



**IBM Rational Software Conference 2009**  
As Real as It Gets!



## IBM Rational Software Conference 2009

# Enterprise Reporting with IBM Rational DOORS and IBM Rational Publishing Engine

**John MacLeod – Consulting IT Specialist**  
**David Robinson – Pre-sales Consultant**

**Rational.** software

*IRE13*

## Session Agenda

- What is it? / What does it do?
- Creating Templates and using Existing DocExpress (DE) Resources in RPE
- Creating Report Specifications in RPE
- Demo!
- Questions?



## What is it?

- **Multipurpose Data Extractor, Document Generator and Formatting Automation Engine for DOORS**
  - ▶ Works with DOORS, TAU and Generic XML data - future releases to include other capabilities for various Rational Tools
  - ▶ IBM Rational DOORS Focused
  - ▶ Allows for flexible informational model and architecture implementation to maximize the use of DOORS as a requirements management tool, rather than a Document publishing tool
  - ▶ Replaces Doc Express 4.x but Greater Improved Performance!!!



## What does it do?

- **Automated Document Generation based on standardized and formalized templates for consistent accurate outputs.**
  - ▶ Separate the Engineering Content from the Formatting Tasks
  - ▶ Consistent Document Formatting and various output handlers to allow for proper use of a controlled, managed and audited system like DOORS and extend the layer of enforcement and control over document production activities
  - ▶ Create numerous reports from the same data regardless of the DOORS informational model and module organization. (You are Free to Implement DOORS however you wish)



# Rational Publishing Engine benefits

- Increase productivity by allowing engineers to focus on engineering, **not** formatting concerns
- Enhance documentation quality and consistency with predefined templates and templates for industry standards and guidelines
- Easily implement your own document standards with intuitive Template Editing environment with drag and drop capability
- Avoid wasted engineering time waiting for documents to be generated with an easy to use, high performance and low resource use solution

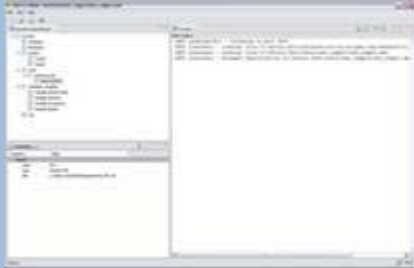


# Rational Publishing Engine Highlights

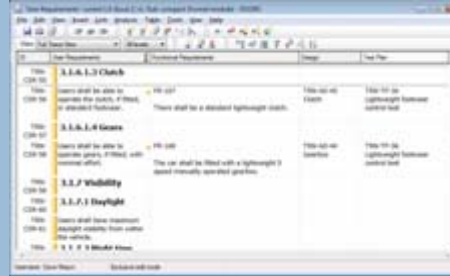
- ▶ Extract and Format information for creating various reports from format agnostic DOORS Objects and Data
- ▶ Focused on Performance and extreme Flexibility
- ▶ Reports are build outside of the DOORS repository, so a RPE user will not impact the workflow or performance of a DOORS Module while creating reports on DOORS data
- ▶ Powerful JavaScript evaluation engine can create conditional statements directly in the template definition or can use DOORS native filtering conditions if user decides to use filters
- ▶ No Need to create DOORS tables, Any table can be created with ease and accuracy
- ▶ Remote Engine available for offloading reporting tasks to a remote data processor thus freeing up workstation resources



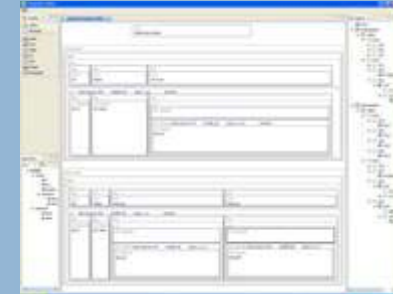
# Rational Publishing Engine - components



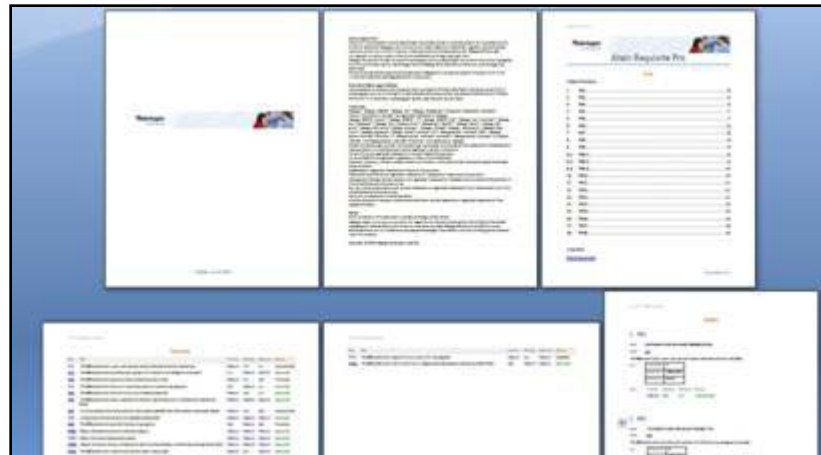
“Launcher” – for managing document production



“Tool Integrations” for commanding document generation from within tools  
(e.g. DOORS, Tau, Focal Point etc.)



“Document Studio” for creating templates



Reports in multiple formats (e.g. MS Word, PDF, HTML, etc.)

# RPE Document Studio

Palette with Document Entities

Output Document Structure

Overall Structure of Document Template

The screenshot shows the RPE Document Studio interface with several panels:

- Palette with Document Entities:** Located on the left, it contains a list of document entities: Select, Marquee, Text, Styled Text, Paragraph, Image, Container, List, and Table.
- Output Document Structure:** The central editor window shows a hierarchical structure of document elements, including a Container with Paragraphs containing Text and Object Heading/Text.
- Overall Structure of Document Template:** The Outline panel on the right shows a tree view of the document template, including Content, Container, Paragraphs, Styles, Master Pages, Data Source Schemas, and Variables.
- Data Source Schema View:** The Schema View panel at the bottom left shows a tree view of the DOORS schema, including Description, Name, Attribute, View, Object, and Object Identifier.
- Logging Output:** The Console panel at the bottom center displays the Telelogic Publishing Engine logs, showing messages like "INFO [main] - TPE Document Studio" and "INFO [main] - License OK. Validating document template".
- Properties of selected document entity:** The Properties panel at the bottom right shows a table of properties for the selected document entity, including data, image, font (font color, font size, font family, bold, italic), and character.

Data Source Schema View

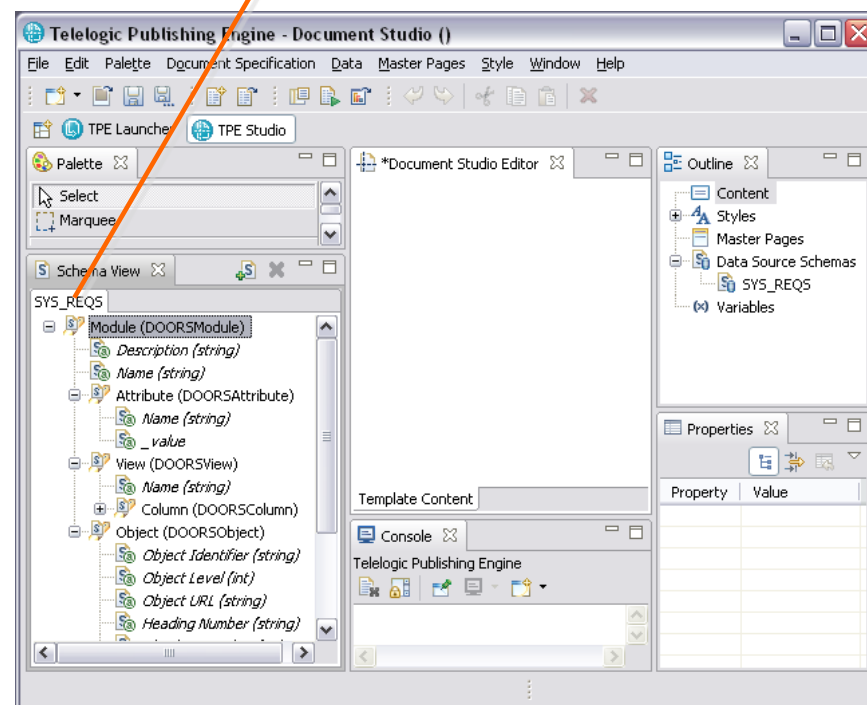
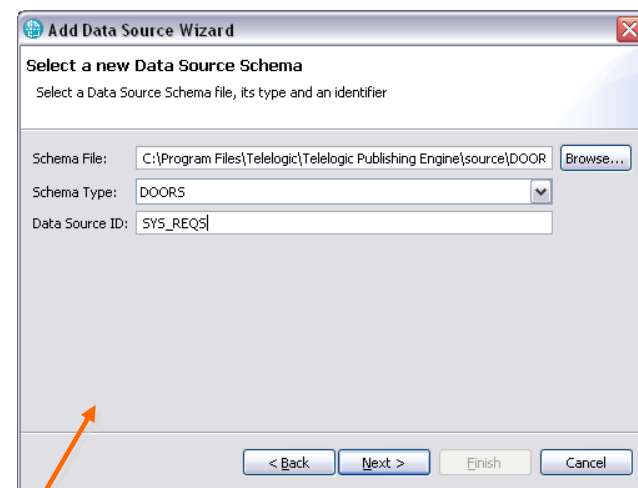
Logging Output

Properties of selected document entity

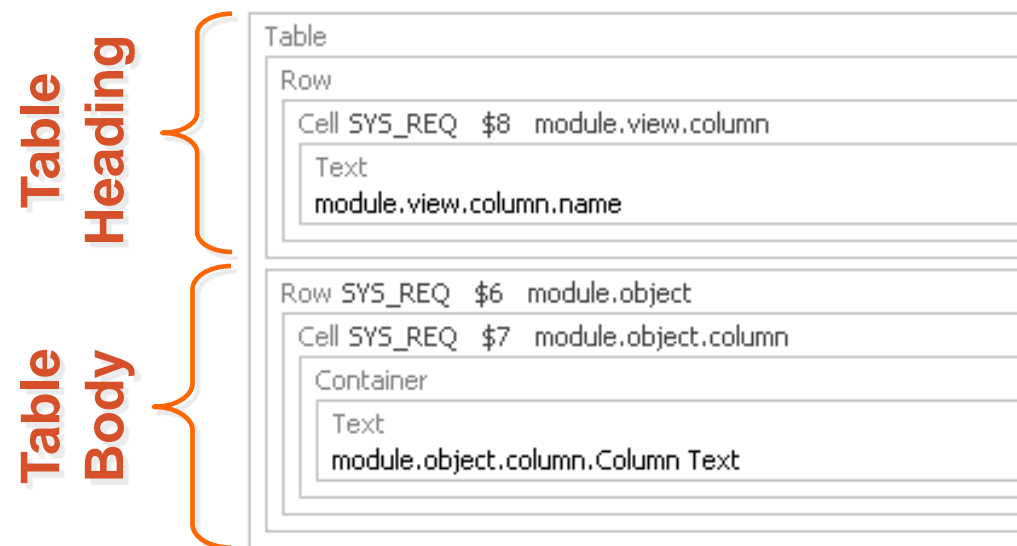


# Creating Templates in RPE

- In a document template, data sources instruct document generation to fetch data from a supported tool
- Two kinds of information necessary:
  - ▶ How will the data from the tool look like?
    - The information from the tool is an XML file
    - Syntax of XML files is commonly defined as **XML Schema** files
  - ▶ Which tool information must be configured to access the data?
    - The data is either a **Generic XML file**, or is coming from a supported tool
    - RPE 1.x supports two tools: **DOORS** and **TAU** (Focused on DOORS)



# Template Examples: DOORS vs. DE

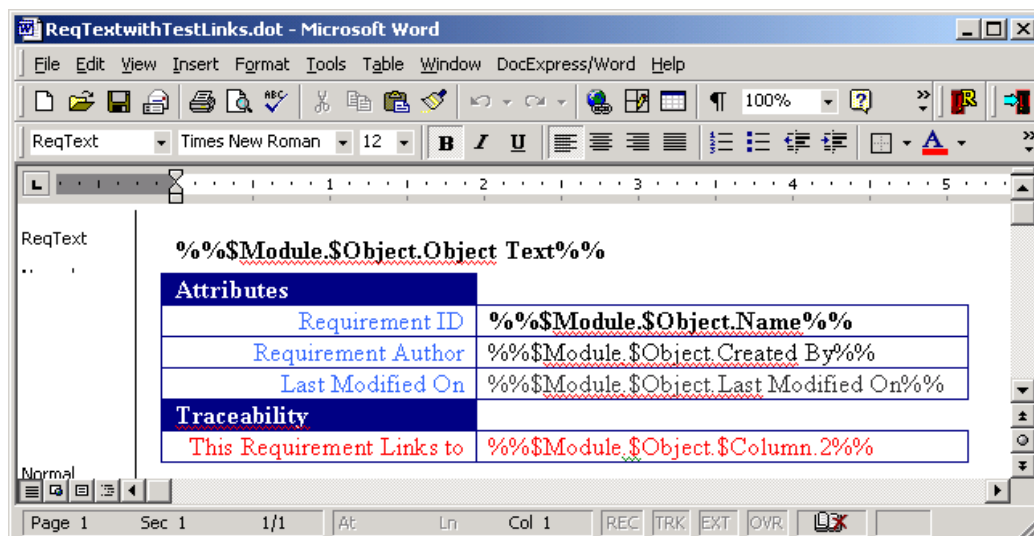


## RPE Templates

- ▶ Hold Report definitions and filter criterion as part of the templates. Nothing is saved in DOORS
- ▶ Cleaner approach to structuring a report and provides added performance benefits

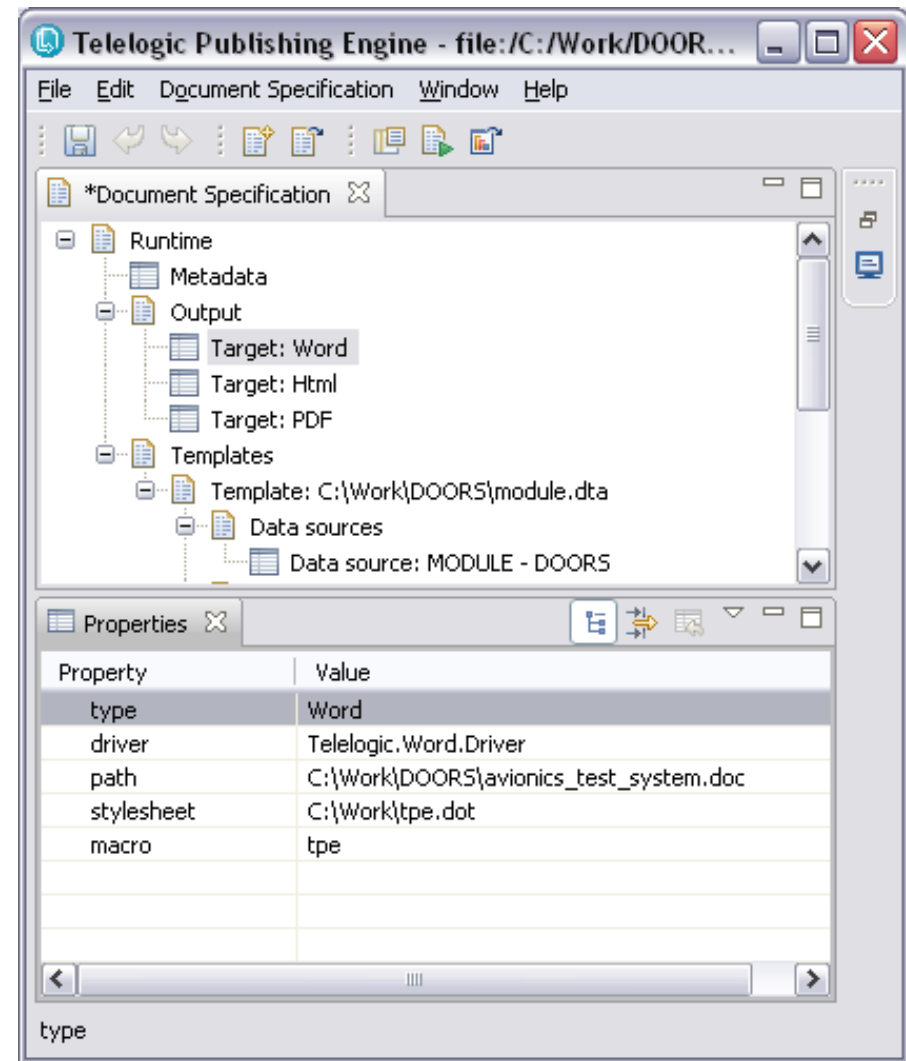
## DocExpress Templates

- ▶ Master Templates that were created in DE can be reused as Style Sheets in RPE
- ▶ Only used in producing Word Outputs
- ▶ The Two resources Master Templates and Object Templates in RPE are one single template.

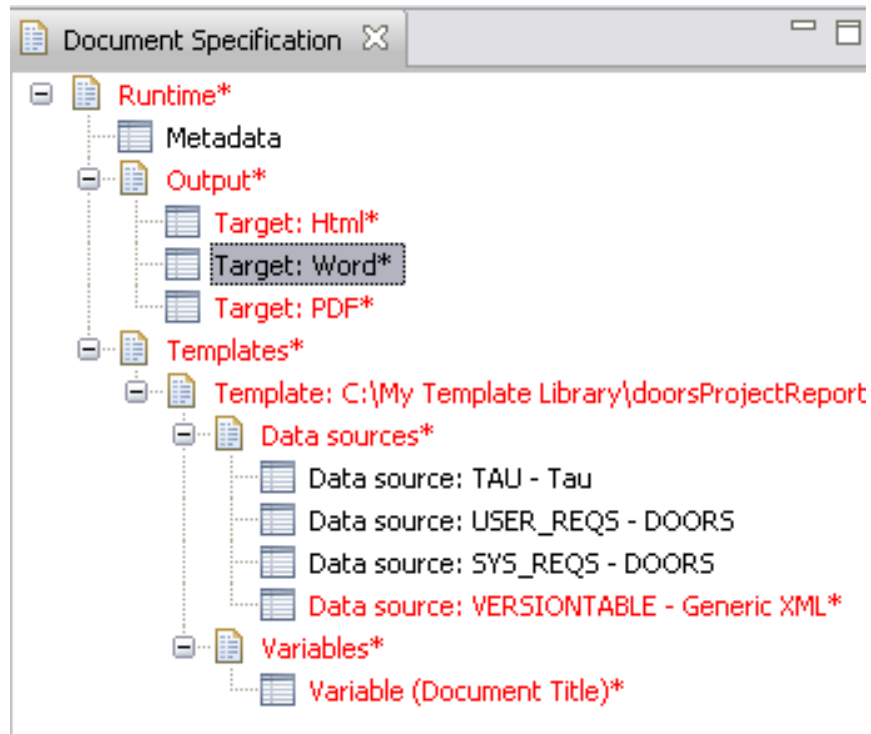


# RPE Launcher and Document Specifications

- Document specifications are created with RPE launcher
- Document specifications refer to one (or more) document templates
- Document specifications store property settings for document generation:
  - ▶ Output formatters: for each of the output formatters pathnames of generated files, style sheet names, ...
  - ▶ Templates: in each document template, one or more data sources are referenced
  - ▶ For each data source, tool-dependant information is necessary to point each data source at a real instance of data



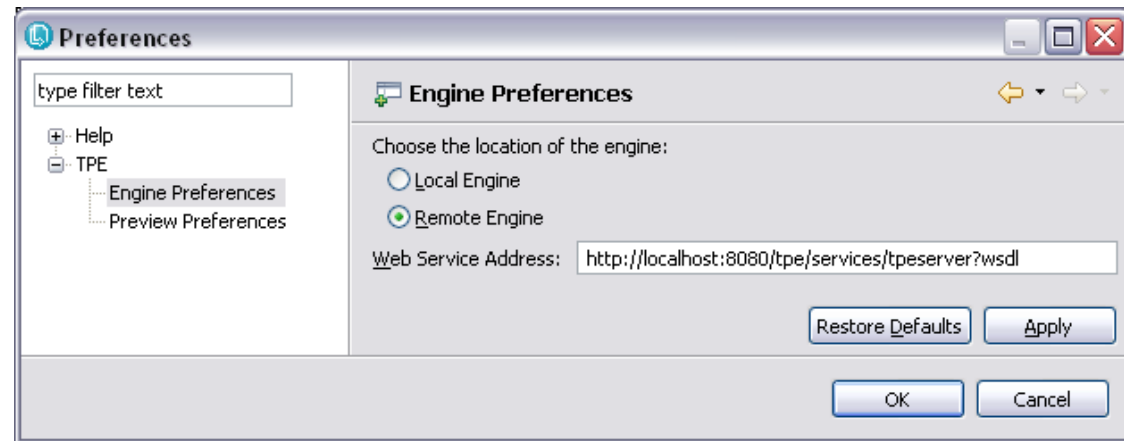
# Document Specification structure



- Document Specification contains
  - ▶ Metadata
  - ▶ One or more output target specifications
  - ▶ One or more templates
- For each document template
  - ▶ Data Source Specifications
  - ▶ Values for the defined template variables
- Editing Operations
  - ▶ To delete nodes select them, and press the “Delete” key
  - ▶ Create new nodes via the context menu of the parent node

## Server-based document generation with RPE

- No longer monopolize the resources of the machine generating a specific report.
- Deployed using Apache Tomcat.
- Allows for flexibility on the deployment of the tool, for different needs and different environments.



# DEMO

# QUESTIONS

# Thank You

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