RD-Move
User's Guide

RING–ZERO
SOFTWARE

This document applies to Ring-Zero Software RD-Move version 2.5.1

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Introduction

RD-Move is a commercial software program developed by Ring-Zero Software which exports IBM Rational RequisitePro projects and recreates them in Telelogic DOORS. Previously moved projects will be updated with changes on subsequent operations.

Details

Requirements are moved from RequisitePro to DOORS in two steps.

Exporting RequisitePro requirements to XML (Extensible Markup Language, a W3C-recommended general-purpose markup language with a primary purpose of facilitating the sharing of structured text and information)

RD-Move uses the XML data to generate DOORS native script that recreates the original RequisitePro requirements in DOORS. Modified RequisitePro requirements that been previously moved by RD-Move are updated with changes.

RD-Move features a Windows-based GUI environment through which its user interacts with RequisitePro and DOORS.

System Requirements

The RD-Move System requires one of each of the following environments to operate.

Microsoft Windows	IBM Rational RequisitePro	Telelogic DOORS
Windows 2000 SP4 or later	RequisitePro 2002.05.20 or newer	DOORS 7.0 or newer
Windows XP SP1 or later		
Windows Server 2003		
Windows Vista		
Windows 7		
Windows Server 2008		

The amount of memory your computer has can make a large difference in export and import times. For larger data sets, e.g. 50,000 requirements, we recommend at least 1GB of system memory. If your RequisitePro requirement types have a large number of custom attributes, you will likely require additional memory.

To export RequisitePro data to XML, RD-Move requires that the RequisitePro client be installed. To import XML data into DOORS, RD-Move requires the DOORS client to be installed.

Capabilities

Loading and Saving of RequisitePro data in XML format

Uncoupled Operation

- Support for environments in which only one of the requirement tools is present.
- Requirements can be exported from RequisitePro and saved to XML format.
- On the same or on another computer, the XML data can be loaded and used to recreate or update DOORS requirements.

RequisitePro data

- Projects
- Requirement Types
- Database-bound Requirements (non-Requirement text contained in Microsoft Word documents associated with RequisitePro projects is currently not migrated)
- Data Types – with support for default values, enumerated types
- Inter-project traceability links (links between requirements within a particular project)
- Intra-project traceability links (links between requirements in different projects)

Update of previously moved data

- Addition of subsequently-added RequisitePro requirements
- Modifications to existing RequisitePro requirements
- Deletion of existing RequisitePro requirements – this causes the associated DOORS requirements to be flagged as deleted
- Support for changes to RequisitePro enumerated types
- Addition, deletion, modification of RequisitePro traceability links
- Re-parenting and re-ordering of RequisitePro requirements
- Re-classification of RequisitePro requirements (requirement type changes)

Generation of a log of changes made to DOORS requirements

- Date- and time-stamped log of created, modified and moved requirements.

Typical Usage Scenarios

- One-time migration of requirements from RequisitePro to DOORS.
- One-time migration followed by periodic updates.
- Repeated delivery of RequisitePro requirements used by one organization to another that uses DOORS.
- Movement of requirements from RequisitePro to DOORS at different sites.

Installing

RD-Move installation consists of executing the RD-Move installer and configuring licensing.

This software requires installation of Microsoft .NET Framework v4.0. If you do not have .NET 4.0 or newer, the installer will direct you to the download page on the Microsoft web site.

To configure licensing, copy your license file to the "license" subdirectory beneath the RD-Move installation folder after installation.

Uninstalling

RD-Move can be uninstalled via Control Panel | Add Remove Programs. Uninstalling will not remove:

- DOORS XML extracts, log files, license file, and user preferences files
- Microsoft .NET Framework v4.0 – you may uninstall this separately from the Control Panel.
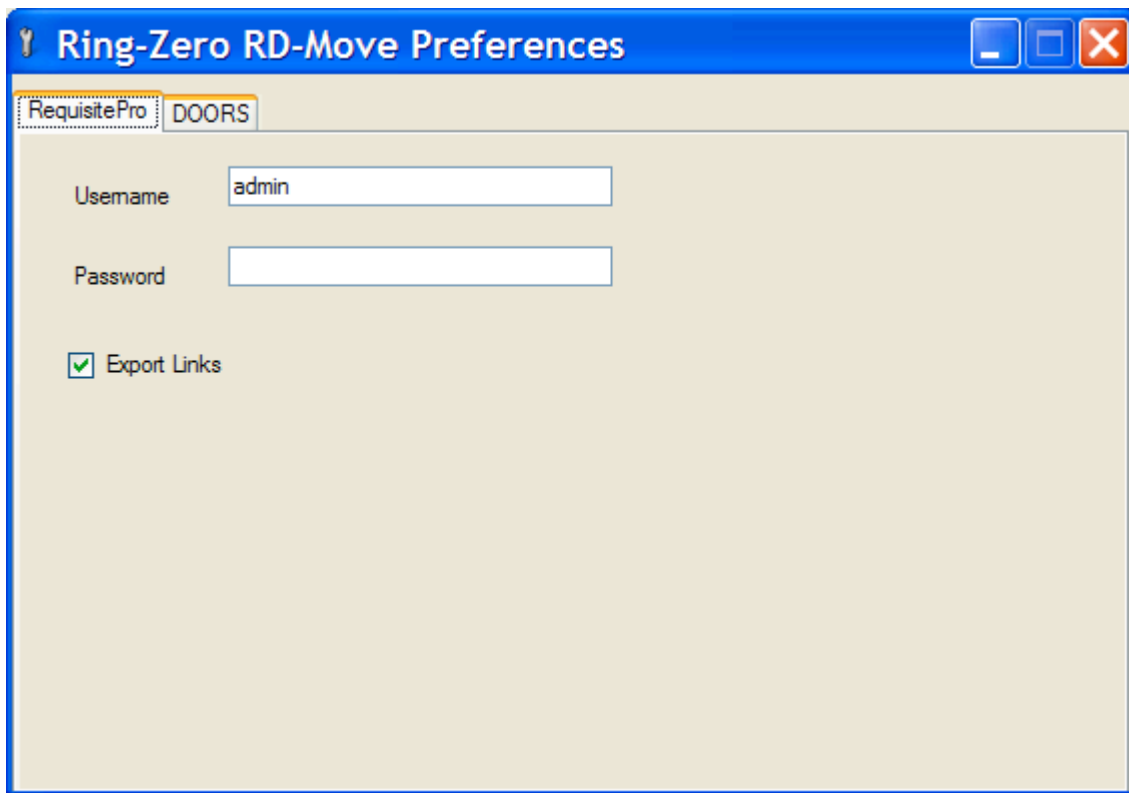
Configuration

RD-Move preferences must be configured before using RD-Move.   These options can be accessed from the Windows start menu. There are two sets of information necessary:

- RequisitePro information - username, password, and export options
- DOORS information - username, password, DOORS executable location and database, DOORS destination location (where data should be created or updated within the DOORS database hierarchy), and import options

Passwords are stored encrypted. An explanation of each preference setting follows.

Your preferences will be saved when the preference application is closed by clicking the red X in the upper right corner.
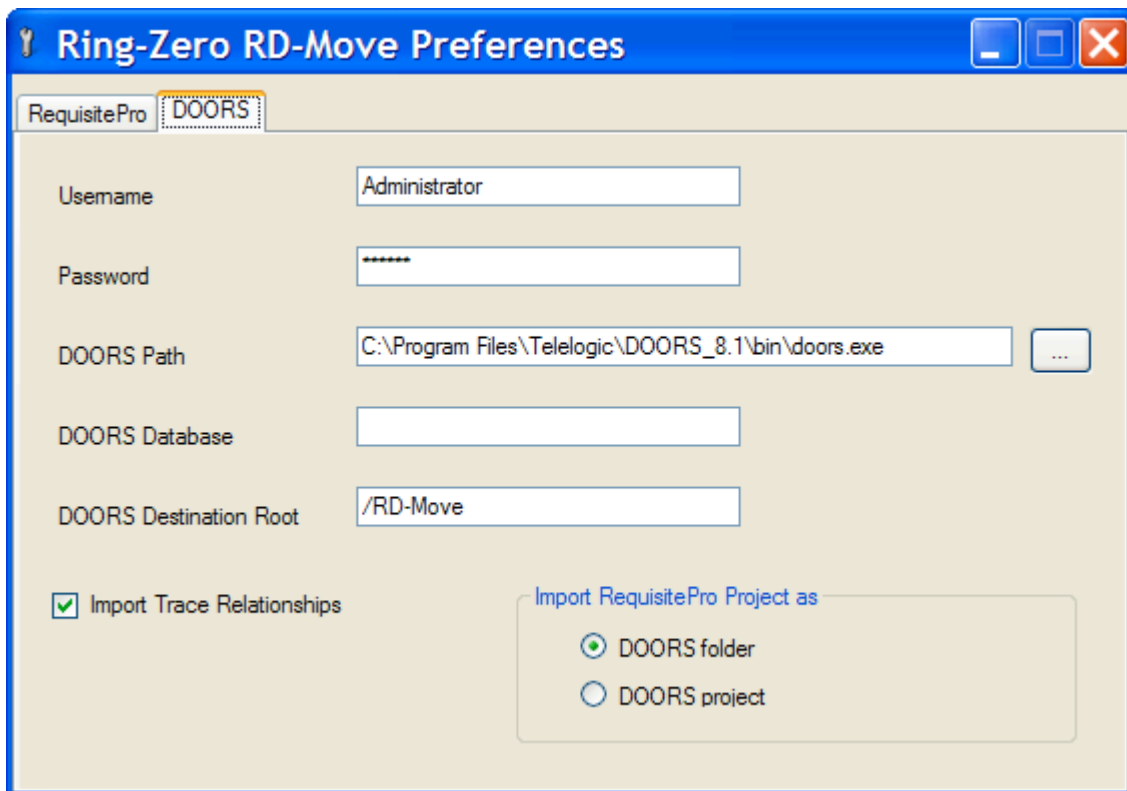
RequisitePro Options

RequisitePro Username, Password

Specify a RequisitePro user account which has access to read requirements in the RequisitePro projects the user wishes to export to XML.

Export Trace Relationships

Checking this option will cause links between requirements to be exported. Default value: checked.

DOORS Options

DOORS Path

Fully qualified path of the DOORS program executable (doors.exe). This may be entered manually, but it is suggested that you use the "…" (browse) button to locate and select the executable.

DOORS Username
DOORS Password

DOORS account which has been designated for RD-Move use. If you wish to move requirements into DOORS projects which RD-Move will create, this account must be granted permission to create DOORS projects.

DOORS Database

An optional preference which allows the user to specify a particular DOORS database to use. If this is not specified, the database will default to the standard database used when the user runs the DOORS GUI client.

DOORS Destination Root

The location in the DOORS database hierarchy in which RD-Move will create projects. A folder or project may be specified. If a folder is specified, it must be entered as a fully qualified path beginning with a forward slash ('/'). If a project is specified, it may be entered as a fully qualified path or as a slash followed by the name of the project. Default value: "/RD-Move".

Import Trace Relationships

This option controls whether RD-Move creates a link between DOORS requirements for each RequisitePro "trace to" link. Default value: checked.

Import RequisitePro Project as

Depending on this setting, RD-Move will create either a DOORS folder or project bearing the name of each RequisitePro exported project underneath the folder specified above as DOORS Destination Root. Default value: DOORS Folder.

Notes: RD-Move can only create projects if the DOORS account used by RD-Move has permission to create projects. Consult your DOORS administrator if you are unable to do so.

DOORS does not allow a folder and project of the same name in the same folder. If RD-Move has created a project first, RD-Move will continue to use the project regardless of this setting. If you have created a folder first, RD-Move will not be able to create a project by the same name – you must remove the folder first.

DOORS project names are unique within a database. This means that you cannot create two projects (both bearing the same name) in two different folders.

Usage

RequisitePro to XML

The ReqPro to XML component of RD-Move is accessible from the Windows "Start" menu. When it is run, it will display a list of registered RequisitePro projects from which the user can select to export to XML.
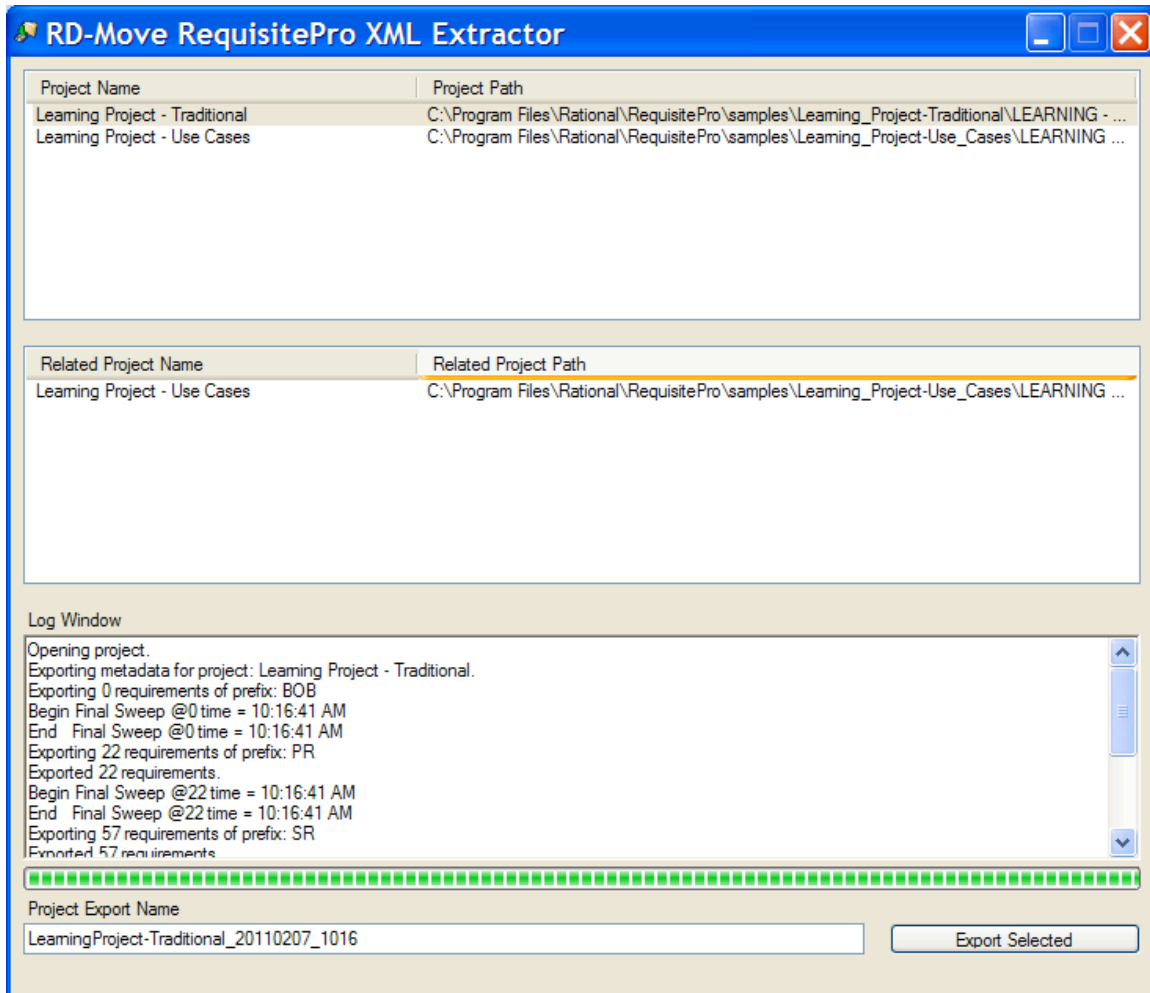
Clicking on a project name will open the project, check for related projects, and close the project. If the selected project contains links to one or more external projects, the second selection list will contain a list of these projects. The user can elect to export one or more of these external projects to XML. More than one related project can be selected by holding down the Control key when clicking on each related project.

RD-Move RequisitePro XML Extractor

Project Name	Project Path
Learning Project - Traditional	C:\Program Files\Rational\RequisitePro\samples\Learning_Project-Traditional\LEARNING - ...
Learning Project - Use Cases	C:\Program Files\Rational\RequisitePro\samples\Learning_Project-Use_Cases\LEARNING ...

Related Project Name	Related Project Path
Learning Project - Use Cases	C:\Program Files\Rational\RequisitePro\samples\Learning_Project-Use_Cases\LEARNING ...

Log Window

```
Exporting 4 requirements of prefix: TERM
Exported 4 requirements.
Begin Final Sweep @4 time = 10:17:31 AM
End   Final Sweep @4 time = 10:17:31 AM
Exporting 39 requirements of prefix: UC
Exported 39 requirements.
Begin Final Sweep @39 time = 10:17:32 AM
End   Final Sweep @39 time = 10:17:32 AM
Export complete.
```

Project Export Name

LearningProject-Traditional_20110207_1016   [Export Selected]

While exporting a project, the log window will display messages. It is normal for the export process to appear to pause every 2000 requirements – this is due to the inner workings of garbage collection within the RequisitePro extensibility API. During these garbage collection pauses, it is also normal for the extractor process to consume large amounts of CPU time.
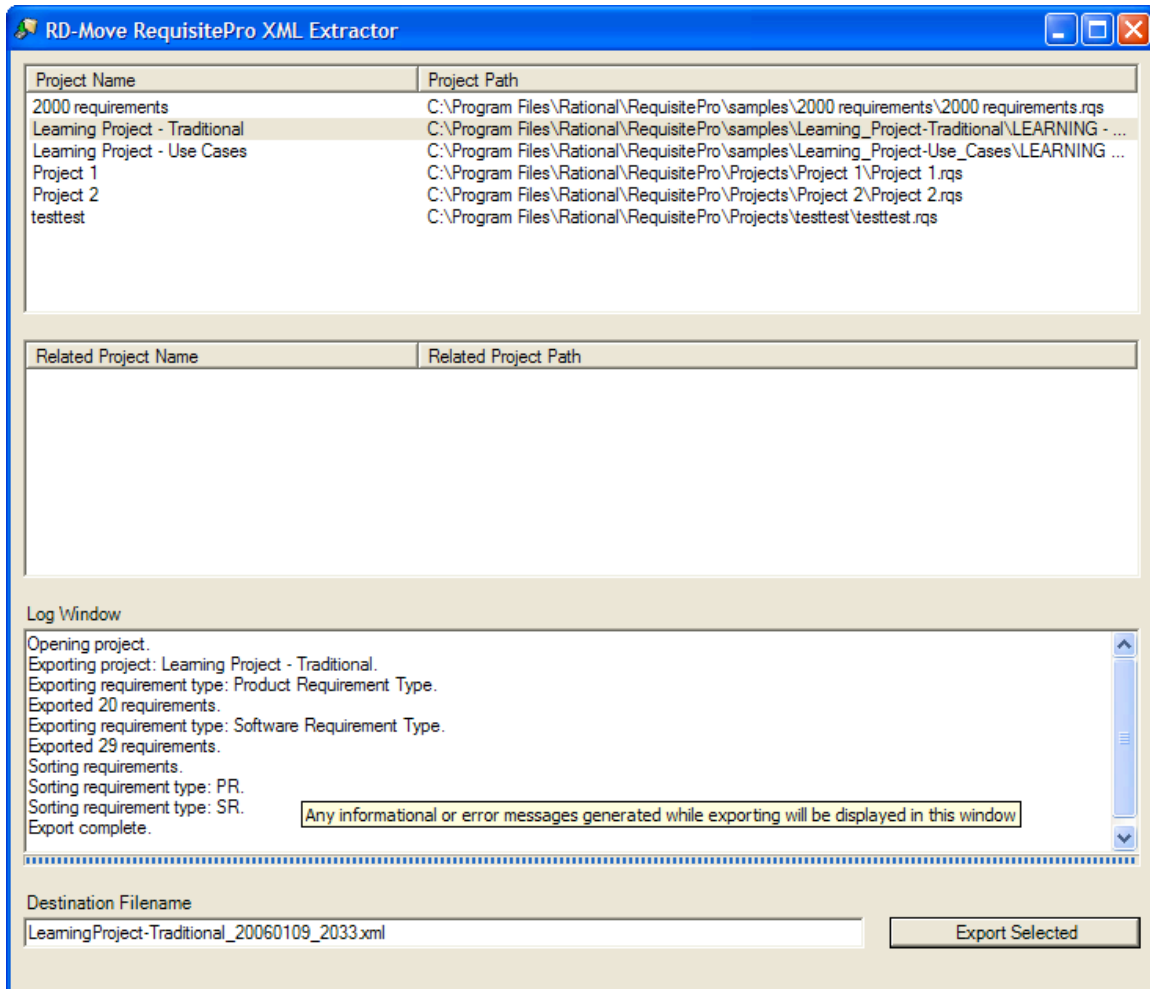
Each project exported to XML includes the following:

- Metadata for each requirement type, including data types and default value information.
- All requirements of each requirement type, hierarchically sorted.
- All attributes of each requirement, including requirement tag, state, name, text.
- Information pertaining to the most recent version of each requirement (date and time, label, version number, reason for last change, and author of last change).
- Traceability links.

Exports are saved in subfolders beneath the data subfolder which is located within the RD-Move installation folder.

The export subfolder name defaults to the following format:
{Project name with spaces removed}_{YYYYMMDD_HHMM }
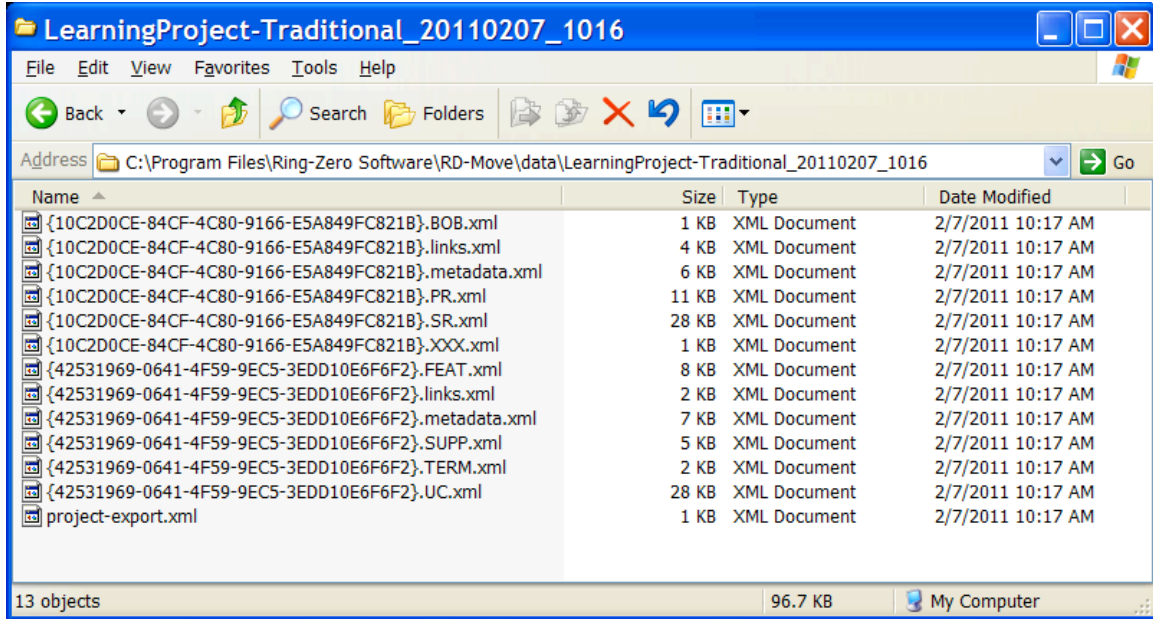
XML to DOORS

The XML to DOORS component of RD-Move is also accessible from the Windows "Start" menu. The component is used in the following way:
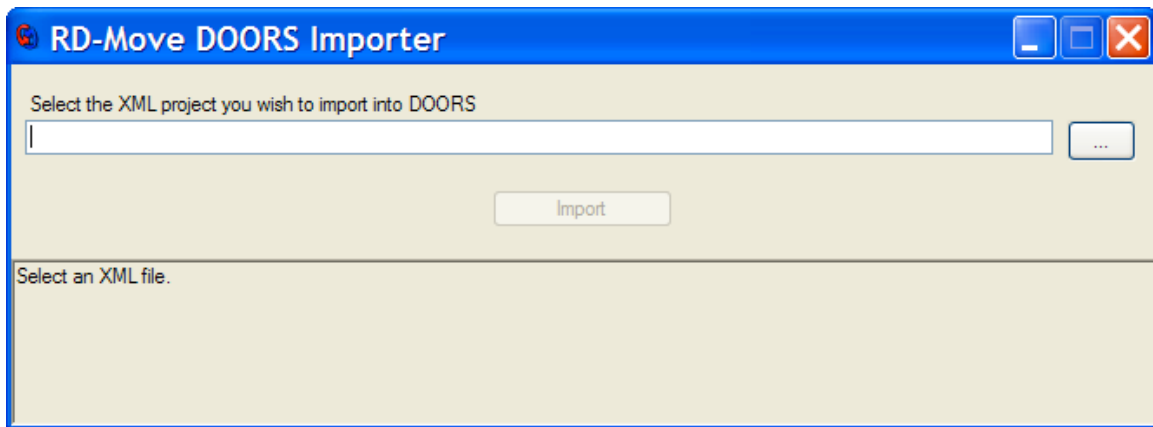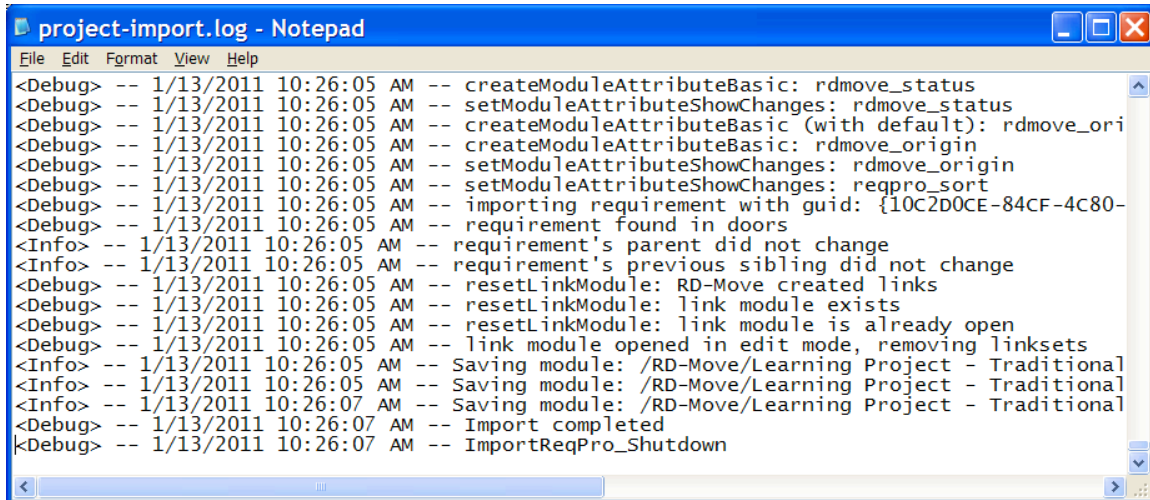
Specify or select an XML project export file that has been generated by the RequisitePro to XML component of RD-Move.

Press the **Import** button to move the data contained within the XML file to DOORS or update data previously moved to DOORS.

Note: In order to make changes to previously moved data, RD-Move must open each associated DOORS module in exclusive edit mode. If RD-Move is unable to open one or more modules, this operation will be followed by a message box explaining which modules were skipped.

During the move/update operation, RD-Move will display status messages on the lower portion of the XML to DOORS component. In addition, a log file will be automatically generated, containing details of any changes made to DOORS requirements.

A rolling log file named "project-import.log" is automatically generated within the project export folder.

```
project-import.log - Notepad

File  Edit  Format  View  Help

<Debug> -- 1/13/2011 10:26:05 AM -- createModuleAttributeBasic: rdmove_status
<Debug> -- 1/13/2011 10:26:05 AM -- setModuleAttributeShowChanges: rdmove_status
<Debug> -- 1/13/2011 10:26:05 AM -- createModuleAttributeBasic (with default): rdmove_ori
<Debug> -- 1/13/2011 10:26:05 AM -- createModuleAttributeBasic: rdmove_origin
<Debug> -- 1/13/2011 10:26:05 AM -- setModuleAttributeShowChanges: rdmove_origin
<Debug> -- 1/13/2011 10:26:05 AM -- setModuleAttributeShowChanges: reqpro_sort
<Debug> -- 1/13/2011 10:26:05 AM -- importing requirement with guid: {10C2D0CE-84CF-4C80-
<Debug> -- 1/13/2011 10:26:05 AM -- requirement found in doors
<Info> -- 1/13/2011 10:26:05 AM -- requirement's parent did not change
<Info> -- 1/13/2011 10:26:05 AM -- requirement's previous sibling did not change
<Debug> -- 1/13/2011 10:26:05 AM -- resetLinkModule: RD-Move created links
<Debug> -- 1/13/2011 10:26:05 AM -- resetLinkModule: link module exists
<Debug> -- 1/13/2011 10:26:05 AM -- resetLinkModule: link module is already open
<Debug> -- 1/13/2011 10:26:05 AM -- link module opened in edit mode, removing linksets
<Info> -- 1/13/2011 10:26:05 AM -- Saving module: /RD-Move/Learning Project - Traditional
<Info> -- 1/13/2011 10:26:05 AM -- Saving module: /RD-Move/Learning Project - Traditional
<Info> -- 1/13/2011 10:26:07 AM -- Saving module: /RD-Move/Learning Project - Traditional
<Debug> -- 1/13/2011 10:26:07 AM -- Import completed
<Debug> -- 1/13/2011 10:26:07 AM -- ImportReqPro_Shutdown
```

Behavior Specifics and Special Cases

Projects and Modules

RD-Move will create one DOORS project for each RequisitePro project encountered, and one module for each requirement type encountered. Links between requirements will be stored in a single DOORS link module containing multiple link sets.

Data Type Handling

RequisitePro	DOORS	Default Value(s) Preserved
List (Single Value)	Single Selection List	Yes
List (Multiple Value)	Multiple Selection List	Yes
Text	Text	Yes
Integer	Integer	Yes
Real	Real (Rounded to 6 decimal places)	Yes
Date	Date	Yes
Time	Text	Yes
User Name	Text	Yes
URL Link	Text (DOORS handles as URL link)	Yes
ClearQuest Integration	Text	Yes

Deleted Requirements

Requirements that existed in RequisitePro at the time of initial export to XML and migration to DOORS but have since been deleted will be flagged as Deleted in DOORS (status reflected in DOORS attribute "rdmove_status") during the first update operation using data in which they no longer exist. In addition, when RD-Move flags requirements as Deleted during a DOORS update operation, an entry is added to the update log file. In order to avoid data loss and preserve requirement history, deletion of requirements in this state is deferred to the DOORS user.

Preservation of Existing (Non-RequisitePro) Requirements

RD-Move stores and uses metadata within each DOORS module (an attribute labeled "rdmove_origin") which limits RD-Move to updating only requirements which have been moved from RequisitePro by RD-Move.

RequisitePro Hierarchical Order

RD-Move creates and updates an attribute in each DOORS module named "reqpro_sort" which numerically represents the hierarchical ordering of RequisitePro requirements. If this attribute is added to a DOORS view and sorted ascending, DOORS requirements will be displayed in the same order RequisitePro would use to display them.

Changes to Traceability Links

RD-Link maintains all RequisitePro traceability links in a single DOORS link module. During each update operation, RD-Link deletes all link sets from this link module and recreates each link set using current data. In this way, RD-Move enables changes (additions, deletions) to RequisitePro traceability links to be reflected in DOORS.

Additions and Changes to RequisitePro attribute definitions

RD-Link will currently handle attribute definitions added in subsequent XML exports of RequisitePro projects, but will not handle changes to attribute definitions. For example, adding a new single list selection attribute to RequisitePro will be reflected in DOORS. However, changes made to the possible selection values of that attribute will not currently be reflected in DOORS. This is a known limitation in the current version of RD-Move which will be remedied in a future revision.

Re-parented, Re-ordered Requirements

Re-parenting requirements in RequisitePro will generally cause changes to requirement identifiers as well as hierarchical and/or ordering changes to requirements. RD-Move handles these changes by appropriately changing the "reqpro_tag" attribute of affected DOORS requirements and moves requirements as necessary to reflect any updates made to the hierarchical structure of RequisitePro requirements. The RD-Move update log file will document changes made.

Technical Support

Customers with active support contracts can obtain technical support for RD-Move by visiting the support section of the Ring-Zero Software web site (http://www.ring-zero.com/support), emailing Ring-Zero technical support (support@ring-zero.com) or by telephone at the following numbers.

Toll Free (United States)   800-742-1312