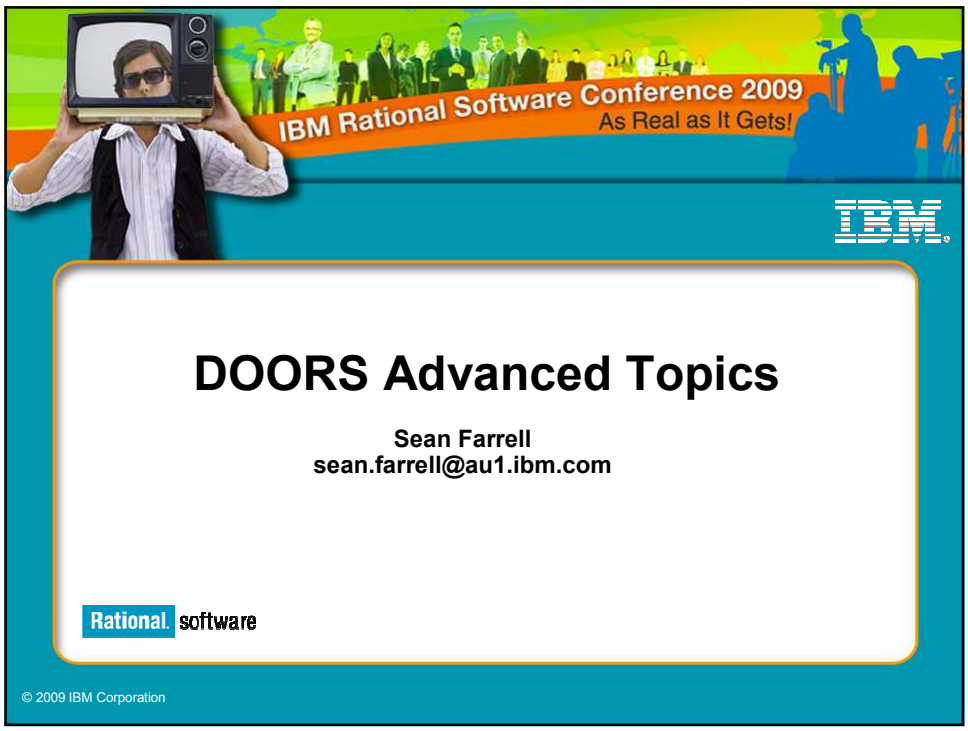
IBM Rational Software Conference 2009
As Real as It Gets!
IBM
DOORS Advanced Topics
Sean Farrell
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Housekeeping
Evacuation Routes
Breaks & Lunch
Transport
Message
Messages

What Do We Mean by Remote Deployment?

- Deployment Issues
- RIF
- Kickstart
- Integrations
  - HP Quality Center
  - DOORS RQM
  - Telelogic Change
  - Telelogic Publishing Engine
  - DOORS Web Access

DOORS Advanced Topics

Deployment Options

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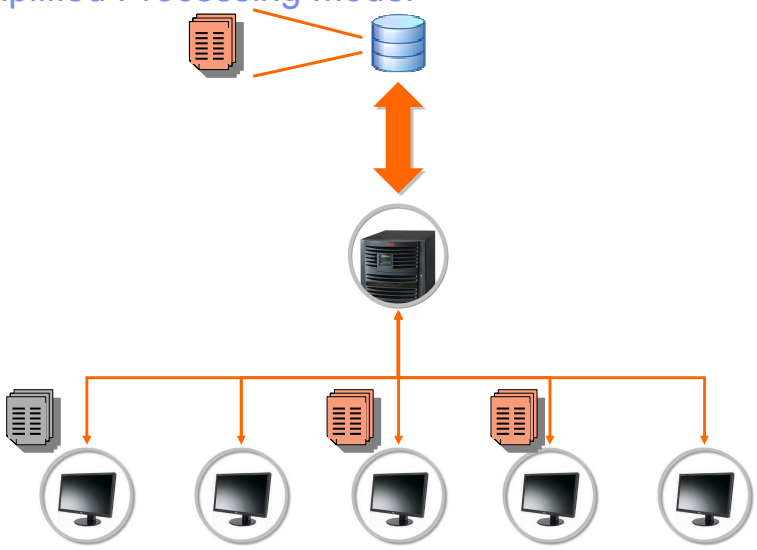
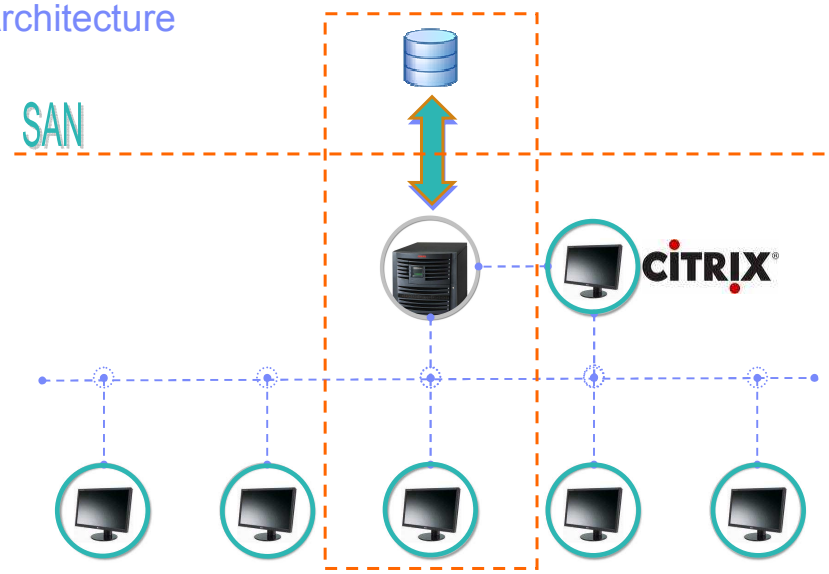
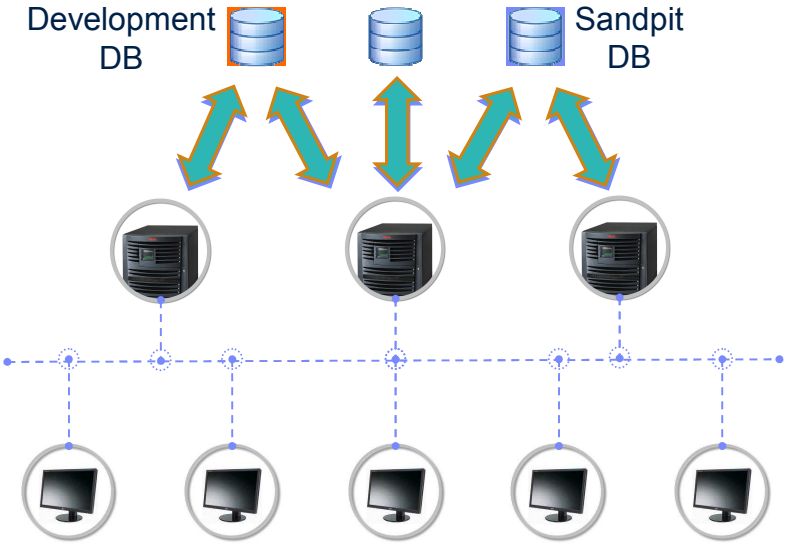
Simplified Processing Model



Architecture



Additional Databases



What Do We Mean by Remote Deployment?

- Centralized deployment
  - e.g using IBM Tivoli, Microsoft SMS
- Centralized application service
  - e.g. using Citrix Presentation Server

Centralized Deployment

DOORS client installer repackaging e.g. Tivoli/SMS
is **supported from V9.0 ONWARDS**

Beware:

- Unauthorized local customization
- Performance in WAN environments

Centralized Application Service

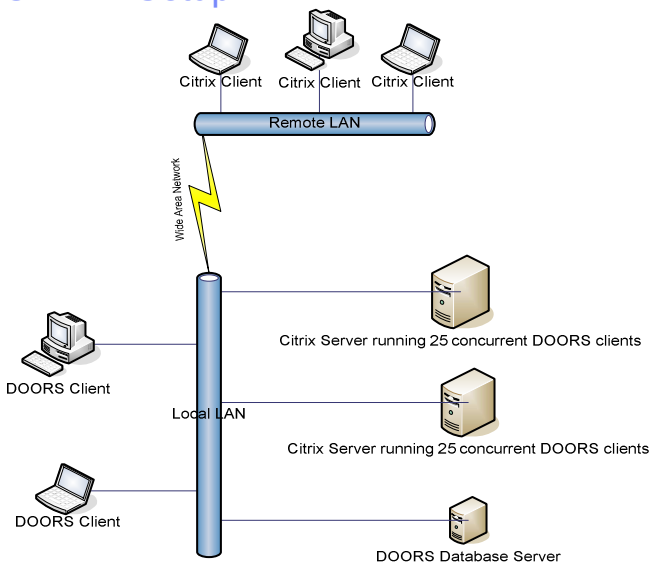
Supported on Citrix Presentation Server

- As noted in 'Supported Platforms'

Beware:

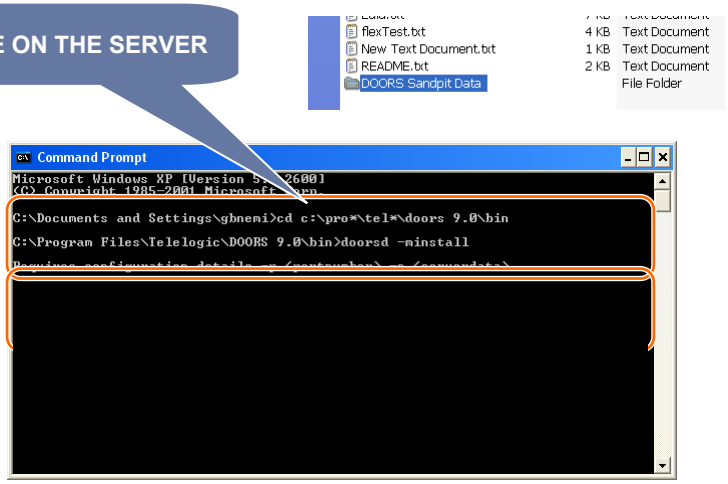
- Ensure drives & printers are mapped appropriately
- Give users access to MS Office on the server
- Configure apps to start on the same server in a farm
  - DOORS works best in *at least* 256 colours

Typical CITRIX Setup

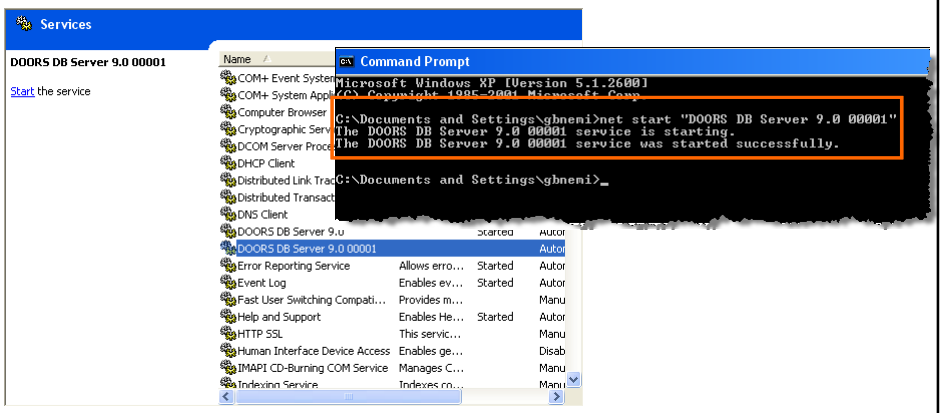


Create Additional Databases

- DONE ON THE SERVER



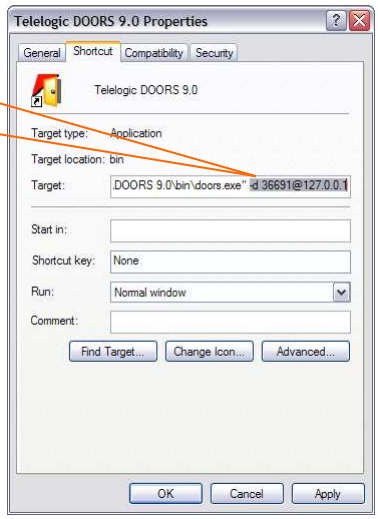
Start New Service



Connect a local client to network DB

OR

-d 36691@hostname



Other Command Line Switches

Switch (abbreviation)	Parameter	Description
-addins (-a)	addins_folders	A list of one or more paths to the folders that contain your DXL addins files. Use semicolons (;) to separate the entries in the list. Don't include spaces after the semicolons. Paths can be local paths, conventional drive mappings, or UNC (Universal Naming Convention) paths.
-attributeaddins (-A)	dxl_attributes_ folders	A list of one or more paths to the folders that contain the programs that you can use for DXL attributes. Use semicolons (;) to separate the entries in the list. Don't include spaces after the semicolons. Paths can be local paths, conventional drive mappings, or UNC (Universal Naming Convention) paths.
-batch (-b)	dxl_program	Runs Rational DOORS in batch mode, without the GUI. For more information, see Running Rational DOORS in batch mode.
-caching (-k)		Enables streaming for transfer of data between the database server and the client. This option may improve data transfer performance over a WAN. However, using this option offers a potential security risk. Data is cached to the localdata area of the client machine whilst loading, although it is cleared on load completion.
-data (-d)	port@server	Specifies which Rational DOORS database to use. The parameter specifies the port that the server is using and the name of the server computer (for example, 36677@myserver). A Rational DOORS 9.2 client can't use a pre-9.0 database server.
-defopenmode (-o)	One of the following: READ_ONLY READ_WRITE READ_WRITE_SHARED	The default edit mode that formal modules are opened in when you double-click them in the database explorer. The parameter is READ_WRITE for exclusive edit mode and READ_WRITE_SHARED for shareable edit mode. Note that this parameter must be upper case, unless you use the single letter

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Other Command Line Switches

		abbreviations (r, w and s).
-defopenlinkmode (-O)	One of the following: READ_ONLY READ_WRITE READ_WRITE_SHARED	The default edit mode that formal modules are opened in when you open them by clicking a link arrow in another module. The parameter is READ_WRITE for exclusive edit mode and READ_WRITE_SHARED for shareable edit mode. Note that this parameter must be upper case, unless you use the single letter abbreviations (r, w and s).
-dxl (-D)	dxl_string or "#include <dxl_program>"	DXL that is executed immediately after Rational DOORS starts up. The parameter is either: • A DXL code fragment. • A hash include statement that specifies the path to a DXL program.
-home (-H)	doors_home	The Rational DOORS home folder. This is the path to the folder that Rational DOORS was installed into (the folder that has a bin folder which contains the doors.exe file).
-layoutaddins (-L)	layout_dxl_ folders	A list of one or more paths for layout DXL folders. Use semicolons (;) to separate entries in the list. Don't include spaces after the semicolons. Paths can be local paths, conventional drive mappings, or UNC (Universal Naming Convention) paths.
-localdata (-f)	local_folder	A folder on the local computer used as temporary storage for data copied from the Rational DOORS database server.
-logfile (-l)	logfile	A file in which Rational DOORS logs information. This is the full path, including the name of the log file. If you use this switch on the command line, it logs DXL errors in the file. Any reported DXL errors are logged in the file instead of being displayed on the screen. If you use this switch in the registry, it logs the information that is recorded in the Windows event log. The information is logged in the file as well as in the application

Other Command Line Switches

		log, where the records have DOORS_DB_SERVER in the Source field.
-notriggers (-T)		Turn off triggers. You must be either a Database Manager or a Custom user who has the power to manage the database.
-password (-P)	password	The password for the session.
-project (-p)	project_name	The name of the project that you want to open at the start of the session. The contents of the project are displayed in the right pane of the database explorer. If you use the -batch switch, the parameter specifies the current project.
-projectaddins (-J)	project_addins_folders	A list of one or more paths for project DXL addins directories. Use semicolons (;) to separate entries in the list. Don't include spaces after the semicolons. Paths can be local paths, conventional drive mappings, or UNC (Universal Naming Convention) paths.
-user (-u)	username	The username of the user for the session.
-W	nowait	When you are running a batch process, and there are any errors or printed output, they are sent to a command window. Rational DOORS will continue to run until the command window is closed. Using -w as part of the command line when running a batch process closes any command windows automatically and allows Rational DOORS to stop running.

DOORS Advanced Topics

RIF

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What is RIF?

- Requirements Interchange Format
- the upcoming format for the standardized exchange of requirement information
- to guarantee a lossless exchange of requirement information
- defined via an XML schema
- format and data model which will structure requirements and their attributes, types, access permissions and relationships (links)
- tool independent. Manufacturers of all of the major RM-tools commited to supporting the RIF standard

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DOORS 9.2 RIF Support includes …

- support for export and import with XML data based on the RIF standard
- data interchange of Rational DOORS data including modules, objects, links
- support for construction of metadata including modules, types, attributes, views
- localized support for history
- support for the transfer of DXL Attributes as plain text

Current limitations …

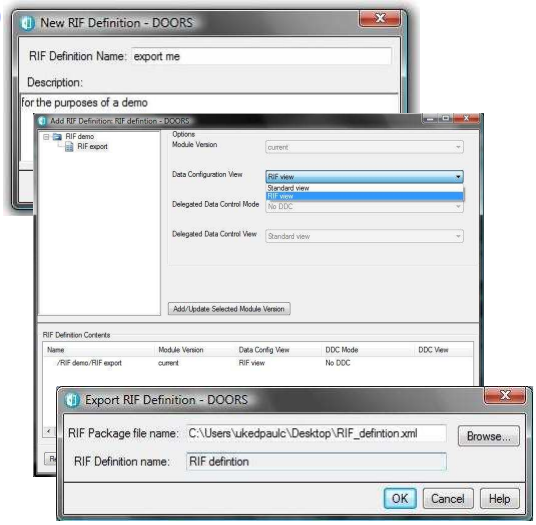
- definitions of RIF packages limited to modules from a single folder location
- support for layout DXL only through converting layout DXL to attribute DXL
- some dialog components are disabled:
  - project properties, RIF Definitions dialog, *"Recover..."* and *"Imports..."*
  - edit RIF definition dialog, *"Module version"*, *"Delegated data control mode"*, *"Delegated data control view"*
  - import RIF package dialog, *"Use existing RIF definition"*
  - no support for DOORS pictures

still to come in 9.2 …

- disperse module selection
- baseline support
- Distributed Data Control:
  - delegation of requirements activities
  - partners can modify defined attributes within a module
  - partners can manipulate links
  - merge data back into the original module locations
- support for the Layout DXL
- support for DOORS pictures

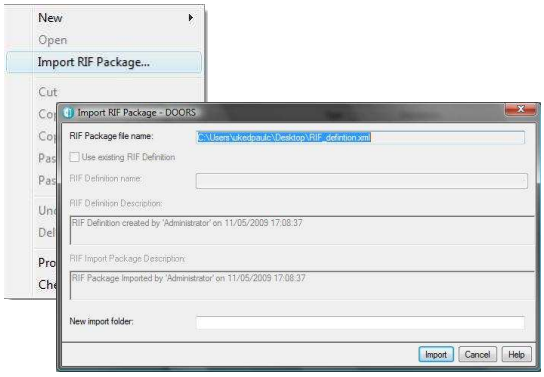
RIF definition and expo

- definitions are created from Project Properties
- Data collected is based on a view
- DDC drop down greyed out



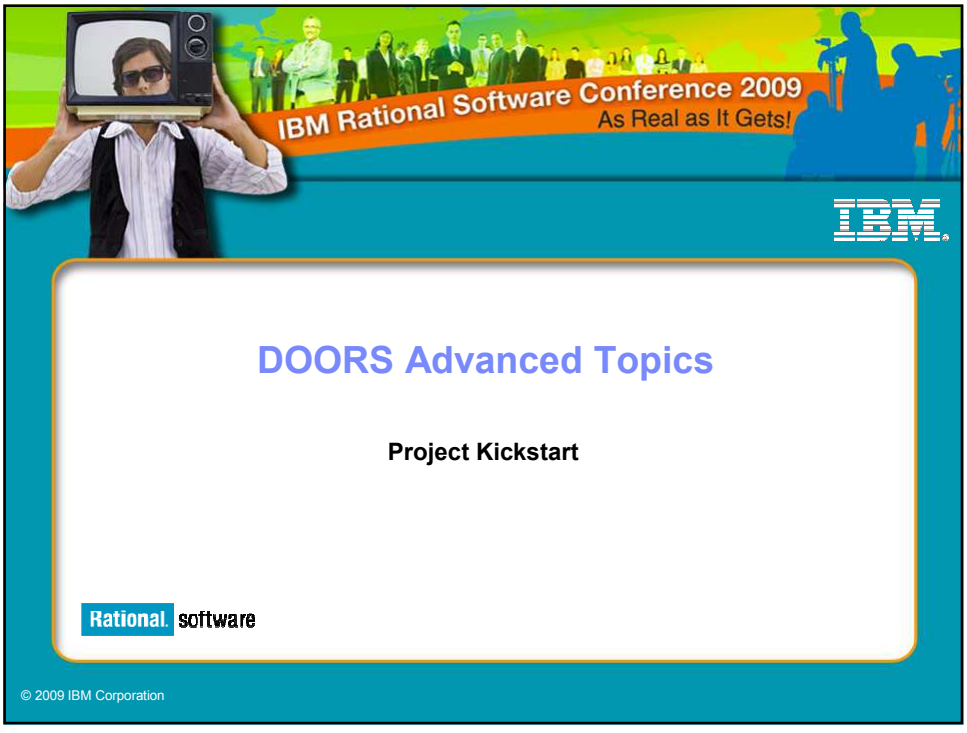
import RIF package

- import into a project
- 'Use existing RIF Defintion' dialog box currently unavailable
- creates an identical module based on the original view



returning the data

- how do you return a package to the source db?
- in forthcoming versions temporary modules will be created which can be merged with the originals
- A major benefit is that you can exchange data with other applications



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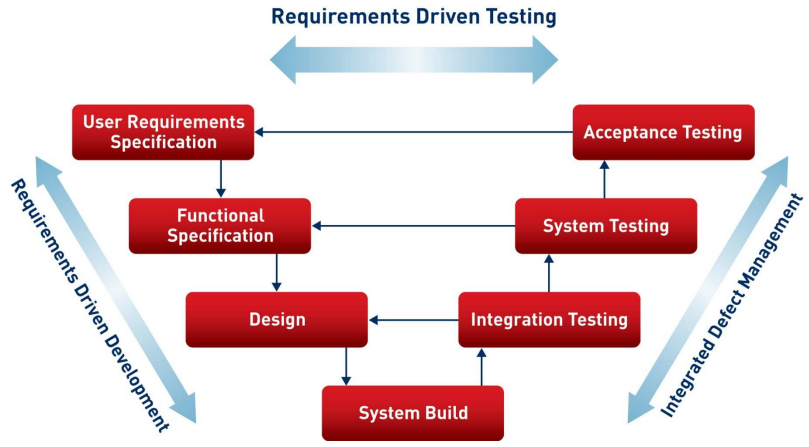
Typical Integrations

- HP Quality Center
- DOORS RQM
- Telelogic Change
- Telelogic Publishing Engine
- DOORS Web Access

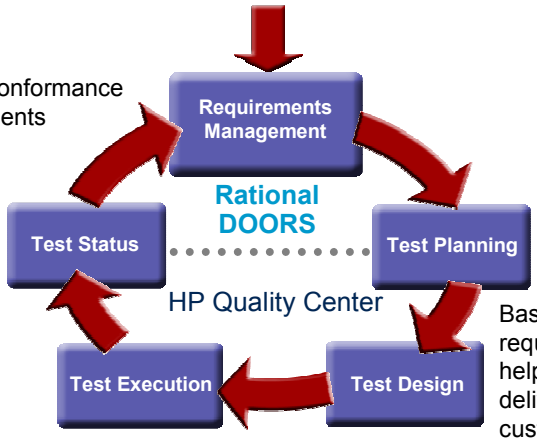
HP Quality Center

Integrating the project team



Requirements-driven testing

Quality is conformance to requirements

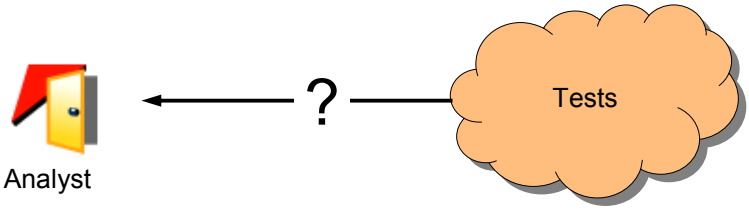


Basing tests on requirements can help ensure that deliverables meet customer expectations

Process automation and increased focus
The test team is working against the right set of requirements

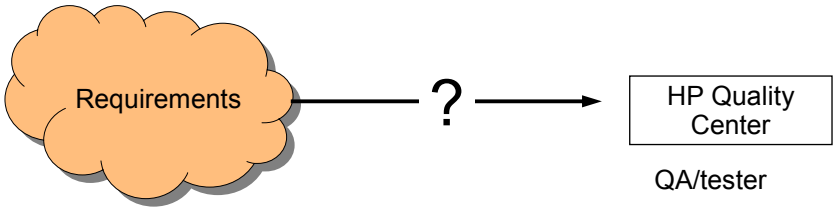
Role: analyst

- The analyst is a Rational DOORS user principally interested in requirements management
- Specifies the *qualification criteria* that must be met by testing
- Needs to know that requirements are tested
- Performs impact analysis to cover requirements and test
- Wants to be involved with release review boards



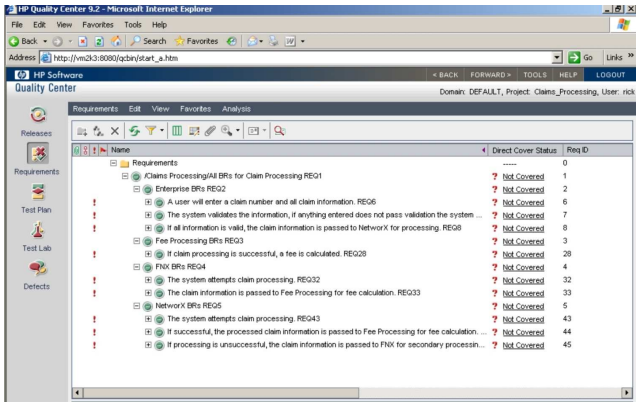
Role: QA/tester

- The QA/tester is a Quality Center user principally interested in test management and execution
- Uses the *qualification criteria as test requirements*
- Needs to be involved with requirements review
- Establishes traceability to requirements
- Investigates test failures



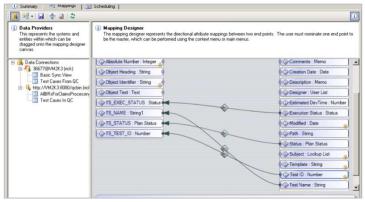
Facilities within HP Quality Center

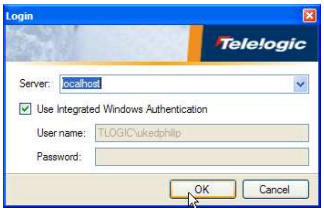
- See Rational DOORS data inside the requirements tab in Quality Center
  - Test against requirements rather than simply against what is built



Facilities available to the integration administrator

- Data-set definition
  - Defines how much information should be visible when seeing the same information in Rational DOORS and HP TestDirector for Quality Center
- Attribute mapping
  - Configures how Rational DOORS information is seen in Quality Center
  - Configures how Quality Center information is seen in Rational DOORS
- Client installation for remote administration
- Individual named-user authentication to help improve security



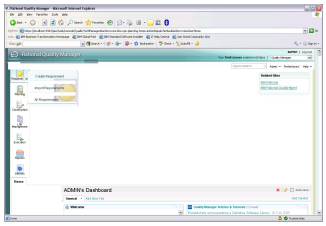


Rational Quality Manager

Some basic information on RQM

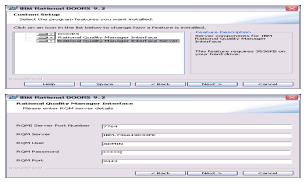
- IBM Rational Quality Manager – RQM
- To install RQM user requires IBM Installation Manager
- The supported version is IBM Rational Quality Manager 1.0.1.1 Standard Edition.
- RQM is built on the Jazz server.
- We only support the DOORS – RQM integration - RQMI. NOT the RQM application.

Starting RQM Server



Installing RQMI Server and client

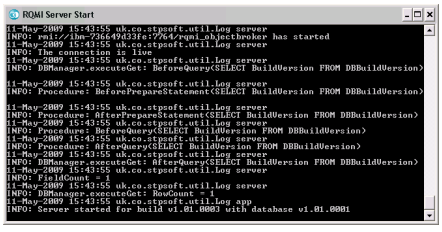
- RQMI server and client installer comes with DOORS 9.2 client custom install option.
- The primary DDBS configuration for the Integration server is completed during the install.
- User specifies RQM server/user and ports for RQM and RQMI server port.
- DOORS username and password is also requested.



Starting the RQMI Server

- All Programs > IBM Rational > IBM Rational Tools > IBM Rational DOORS for RQM Interface > RQMI Server Start.
- A console window is displayed showing a log of the startup process. When the server has started, the console will display the following log text:

  INFO: Server started with database from build v1.01.0001



Setting up additional DDBS configurations

To register additional DOORS databases with the RQMI server:

- Open a Command console window on the RQMI server machine.
- Using the DOS cd command, navigate to the folder:

$:\Program~1\IBM\Rational\DOORS\9.2\RQMInterface\Server\IM\bin\

- Execute the command

"admin –a {DOORS Host} {DOORS Port} {Username} {Password}"

RQMI automatic synchronizer

- The automatic synchronizer is preconfigured to run at intervals of 1440 minutes (i.e.24 hours) between synchronization cycles.
- The minimum interval possible between synchronizations is 10 minutes.
- To change the synch interval navigate to:
  $:\Progra~1\IBM\Rational\DOORS\9.2\RQMInterface\Server\IM\bin\

Command is **"admin –s {minutes}"**

- The command to disable the automatic synchronizer is "**admin –s 0"**
- The command to re-enable the automatic synchronizer is "**admin –s 1"**

Exporting DOORS requirements to RQM

DOORS user should create a public view that contains objects to be exported to RQM

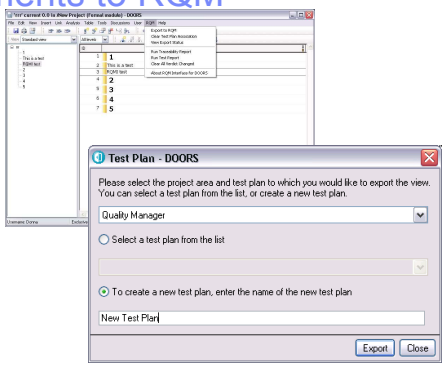
Only objects that contain Object Text will be included in the export

There are 2 phases to the export.

1. The DOORS user initiates the export and the data is packaged prior to posting.
2. The second phase starts when the export request has been posted to the RQMI server. This phase is asynchronous, so the DOORS user is then able to continue working with DOORS while the data is being exported to RQM.

The user can check the status of the export via menu option RQM>View Export Status.

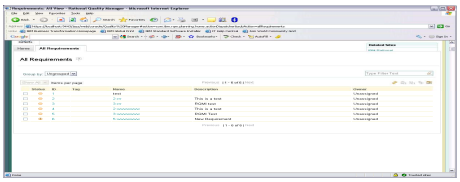
Once the export is completed, the dialog has a Go to URL button which opens the target test plan in RQM.



Requirement data inside RQM 1

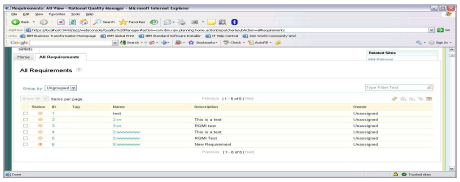
- RQM displays a status field which can be either Updated, Removed or Normal
- Normal - (default) requirement is new in RQM or was previously exported to RQM and its object text has not changed in DOORS.
- Updated - requirement was previously exported to RQM and the object text of the source object in DOORS was subsequently updated (see ID 6).
- Removed - requirement was previously exported to RQM and subsequently deleted in DOORS.

NOTE: RQMI synchs will not delete previously exported Requirements in RQM even if they are now purged in DOORS



Requirements inside RQM 2

- **Name** field consists of DOORS object identifier and DOORS module name
- After a requirement has been exported to RQM the Name will not change, even if the name of the source DOORS module subsequently changes.
- Clicking the Name hyperlinks to the object in DOORS.
- **Description** field contains Object Text. DOORS OLE's and tables will not be displayed. They will be represented as "OLE Object" and "DOORS Table"



Associating requirements to test cases

- Once the Requirements have been synched to the Test Plan in RQM, RQM user can now associate test cases to each requirement.
- With these associations made and test cases run, the DOORS user can then generate traceability reports.
- The traceability report will include the DOORS object ID, Object heading and text, the RQM project name and test plan name along with the test case name, id and status.

Other menu options

- A DOORS view is permanently associated to the RQM test plan to which the view was exported. A single DOORS view can only be associated with one RQM test plan.
- To clear the association in the DOORS module select **RQM > Clear Test Plan Association**
- **A Test Report** shows the test coverage and statement of quality of exported objects.

Troubleshooting Tips

- Increasing the logging level

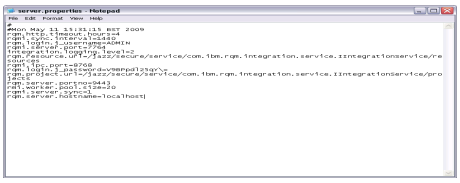
Level 1 is default level and records errors.

Level 2 logs errors and full execution information. Customers should only set this if Support request them to.

To change the log level edit file server.properties

Ensure the RQMI server is stopped before editing this file.

Logs stored in $:\Program Files\IBM\Rational\DOORS\9.2\RQMInterface\Server\IM\logs



RQMI data files

- For each view exported to RQM, a file is created in the DOORS Config area which contains the relevant information for the synchronization process.

Telelogic Change

Telelogic Publishing Engine

What are the Architectural considerations when using the Telelogic Publishing Engine Integration?

IBM Rational DOORS Web Access 1.2 New Features

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Licensing and Roles

- DWA_Edit
- DWA_Review
- DWA_Read has been removed
- Reviewer role allows browse and print
- Editor role allows browse, searching, print, discussion related activities and light edit

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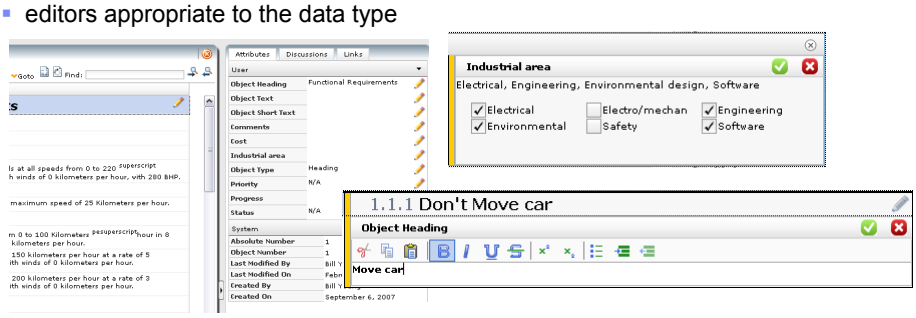
Light Edit

- aimed at those with relatively modest edit needs
- no aim to do things 'just like DOORS'
- the scope of an edit operation is a single attribute
- editors appropriate to the data type

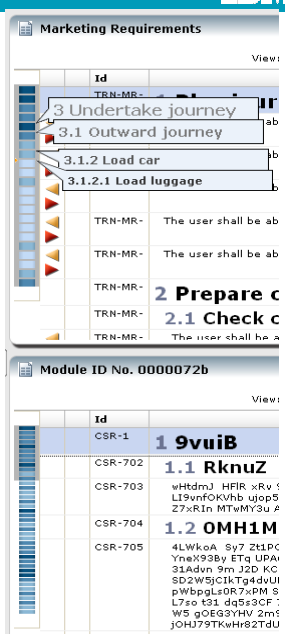


locking & ACLs

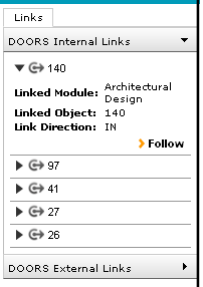
- with editing comes locking
- the granularity of a lock is at the single object level
- when a lock cannot be obtained, the user will be provided with the name and scope of the lock holder
- locks are acquired and released automatically
- Access Controls are honoured by all edit operations

navigation ribbon

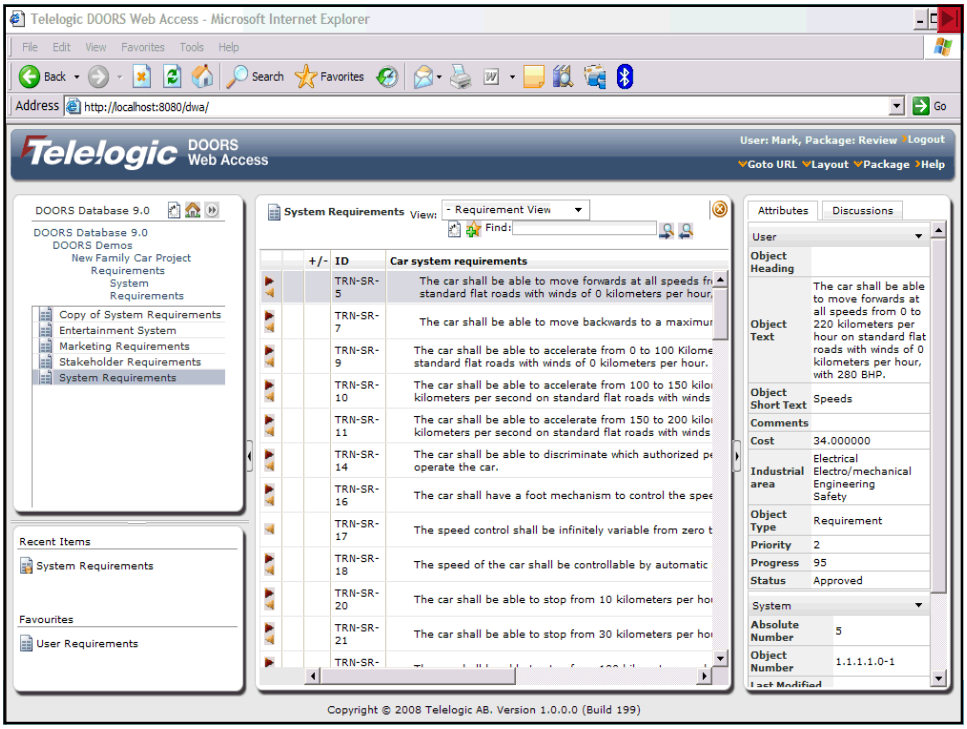
- ribbon shows current position relative to other objects
- ribbon shows the heading structure
- hover over the ribbon and a tool tip displays the heading text
- scroll to next group of objects by clicking the ‘load’ button



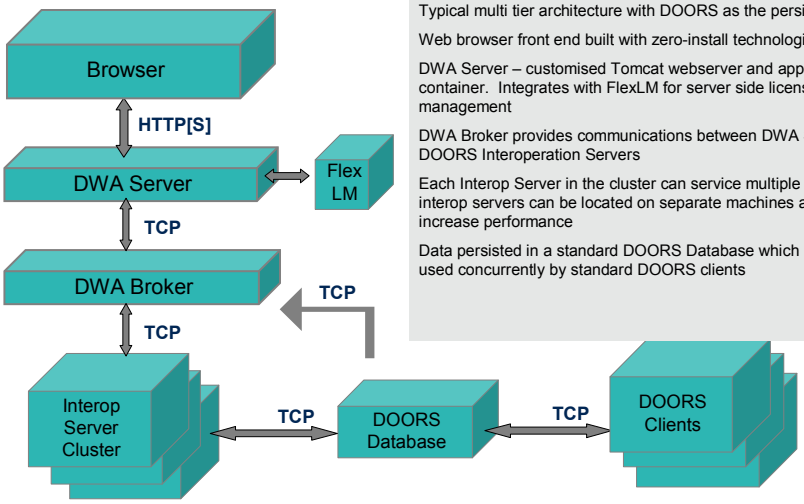
misc new features; links, go to URL, printing



- Links detail panel will display in, out, external links and link attributes for a given object
- printable display opens in new window / tab
- it is possible to retrieve a URL from an item in DWA



DOORS Web Access: Architecture



Typical multi tier architecture with DOORS as the persistent store.

Web browser front end built with zero-install technologies

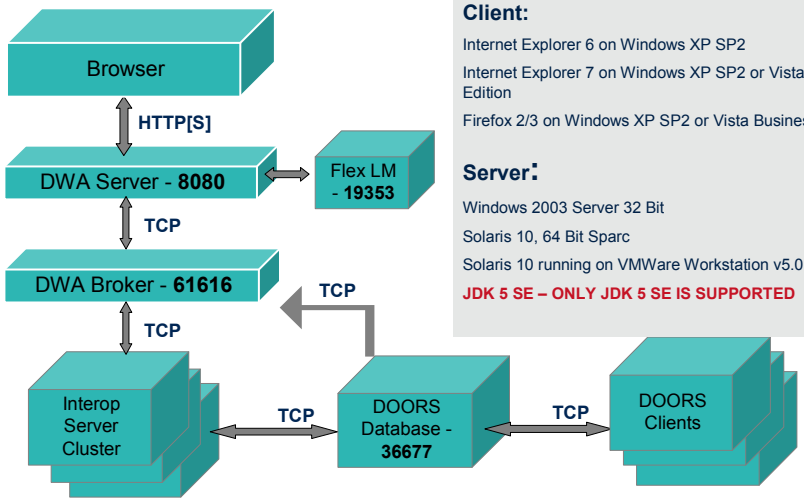
DWA Server – customised Tomcat webserver and application container. Integrates with FlexLM for server side license management

DWA Broker provides communications between DWA Server and DOORS Interoperation Servers

Each Interop Server in the cluster can service multiple end users, interop servers can be located on separate machines and can increase performance

Data persisted in a standard DOORS Database which can also be used concurrently by standard DOORS clients

DOORS Web Access - Requirements



Client:

Internet Explorer 6 on Windows XP SP2

Internet Explorer 7 on Windows XP SP2 or Vista Business Edition

Firefox 2/3 on Windows XP SP2 or Vista Business Edition

Server:

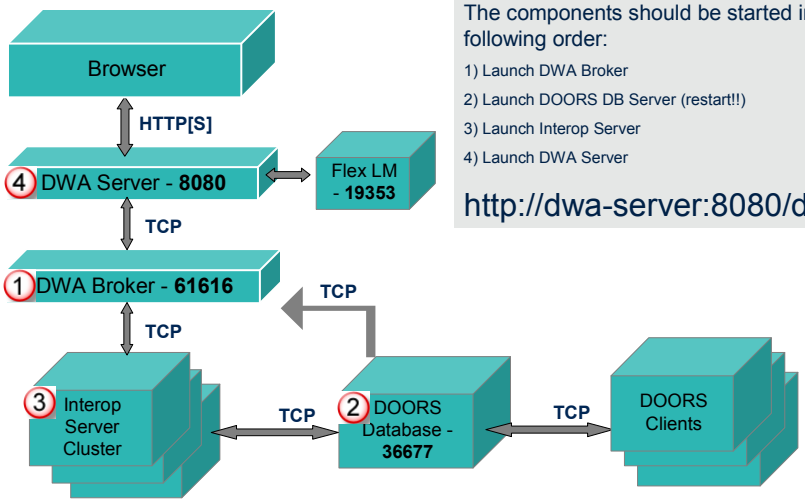
Windows 2003 Server 32 Bit

Solaris 10, 64 Bit Sparc

Solaris 10 running on VMWare Workstation v5.0.2

JDK 5 SE – ONLY JDK 5 SE IS SUPPORTED

Launching DOORS Web Access



The components should be started in the following order:

1) Launch DWA Broker
2) Launch DOORS DB Server (restart!!)
3) Launch Interop Server
4) Launch DWA Server

http://dwa-server:8080/dwa

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DOORS Web Access: Considerations

- Information Security
  - Though the system supports the use of HTTPS to protect communications between the browser and the DWA Server, there is currently no support for secure communication between different server-side components.
- Firewalls
  - The default ports used are
    - **Flex 19353**
    - **DWA Broker 61616**
    - **DWA Server 8080**
    - **DoorsDB 36677**
- Additional Interoperability servers
  - Can increase performance by load balancing

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