



DOORS[®] CONNECTOR GUIDE

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GENESYS DOORS CONNECTOR GUIDE

The DOORS Connector is a tool for exchanging requirements between GENESYS™ and IBM® DOORS® (versions 9.4 through 9.6) through an OSLC interface. For GENESYS and DOORS to exchange data one-off setup and configuration for the DOORS database has to be done. Then each project and the modules within the project have to be configured. The data can then be exchanged as needed between the projects in GENESYS and DOORS.

DOORS WEB ACCESS & INTEROP SERVER SETUP AND CONFIGURATION

The GENESYS Connector communicates with DOORS using DOORS Web Access feature. DOORS Web Access requires Redirector Service and Interop Server components configured to support the communication. The Interop Server is particularly important to providing communication between GENESYS and DOORS. The DOORS and IT administrators supporting your work group accomplish the setup and configuration of DOORS Web services.

The standard DOORS Web Access installation and configuration should be performed, including the modification of the core configuration file, **festival.xml**. This will allow the DOORS Web Server to communicate with the broker, the license server and the DOORS database server.

For Example, in a basic DOORS 9.5 installation, the following lines need to be added to the festival.xml file in the <f:properties> section (<ServerName> is the name of your DOORS server):

Before	<pre><f:properties> <f:property name="licence.server.location" value="27000@localhost" /> <f:property name="ForceHttpsForAuthenticationForOAuth" value="false" /> </f:properties></pre>
After	<pre><f:properties> <f:property name="licence.server.location" value="27000@localhost" /> <f:property name="published.url.prefix" value="http://<ServerName>:8080/doors/redirector/" /> <f:property name="ForceHttpsForAuthenticationForOAuth" value="false" /> <f:property name="oauth.domain" value="http://<ServerName>:8080/dwa/" /> </properties></pre>

Other changes may be needed as well.

The DOORS redirector service must be configured, including modification of the redirector configuration file, **doorsRedirector.properties**. This will allow DOORS Web Access users to be able to use DOORS URLs in the same way as Rational DOORS users. Users can then specify whether to open DOORS URLs in a standard client or in the web client. The file **doorsRedirector.properties** will include changes similar to those listed in the table below:

Before	<pre><properties> <comment>Configuration for DOORS Redirector.</comment> <entry key="doors.url.prefix">doors://<ServerName>:36677/</entry> </properties></pre>
After	<pre><properties> <comment>Configuration for DOORS Redirector.</comment> <entry key="dwa.url.prefix">http://<ServerName>:8080/dwa</entry> <entry key="doors.enable">true</entry> <entry key="doors.url.prefix">doors://<ServerName>:36677/</entry> <entry key="dwa.enable">true</entry> </properties></pre>

Two steps are required to ensure that the DOORS Web Access services are running correctly. The first step ensures that the DOORS client is able to access the DOORS Server. The second step ensures that the DOORS Web Access Server is accessible via HTTP. The DOORS Object Number is an important attribute in the data exchange between DOORS and GENESYS. This attribute is not exposed using the OSLC framework and so we need to run a service extension to make sure that it is available. The steps below will help you confirm that this service has started:

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1. Copy the file **getNumber.inc** from the GENESYS program folder (default location is **C:\Program Files (x86)\Vitech\GENESYS 7 Collaborative Edition\Extensions**) into the DOORS program folder (default location is **C:\ProgramFiles(x86)\IBM\Rational\DOORS\9.5\lib\dxl\addins\services**). The file **getNumber.inc** contains the code:

```
void getNumber(string par)
{
    Buffer b = create
    b = par
    int i = contains(b, ',')

    string oid = par[0 : i]
    string pth = par[i +1 : ]

    string num = null
    int id = intOf(realOf(oid))

    Module m = read(pth, true)
    Object o = object(id, m)

    num = number(o)

    setDxlServiceResult num
}
```

2. Open the DOORS client, go to the **Tools** menu and select the **Edit DXL...** item to open the DXL Input dialog box.
3. Copy the contents of the **GetNumber Installer.txt** file, found in **C:\Program Files (x86)\Vitech\GENESYS 7 Collaborative Edition\Extensions**. Paste the code into the DXL Input dialog box:

```
OSLCDXLService os = null
string err = null
string dxlCode = "#include <addins/services/getNumber.inc>\n"
err = addOrUpdateOSLCDXLService("getNumber", "Get Object Number
    Service", dxlCode, "getNumber")
if (!null err)
{
    print err
}
else
{
    print "Installed Service\n"
}
```

4. Click **Run**

If the DXL Output pane contains "Installed Service" then the DOORS client access is okay.

Confirm the DOORS Web Server HTTP using a web browser to navigate to the URL access:

<http://<ServerName>:8080/dwa>

The server name, <ServerName>, and the port number, 8080 (by default), should be given to the user as these will be used later in order to access the DOORS database from GENESYS.

PROJECT SETUP - SCHEMA EXTENSIONS

Once all the DOORS services have started for the GENESYS-DOORS Connector, configure the projects that will use the connector. To ensure synchronization of the Requirements objects in DOORS project modules with the corresponding Requirements entities in the GENESYS project, a set of attributes need to be added to both the DOORS project modules and associated GENESYS Class attributes.

In addition, a set of OSLC credentials need to be create in DOORS, which will be used by to access the DOORS database.

DOORS Schema Extension

For a DOORS module to be accessible from GENESYS, add several attributes to the DOORS module. The table below lists the attributes to add to or modify in the DOORS Module.

Attribute Name	Type	Attribute Scope	Uniform Resource Identifier (URI)
GENESYS ID	String	Object	http://genesys.net/ns/rm/doors/attribute#genesysId
GENESYS Name	String	Object	http://genesys.net/ns/rm/doors/attribute#genesysName
GENESYS Class	String	Object	http://genesys.net/ns/rm/doors/attribute#genesysClass
Allocated Component	String	Object	http://genesys.net/ns/rm/doors/attribute#allocatedComponent
Basis of	String	Object	http://genesys.net/ns/rm/doors/attribute#basisOf
Specifies	String	Object	http://genesys.net/ns/rm/doors/attribute#specifies
Object Heading			http://jazz.net/ns/rm/doors/attribute#objectHeading
Object Text			http://jazz.net/ns/rm#primaryText

The attribute name column is descriptive text represented in the DOORS user interface. The URI column is critical and provides the binding of the attributes between the two products. The steps used to add the Attributes to DOORS are:

1. Open the DOORS project to which you wish to connect.
2. Open the module to be connected.
3. Select the **Edit** menu, and select the **Attributes...** item to open the Attributes Dialog box. Select the New button and add the attributes listed to the module.

Once the DOORS module is configured as described above, close the DOORS Module, as we will no longer need to access the DOORS module directly. All the data transfer / exchange will be initiated and controlled from GENESYS.

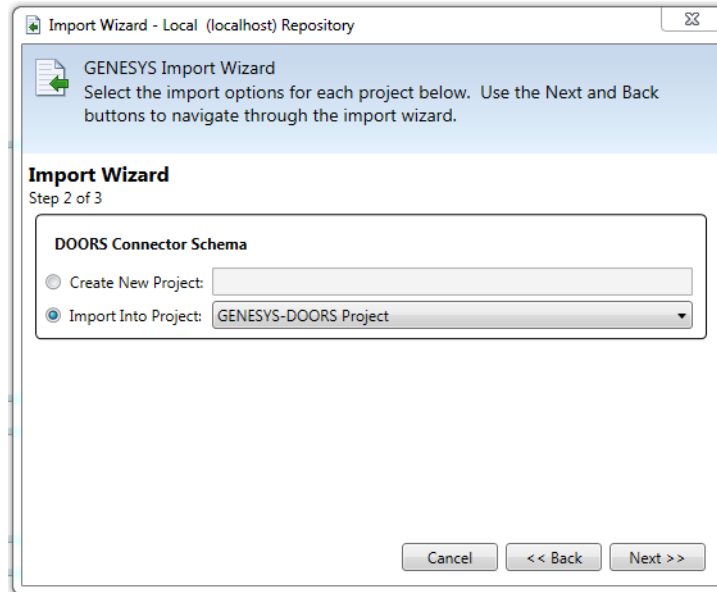
Establish OSLC Credentials in DOORS:

In the DOORS client, select the **File** menu, open the **OSLC** item and select **Local Keys...** Click the **Add** button and enter a set of OSLC credentials. The OSLC credentials that need to be entered are: **Consumer name**; **Consumer key**; **OAuth secret**. The **Consumer name** is the **DOORS Username**. The OSLC credentials are used in GENESYS to access the DOORS database from GENESYS.

GENESYS Schema Extension:

In order for GENESYS to be able to use the information stored in the attributes added to the DOORS module, a schema extension is applied to the GENESYS project schema. Before making changes to the GENESYS project, make a backup using the GENESYS Export feature. Once the project backup has been created, import the schema extension by executing the following steps:

1. Open the GENESYS project.
2. Select **Import** from the GENESYS application menu.
3. Navigate to the file **DOORS Connector Schema.gnsx** located in the folder **GENESYS 7 Collaborative Edition\Extensions**. Select “Next.”
4. Select the option “Import into Project” and choose the project to be modified. Select “Next.”



5. The wizard will warn that you are importing data into a project that contains data. This is correct. Select “Import” to start the import of the schema modification.
6. After the Import has completed you will now see the DOORS-related attributes created for the Component, Function, Interface, Link, Requirement classes in the GENESYS project.

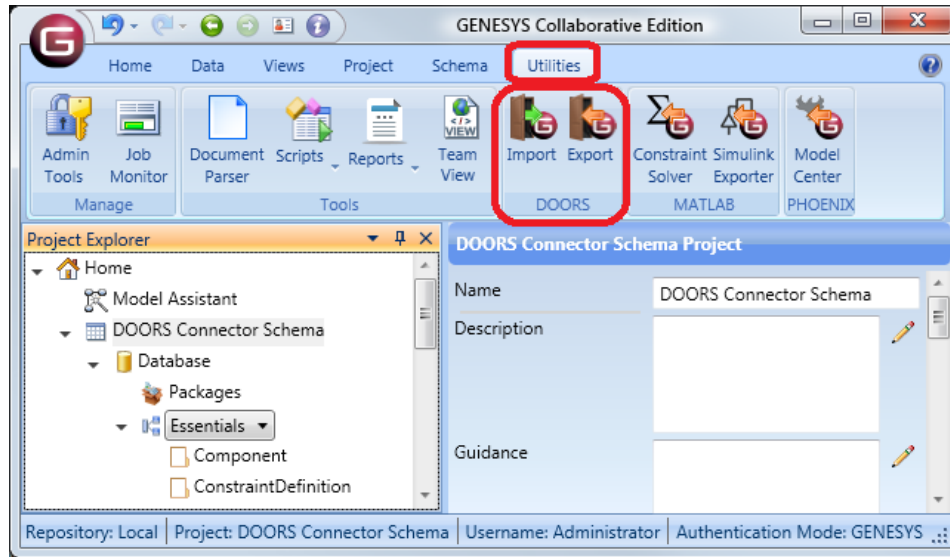
These steps extend the GENESYS project schema and the project can now interact with Requirements from DOORS. Data transfer between DOORS and GENESYS is accomplished using Packages in GENESYS. We need to create a Package in GENESYS, which will be the container for the Requirements coming from DOORS. This is done by creating a Package entity under the Packages folder in the project explorer. A Package should be created for each DOORS Module so that each module is contained inside its' own package for easier selection and viewing.

The DOORS and GENESYS projects are now ready to initiate the data exchange. The data exchange will be controlled from GENESYS. There is no need to be logged into your DOORS module and it can be closed.

IMPORTING REQUIREMENTS INTO GENESYS

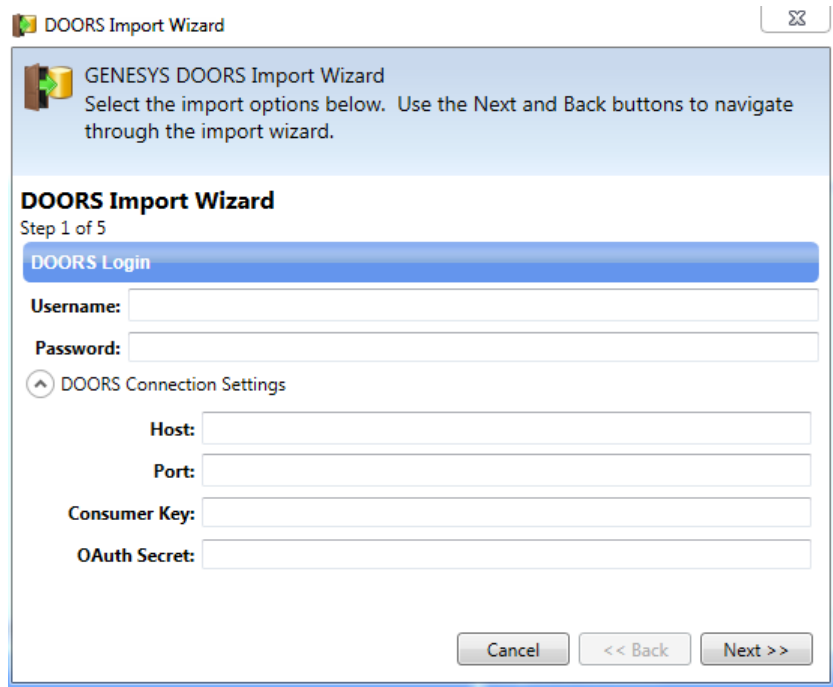
This section describes how to import DOORS requirements into a GENESYS Project. To start this process, select the Utilities tab in GENESYS and in the ribbon choose the Import ICON in the DOORS section of the ribbon bar.

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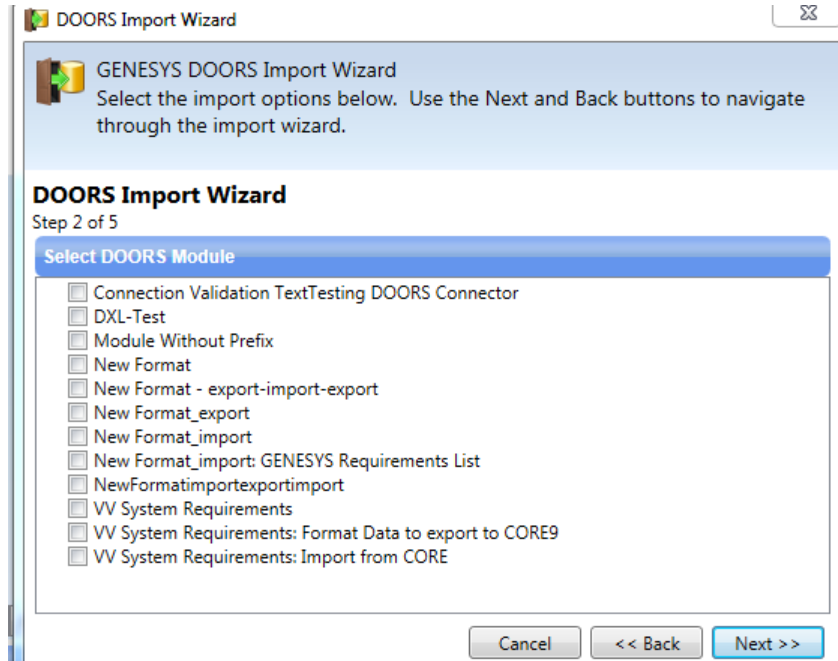
This will start the “DOORS Import Wizard.”

1. Use your DOORS login credentials (Username and Password) in the first part of the Import Wizard dialog box. Use the Server Name, <servername>, port number, 8080 (by default) and the OSLC Consumer Key and OAuth Secret to complete the remaining items in the dialog box.

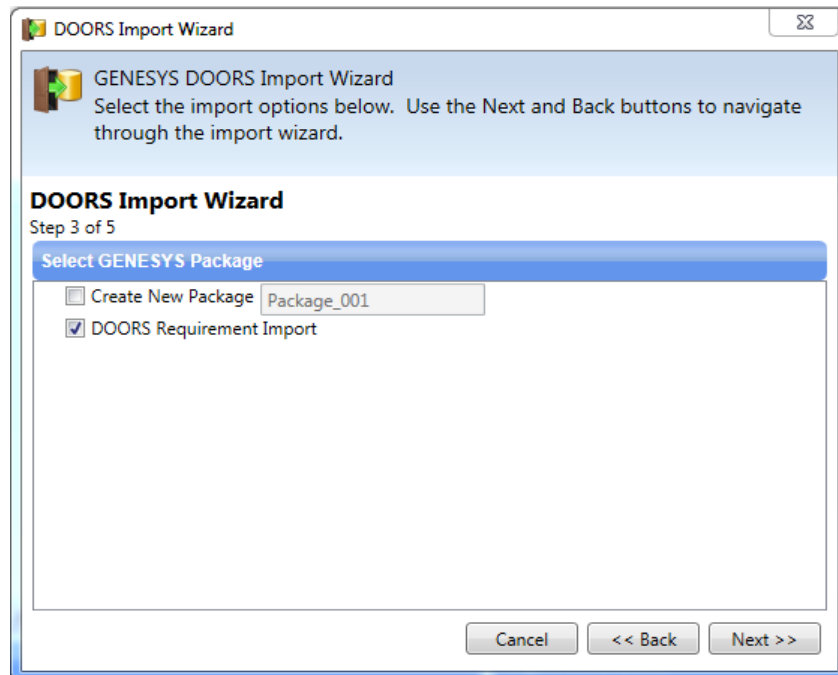


2. Once you are logged in, the DOORS Import Wizard displays all the modules in your repository with the schema extension configured for GENESYS. (If you do not see your module listed, check to make sure the GENESYS schema extension has been applied to the module.) Select the DOORS module you want to import into GENESYS and select “Next.”

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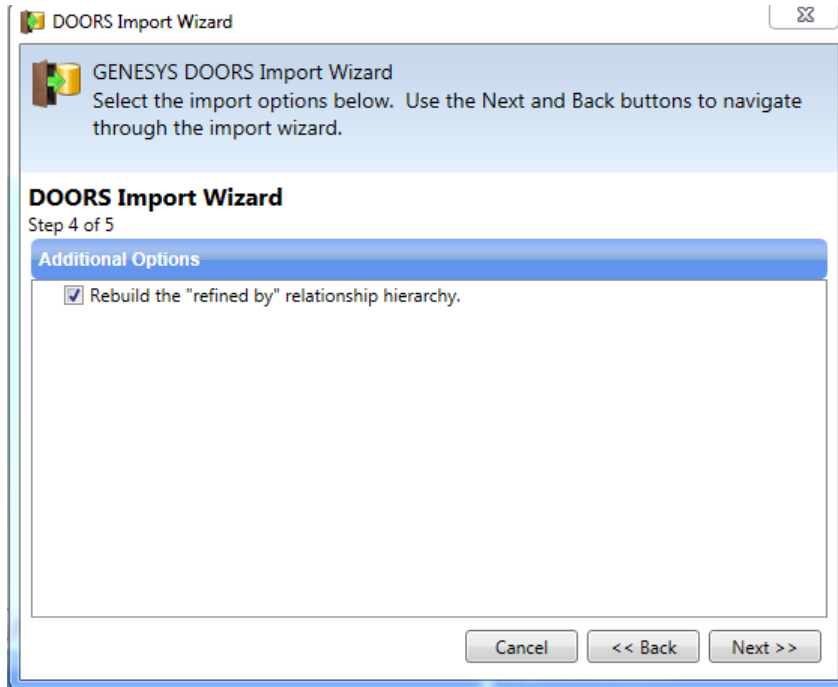


3. The wizard will now prompt you to choose a package within the GENESYS project accept the information from DOORS. You can create a new package if needed. Select “Next.”

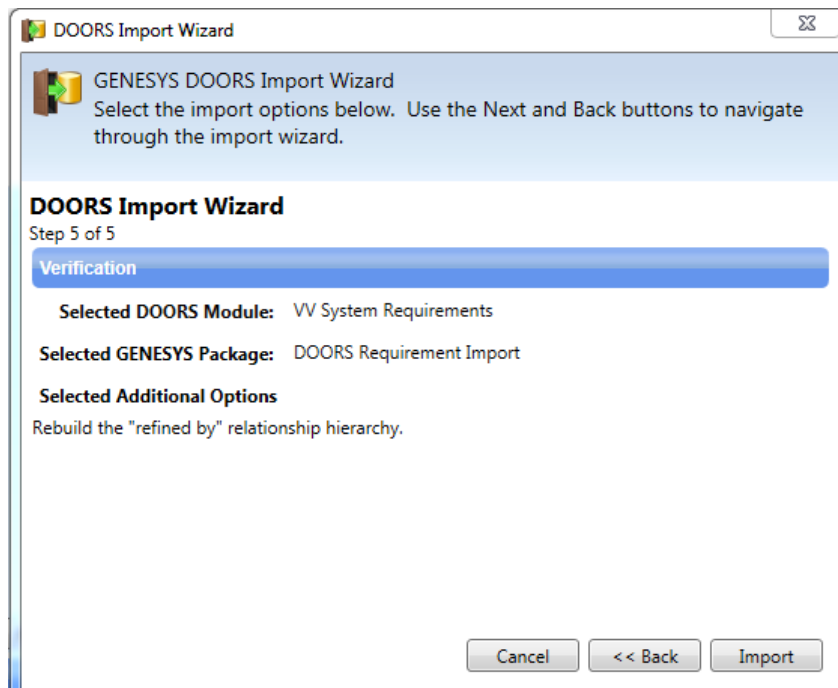


4. You are provided an option to structure the data using the “refined by” hierarchy. If selected, this will create the parent/child relationships based upon the object hierarchy in the DOORS module (the numbering of each object). Select “Next.”

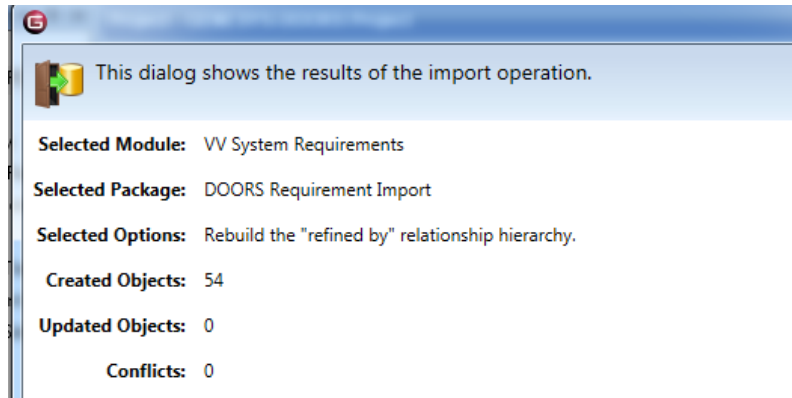
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5. Finally, verify your selections and select "Import."



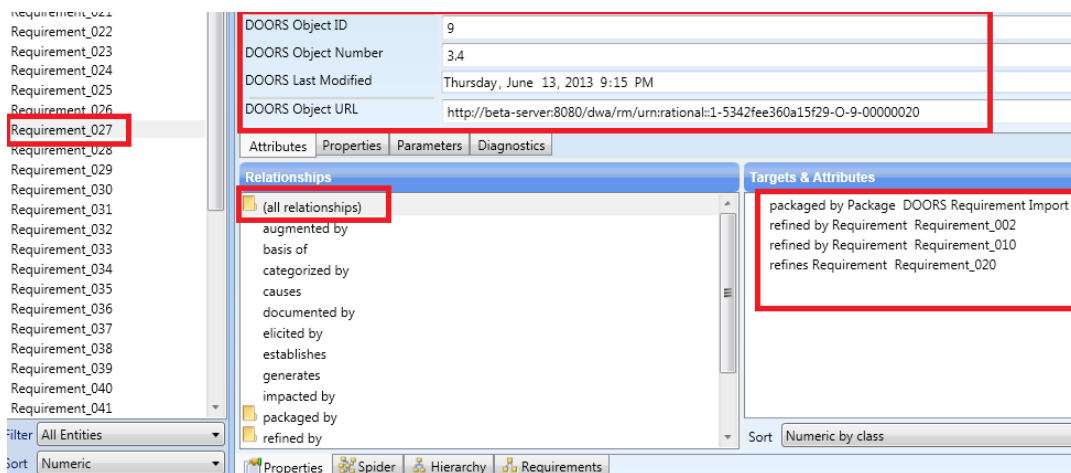
A results dialog will display the results of the import with details of any conflicts encountered.



When requirements are imported into GENESYS the first time, GENESYS generates a unique GENESYS Name for each requirement by assigning a default name in the format of Requirement_###. Note that each cell of a table in DOORS is considered a separate requirement.

The data is synchronized in GENESYS to allow for seamless syncing of information exchanged during multiple import / export of information between the two toolsets. Additionally, in the event that the same data is present in two or more DOORS module, the most recently accessed DOORS information will be stored in GENESYS.

You can see a snapshot of the requirements that were imported from DOORS in GENESYS below. The *refines* and *refined by* relationships are created based on the Object hierarchy organization in DOORS, if that option was selected during import of the data.



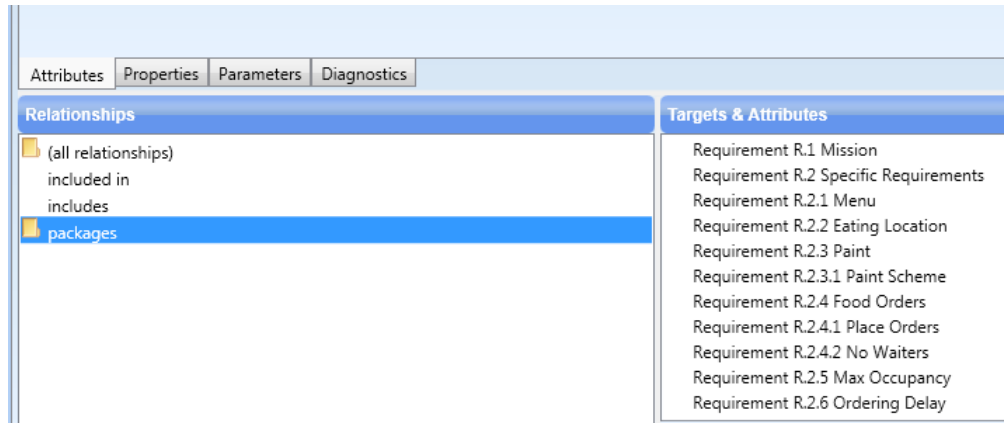
EXPORTING REQUIREMENTS FROM GENESYS

The entities of the GENESYS repository to be transferred to DOORS need to be placed in a Package in the GENESYS design repository. To accomplish this, complete the following steps:

1. Create a new Package in the Package folder.
2. With the Package selected, double click the *packages* relation to open the Edit Targets dialog box.
3. In the upper left pane, navigate to the folder which contains the entities to be transferred to DOORS; then select the entities in the Possible Targets pane and Add them to the Targets pane.
4. When all of the target entities have been added, click on the Close button to dismiss the dialog box.

A screenshot of Requirements packaged in GENESYS for export into DOORS is provided below.

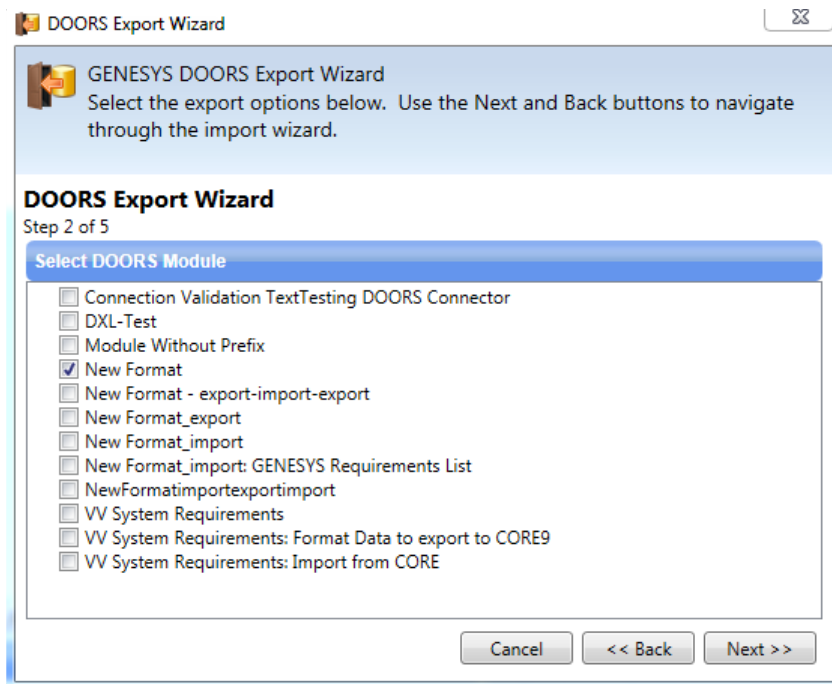
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Once the requirements have been packaged, we can initiate the export:

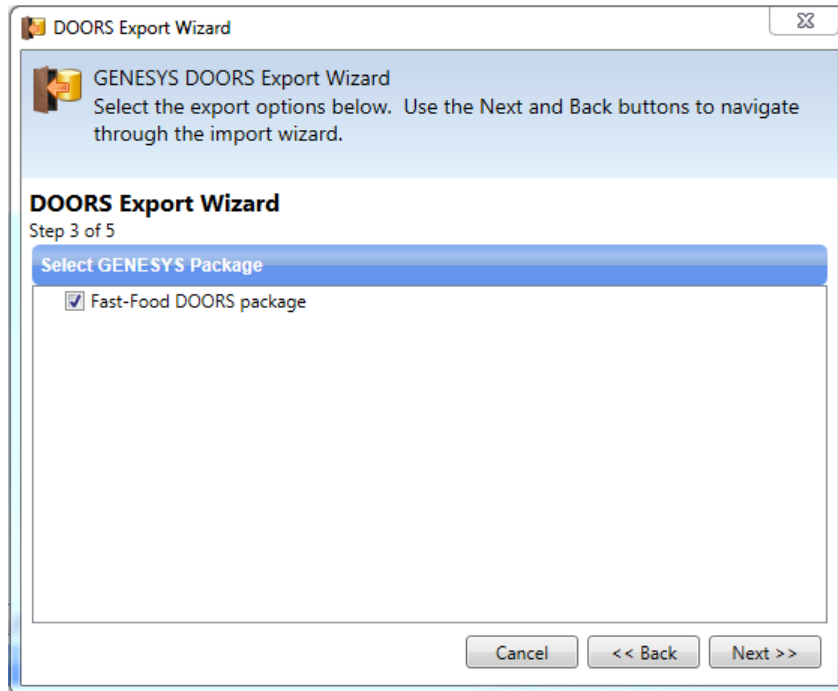
1. Open the Utilities tab in GENESYS ribbon and select “Export” command in the DOORS section.
2. Use your DOORS and OSLC credentials (as described in the Import instructions) to validate your access to the DOORS database.
3. Once the connection and access has been verified, you now see the GENESYS DOORS Export Wizard with a list of the valid DOORS modules available. Choose the module to export into and select “Next.”

If you do not see the module to be exported to, check in DOORS that the schema extensions have been applied to the module (as detailed earlier in this document) and begin the export again.

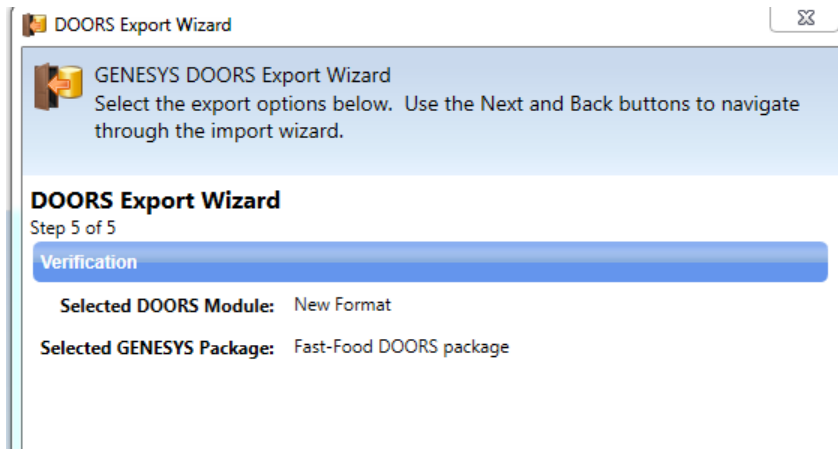


Select the Package of interest created in the section above.

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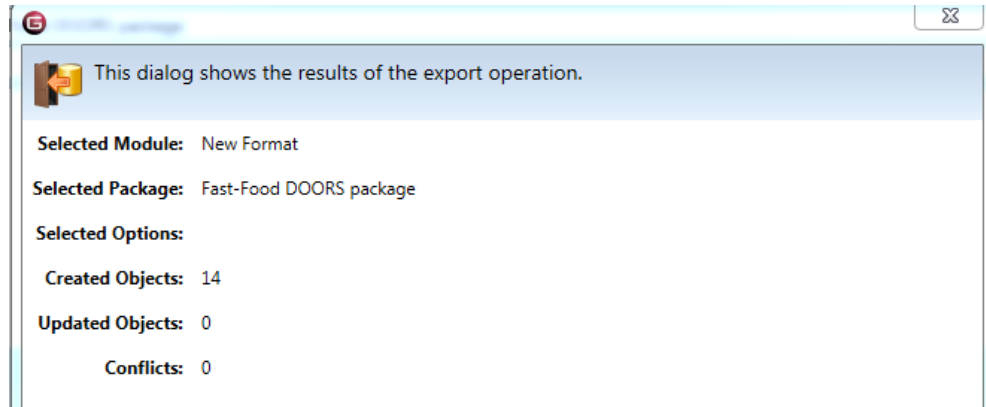


Verify your selections and select “Export.”



Once the export is completed, the wizard will show you a results dialog which will give you a summary of the changes made and if there were any conflicts.

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The DOORS module will now have the requirements from GENESYS. The screen capture below shows a section of the GENESYS attributes that were exchanged.

ID	GENESYS Name	Species	Basis of	New Format
53	Serve Chicken Parts/Nuggets		Assemble Order,Accept Order	1 Specific Requirements The restaurant shall serve chicken parts/nuggets.
52	Serving Delay			2 Specific Requirements From placing the order to being served shall not exceed 4 minutes.
51	Include Extra Registers		Place Order,Accept Order	3 Specific Requirements Include extra registers (to open extra lines) to handle rush hour.
50	Ordering Delay			4 Specific Requirements
49	Max Occupancy	Building		
48	No Waiters			
47	Place Orders			
46	Food Orders			
45	Paint Scheme	Building		
44	Paint			
43	Eating Location			

Object 51 (Saved) - DOORS			
General Access History Attributes Links Discussions			
Attribute	Description	Value	
Absolute Number	System Attribute	51	
Allocated Component			
Basis of		Place Order,Accept Order	
Created By	System Attribute	avikram	
Created On	System Attribute	Friday, July 18, 2014	
Created Thru	System Attribute	Manual Input	
GENESYS ID		4c3945f9-0a4f-eaf5-3f42-58444...	
GENESYS Name		Include Extra Registers	
Last Modified By	System Attribute	avikram	
Last Modified On	System Attribute	Friday, July 18, 2014	
Object Heading	System Attribute	Specific Requirements	
Object Number	System Attribute	3	
Object Short Text	System Attribute		
Object Text	System Attribute	Include extra registers (to open e...	
Specifies			



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