

**Controlling  
complexity.**

**The Integration Story:**  
Rational Quality Manager / Team  
Foundation Server / Quality Center



# Agenda

- The DOORS Integration Landscape
- DOORS and Rational Quality Manager
- DOORS for Microsoft Team Foundation Server Add On
- Other Key Interfaces Including HP QC



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# DOORS Integration Landscape

*Requirement visibility and collaboration across the entire lifecycle*

Integrates with other Rational tools to give complete lifecycle coverage

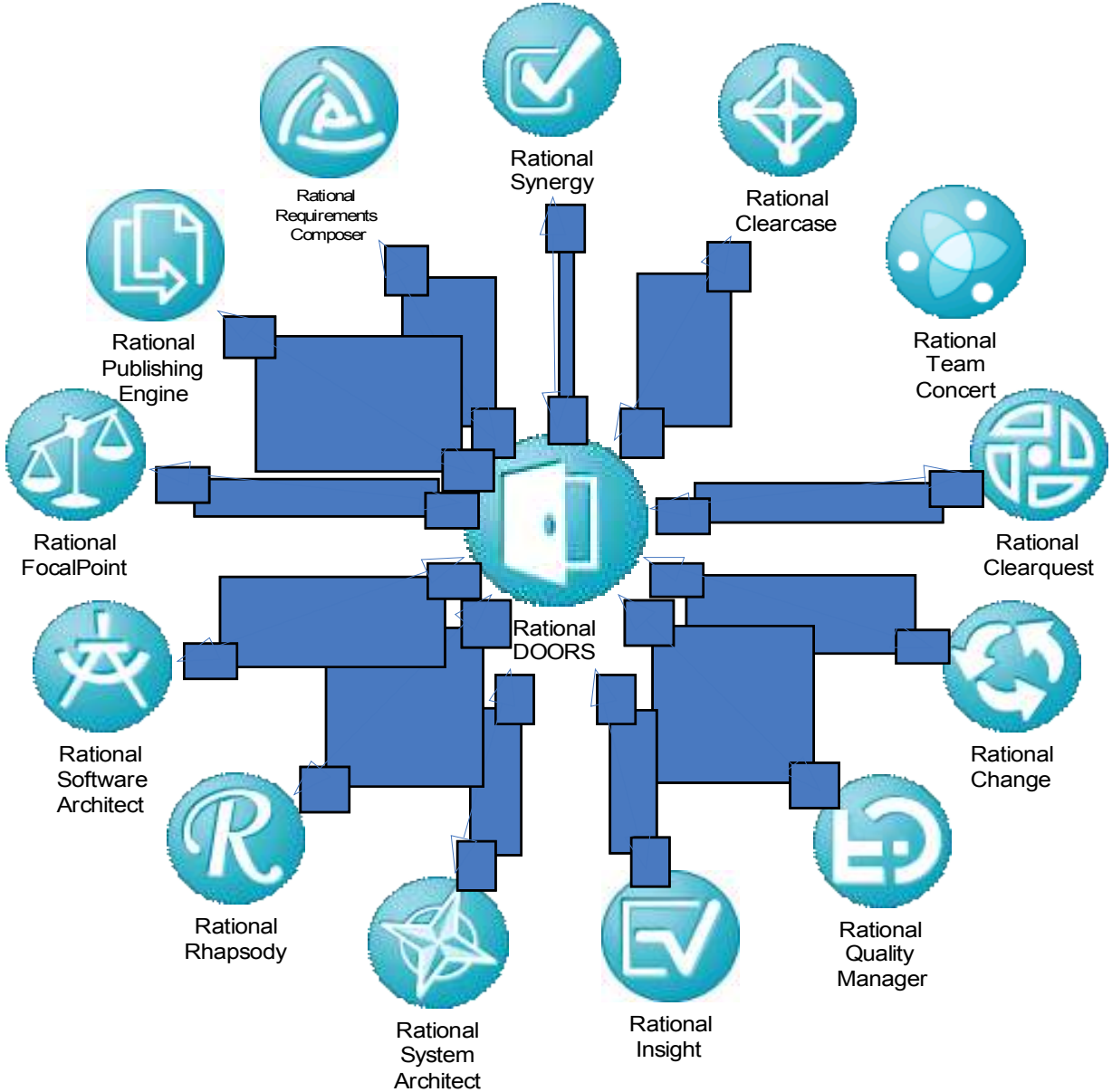
An extensive range of 3<sup>rd</sup> party integrations to non IBM products

Open API allows for custom integrations to unsupported products

The screenshot displays the DOORS Eclipse Platform interface. The main workspace shows a hierarchical tree of requirements, including items like 'Req1: Quick to start', 'Req1: Internet access', 'Req2: Authentication', and 'Req11: Long talk time'. A 'Visualize: Requirements' toolbar is visible above the tree. To the right, a 'Properties' window shows details for a 'General Requirement', including DOORS ID, Object Number, and Object Short Text. Below the tree, a 'Cost of Development (public)' table lists values for various industries: 'Value to DOD (public)' at 99%, 'Value to Manufacturing Indus.' at 91%, 'Value to Software Industry (pu.' at 91%, 'Value to Banking Industry (p.' at 99%, and 'Value to Insurance Industry (p.' at 89%. A legend indicates that triangles represent the element's total score. At the bottom, a 'Status' window shows a pie chart and a bar chart, with a table of data for 'Status'.

Integration of people & processes across tools and disciplines

# Rational DOORS Integration Landscape



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# Agenda

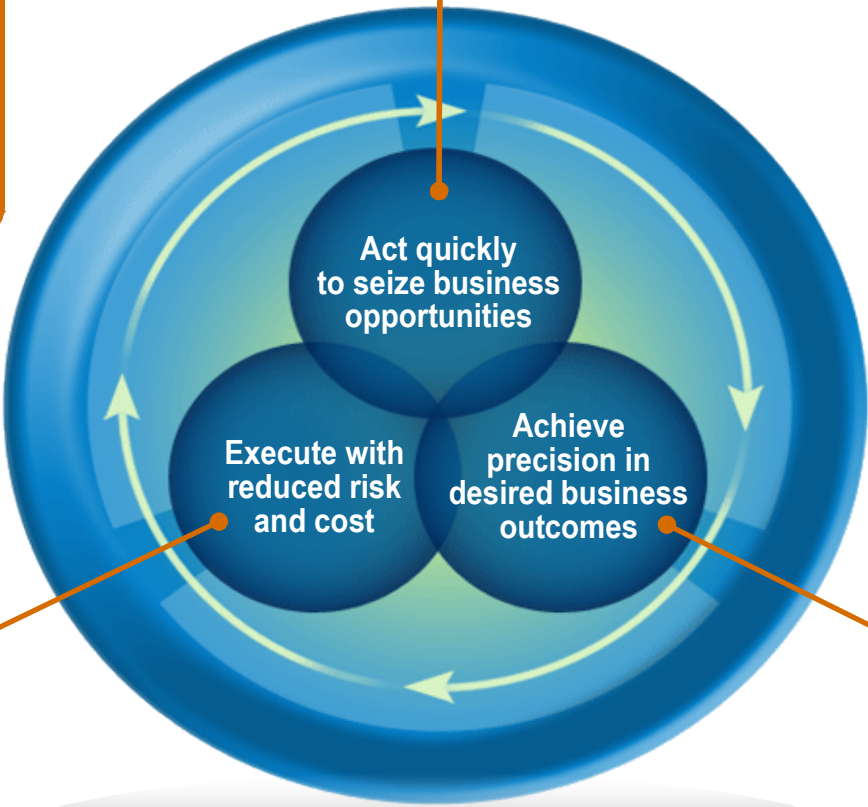
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# Driving Business Differentiation in Challenging Economic Times with Agility and Confidence

Analyse business opportunity and the impact of change and effectively manage organisational transformation by better aligning business and development priorities



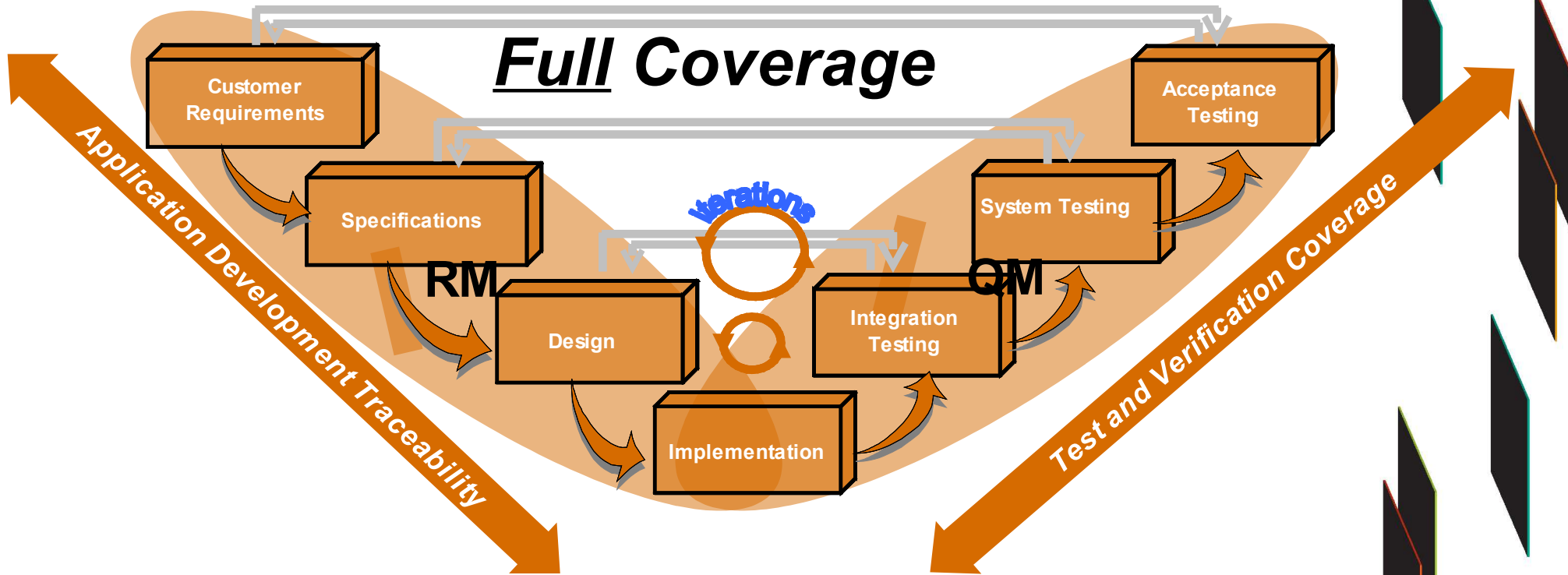
Deliver quality solutions and improve efficiency through real-time team collaboration, automation and reporting and leveraging proven best practices

Build consensus through business and development collaboration making good decisions based on real-time and accurate information across all stakeholders



# IBM Offers A Unique Solution

*That Ensures Entire Lifecycle Collaboration and Traceability*



## *IBM's full life cycle coverage and traceability solution*

- ✓ Common set of clear requirements shared by team
  - ✓ Don't miss out critical requirements
  - ✓ Assess requirements change impact
- ✓ Identify most critical requirements to test
  - ✓ Prove compliance (audit-ability)

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# Rational Quality Manager

*Central hub for business-driven software quality delivery*

## ***Mitigate business risk with collaboration***

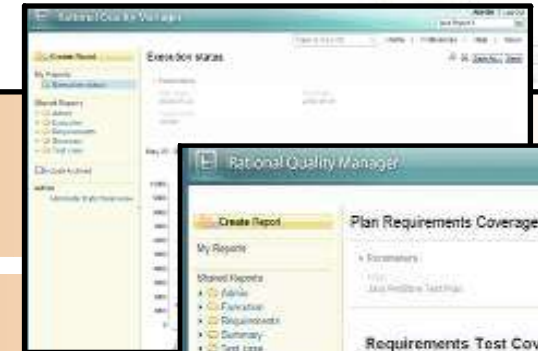
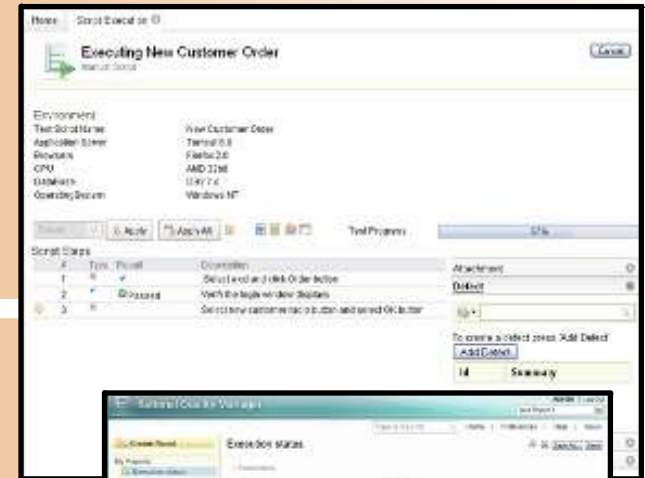
- ✓ Team coordination of test planning
- ✓ Enforceable process workflow
- ✓ Upstream and downstream quality

## ***Improve operational efficiency with automation***

- ✓ Lab efficiency and asset utilisation
- ✓ Test coverage optimisation
- ✓ Environment and lifecycle coverage

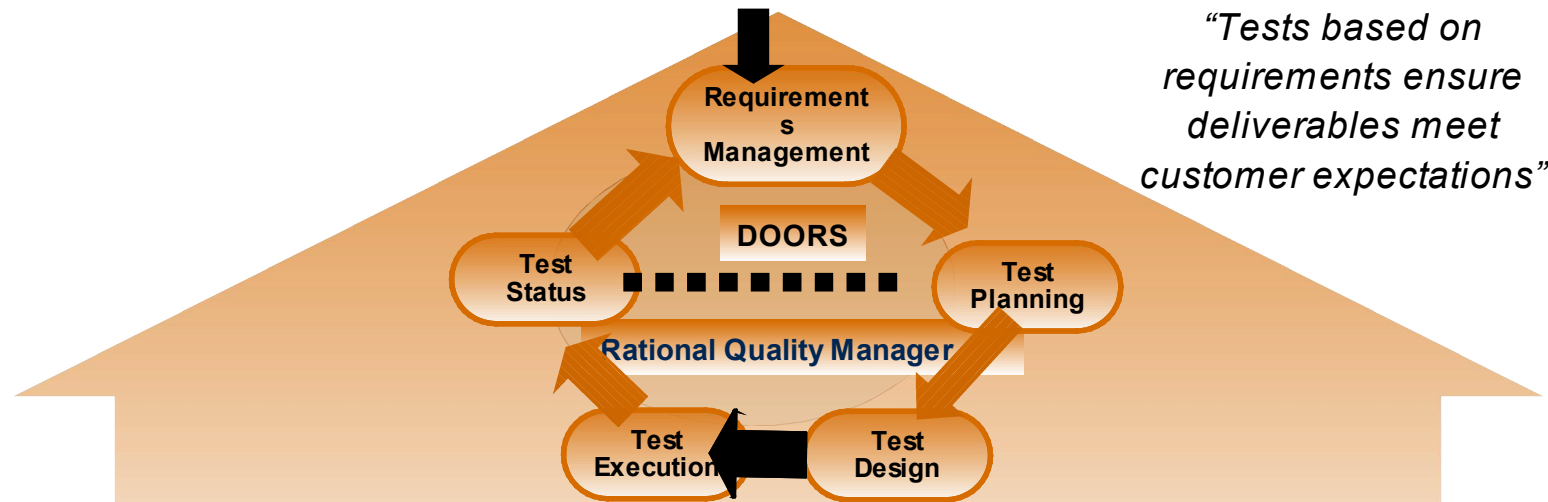
## ***Make confident decisions with effortless reporting***

- ✓ Ongoing analysis & process improvement
- ✓ Proactive risk management
- ✓ Greater predictability





# Principles of an Integrated Approach



*“Tests based on requirements ensure deliverables meet customer expectations”*

## 1. Plan Tests Early

- Plan tests for each requirement as the requirement is written.

## 2. Conduct Tests Early

- Perform tests as early as possible in the development process.

## 3. Relate Tests to Requirements

- Trace tests back to the requirements they are designed to check.

## 4. Relate Defects to Requirements

- Trace defects back to the requirements that they show are not satisfied.

## 5. Measure Progress against Requirements

- Set targets and measure the progress of testing in terms of those requirements that are shown to be satisfied or are not satisfied.

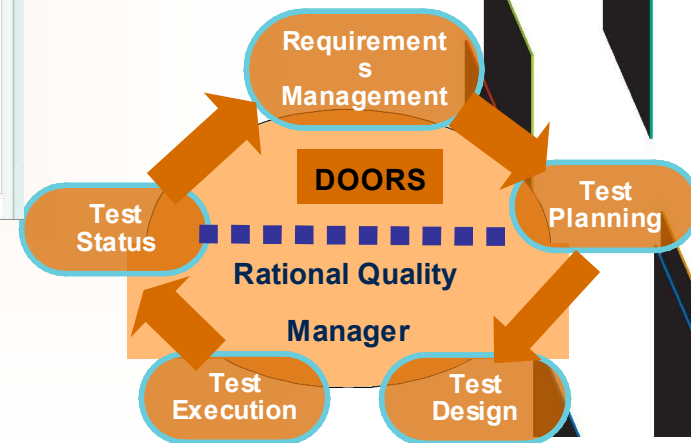


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# The QA Manager/Tester Sees Requirements in RQM

The screenshot shows the Rational Quality Manager (RQM) interface. The main window displays the 'Overall Car Test Plan' with a list of requirements. The requirements are organized in a table with columns for Status, ID, Tag, Name, Description, and Owner. The requirements listed are:

Status	ID	Tag	Name	Description	Owner
<input type="checkbox"/>	478	12:Stakeh...	12:Stakeh...	Four average size adult...	Unass...
<input type="checkbox"/>	479	314:Stake...	314:Stake...	The top level of cars a...	Unass...
<input type="checkbox"/>	480	315:Stake...	315:Stake...	Five average size adu...	Unass...
<input type="checkbox"/>	481	316:Stake...	316:Stake...	Two average size adu...	Unass...
<input type="checkbox"/>	482	318:Stake...	318:Stake...	Users shall have easy...	Unass...
<input type="checkbox"/>	483	19:Stakeh...	19:Stakeh...	Users shall be able to ...	Unass...
<input type="checkbox"/>	484	20:Stakeh...	20:Stakeh...	Users shall be able to ...	Unass...
<input type="checkbox"/>	485	321:Stake...	321:Stake...	Users shall be able to ...	Unass...
<input type="checkbox"/>	486	319:Stake...	319:Stake...	Users shall be able to ...	Unass...
<input type="checkbox"/>	487	320:Stake...	320:Stake...	Users shall be able to ...	Unass...



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# The Analyst Checks QA Status in DOORS

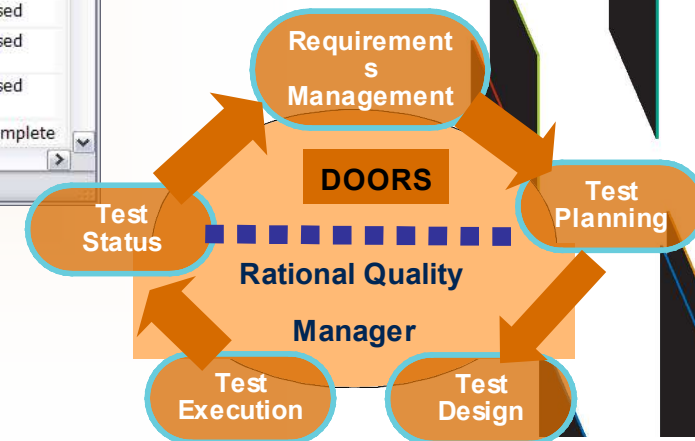
'Stakeholder Requirements' current 1.0 (2004 Model) in /Car Project (Formal module) - DOORS

File Edit View Insert Link Analysis Table Tools Discussions User Help

View Constraint Test Report All levels

ID	Car user requirements	Test Cases	Test Status	Verdict
CSR103	<b>3.2 Constraint Requirements.</b>		Mixed Status	Failed
CSR104	<b>3.2.1 Availability</b>		Mixed Status	Failed
CSR105	Users shall be able to travel 10000 kilometers with a 99.9 percent chance of experiencing no breakdowns.	(1) 10K Reliability: Failed	Approved	Failed
CSR106	Users shall be able to travel 10000 kilometers with a 99.99 percent chance of experiencing no faults that do not result in breakdowns.	(1) 10K Reliability: Failed	Approved	Failed
CSR107	Loss of use of car due to equipment failure shall not exceed 1 day in every 2 years.	(2) Stress Test: Error	Not Approved	Error
CSR108	<b>3.2.2 Lifetime</b>		Not Approved	Error
CSR109	Users shall be able to use the car to its designed standard for 200000 kilometers.	(2) Stress Test: Error (3) Security Check: Passed	Not Approved	Error
CSR110	<b>3.2.3 Security</b>			
CSR111	Only the authorized user shall be able to start and drive away the vehicle.			
CSR112	<b>3.2.4 Accessories</b>		Approved	Passed
CSR113	A warning triangle shall be supplied with the vehicle	(4) Accessory Audit: Passed	Approved	Passed
CSR114	A first aid kit shall be supplied with the vehicle	(4) Accessory Audit: Passed	Approved	Passed
CSR115	<b>3.2.5 Fuel input</b>		Approved	Incomplete

Username: Richard Watson Exclusive edit mode



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# Benefits

- Providing a requirements based integration between Requirements Management and Test Management enables:
  - The Requirements Analyst to focus on delivering testable requirements with fully defined qualification criteria
  - The QA/Tester to focus on developing tests against a known set of requirements
  - Release Management can be performed based on requirement quality measures rather than on statistics of test pass/failure



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# Can Users in Microsoft Team Foundation server work with DOORS data?

- The DOORS for Microsoft TFS Add On allows users to drive their Visual Studio development from requirements managed in DOORS
  - Uses active/dynamic external links which allow work items to be traced from VS Work Items to DOORS objects and visa versa.
- The integration between DOORS and Microsoft Team Foundation Server (TFS) allow users to work/develop in their preferred tool environments
  - DOORS for Requirements Management
  - Visual Studio for development



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# Introducing the DOORS for Microsoft Team Foundation Server Add On

Features	Functional Benefits	Business Benefits
Drag and drop linking between DOORS and Visual Studio	Traceability can be quickly created between requirements and Work Items	Greater confidence in meeting the original business goals
DOORS users can report on traceability to TFS Work Items	Traceability can be easily maintained	Avoid rework and improve operational efficiency
Visual Studio users can see traceability from TFS Work Items to their originating requirements in DOORS	Any requirements that have been overlooked can be detected	Reduce project risk by ensuring that critical requirements are not missed
Synchronisation keeps the link information up-to-date. Workitem/requirement changes identified through suspect link notification	The impact of requirements changes on development items can be viewed and analysed	Prioritise change activities based on business impact



# Track Work items Linked to DOORS Requirements

- VS work items can be linked to DOORS requirements
- Data can be displayed and synchronised from VS/DOORS
- Modified DOORS requirements in will show as suspect (red flagged)
- Use custom link types

**TFS DOORS Interface**

The screenshot shows the Microsoft Visual Studio interface with the TFS DOORS extension. The main window displays a task titled "Task 516 : Build 23.1.14 Using Stale Data". Below the task details, there is a "DOORS Links" table with two rows. The second row is highlighted in red, indicating a suspect link. An "Edit Link" dialog box is open, showing the details of the selected link, including its URL, module, object ID, and object text. The "Object Text" field is circled in black.

ID	Type	Title	Description	Comments
0	DoorsLink...	ID: TRN-CSR-113 Module: ...	A first aid kit shall be supplied wit...	vstfs:///WorkItemTrac...
1	DoorsLink...	ID: TRN-CSR-112 Module: ...	A warning triangle shall be suppli...	vstfs:///WorkItemTrac...

Attribute	Value
URL	doors://IBM-0EB5F2EE316:36688/?version=2&pro
Module	Stakeholder Requirements
Object Id	TRN-CSR-112
Object Text	A warning triangle shall be supplied with the vehicle
Short Text	
Last Modified By	John Chang
Last Modified On	05 February 2008
Last Synchronized On	



# Link and Display TFS Work item Information in DOORS

- Create bi-directional links to TFS work items
- Data from Linked TFS work items can be displayed in DOORS columns
- Display TFS suspect change indicators and other TFS attributes

The screenshot shows the DOORS application interface. The main window displays a table of System Requirements with columns for ID, System Requirements, and TFS Traceability. A dialog box titled 'External Link Properties - DOORS' is open, showing a table of attributes and values for a linked TFS work item. A black circle highlights the 'External Links' section in the main window, and another black circle highlights the 'External Link Properties' dialog box.

ID	System Requirements	TFS Traceability
TRN-SR-62	The car shall be able to protect passengers passively in the event of an accident.	
TRN-SR-63	<b>1.8.2 Protect actively</b>	
TRN-SR-64	The car shall be able to protect passengers actively	/New Family Car Project/Requirements/Stakeholder Requirements

Attribute	Value
Industrial area	
Last Modified By	Administrator
Last Modified On	07 July 2008
Object Type	Not Set
Priority	Not Set
Progress	
Status	Draft
TFS Suspect Flag	07/07/08 16:49:20 TFS_State: Prop...
TFS_State	Active
TFS_WorkItem_Type	Issue

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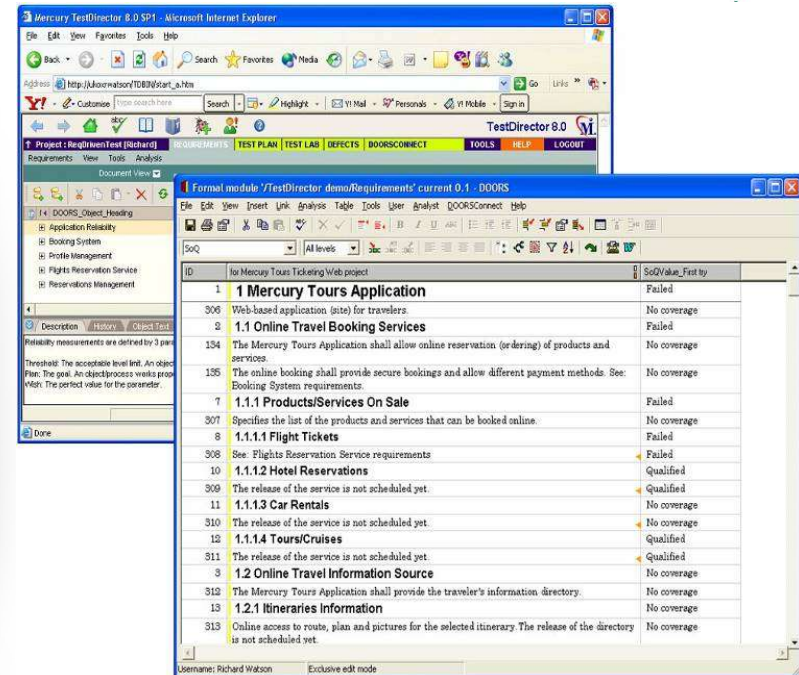
# Other key interfaces

## Rational DOORS and HP Quality Center

- The IBM Rational DOORS and HP Quality Center bridge provides synchronisation and linking between requirements in Rational DOORS and test cases in HP Quality Center.

## Rational DOORS and Serena

- With this interface users can synchronise configuration management regimes and establish traceability between information managed in Rational DOORS and versions managed by Serena VM.



The screenshot displays the Mercury TestDirector 8.0 SP1 interface. The main window shows a table of requirements for a project named 'Mercury Tours Ticking Web project'. The table has columns for ID, Description, and Status. The requirements are listed as follows:

ID	Description	Status
1	Mercury Tours Application	Failed
306	Web-based application (site) for travelers.	No coverage
2	1.1 Online Travel Booking Services	Failed
154	The Mercury Tours Application shall allow online reservation (ordering) of products and services.	No coverage
155	The online booking shall provide secure bookings and allow different payment methods. See: Booking System requirements.	No coverage
7	1.1.1 Products/Services On Sale	Failed
307	Specifies the list of the products and services that can be booked online.	No coverage
8	1.1.1.1 Flight Tickets	Failed
308	See: Flights Reservation Service requirements	Failed
10	1.1.1.2 Hotel Reservations	Qualified
309	The release of the service is not scheduled yet.	Qualified
11	1.1.1.3 Car Rentals	No coverage
310	The release of the service is not scheduled yet.	No coverage
12	1.1.1.4 Tours/Cruises	Qualified
311	The release of the service is not scheduled yet.	Qualified
3	1.2 Online Travel Information Source	No coverage
312	The Mercury Tours Application shall provide the traveler's information directory.	No coverage
13	1.2.1 Itineraries Information	No coverage
313	Online access to routes, plan and pictures for the selected itinerary. The release of the directory is not scheduled yet.	No coverage

# Questions