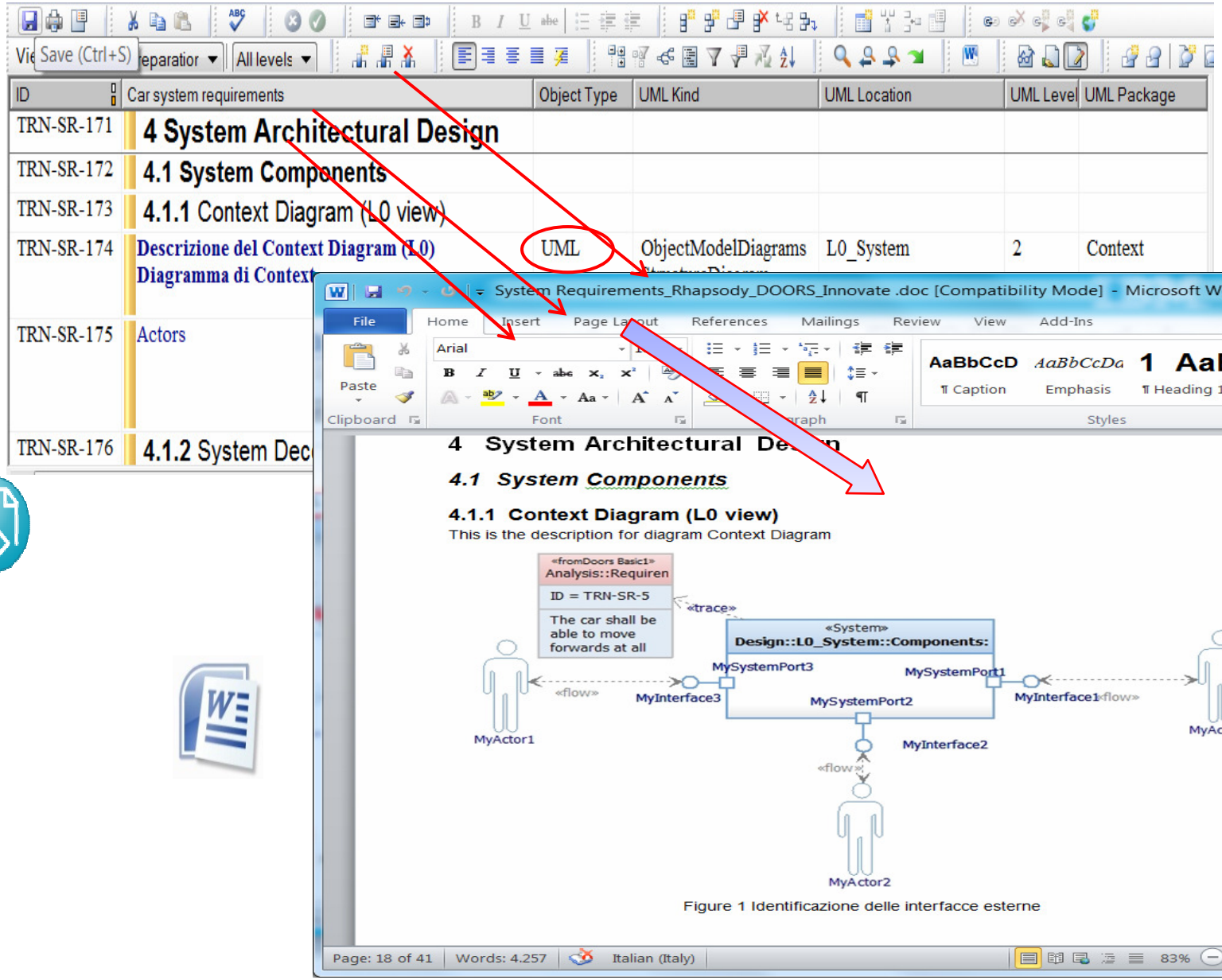
Reqs and Model: Rhapsody export driven from DOORS module



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