VECTOR

VectorCAST Visure Integration

Version 1.0

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Application Note AN-ACT-1-006

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Restrictions Public Document

Abstract Information on the Visure and VectorCAST Integration

Table of Contents

1 Overview

The VectorCAST Requirements Gateway 3.0 (RGW 3.0) provides traceability between software requirements and test cases and allows the import and mapping of requirements to test cases. RGW 3.0 provides a way to:

- Import requirements for which unit test cases in VectorCAST are planned or exist from your Application Lifecycle Management (ALM) or Requirements Management System (RMS) to a VectorCAST RGW repository,
- Assign specific requirements to test cases in a unit test environment and then
- Export unit tests together with the resulting pass or fail status back to the ALM tool.

In RGW 3.0, the repository is implemented using JSON file format.

In addition to CSV Files, VectorCAST RGW 3.0 will initially support the following Application Lifecycle Management or Requirements Management Systems:

- codebeamer
- Jama
- Polarion®
- Visure

This Application Note with show how to use the RGW 3.0 Visure Integration.

2 Use Cases

The following use cases will be shown:

- Create a Requirements Repository
- Authenticate with the Visure Server
- Import of Requirements
- Import of Test Cases
- Create Links to Unit Tests Cases in VectorCAST
- Export of Unit Test Cases and Test Results

A single single Unit Test in VectorCAST can only be linked to either:

- Imported Requirements or
- Imported Test Cases

2.1 Use Case: Create a Requirements Repository

To use the Requirements Gateway, a location must be specified for the Repository. If no location is specified, a prompt opens allowing the user to select the location. A standard Choose a Directory dialog opens, prompting the user to enter the path to the directory.

Set a location for the repository location by selecting **Tools => Requirements Gateway => Options...** from the Menu Bar shown in Figure 1.

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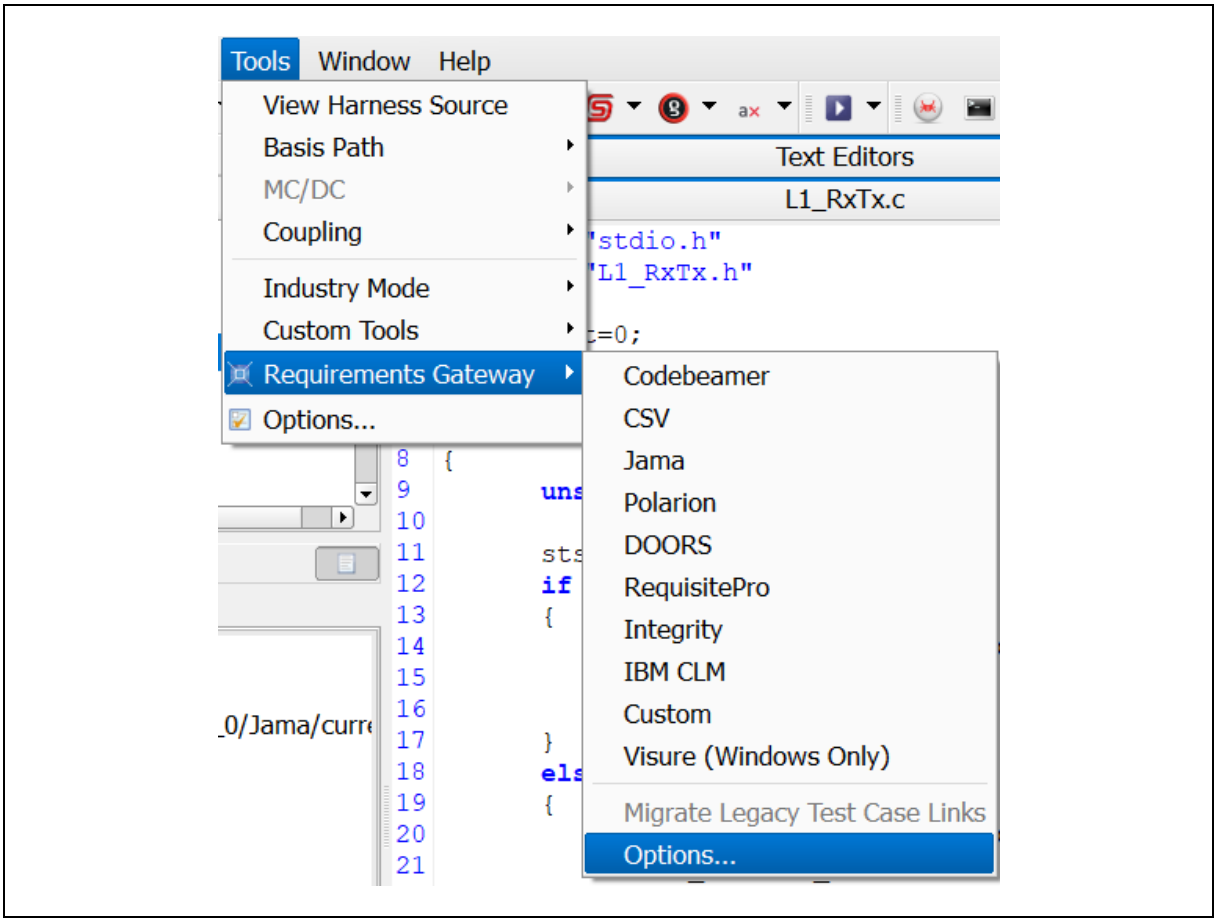

Figure 1-Select Requirements Gateway Options

The **Requirements Gateway Options** dialog will open as shown in Figure 2.

Figure 2-The Requirements Gateway Options Dialog

In the **RGW repository location** field, enter the path to the repository and select the **OK** button as shown in Figure 3.

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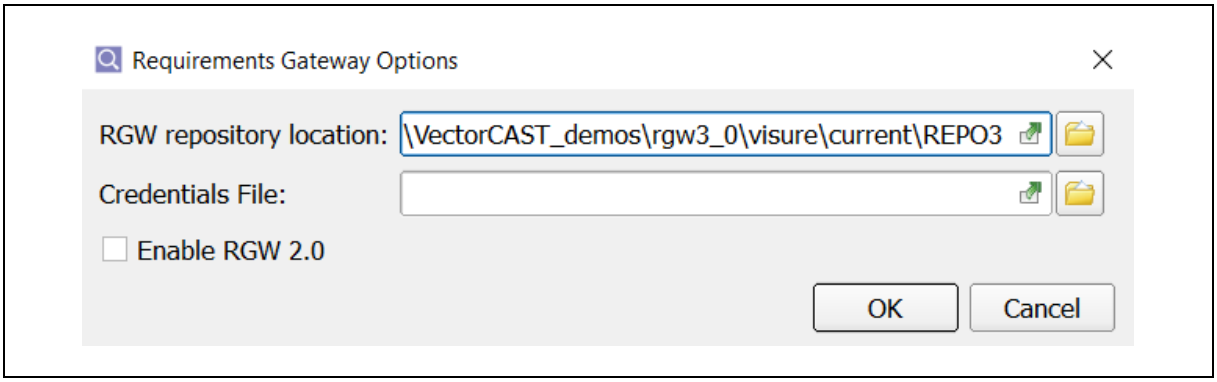

Figure 3-Set RGW Repository Location

The RGW repository location is now set, and the initial requirements repository is created in this location. VectorCAST creates a directory under the set location called `requirements_gateway`, that will hold the setting and log files used by RGW.

A new option starting in VectorCAST 2021 SP5 is the ability to store server credentials in a Credentials File. The previous option of adding the credentials during the authentication step is still available. The Credentials File can be set in the Requirements Gateway Options GUI, shown in Figure 4, or set the environment variable VCAST_CREDENTIALS_FILE to the location of the file.

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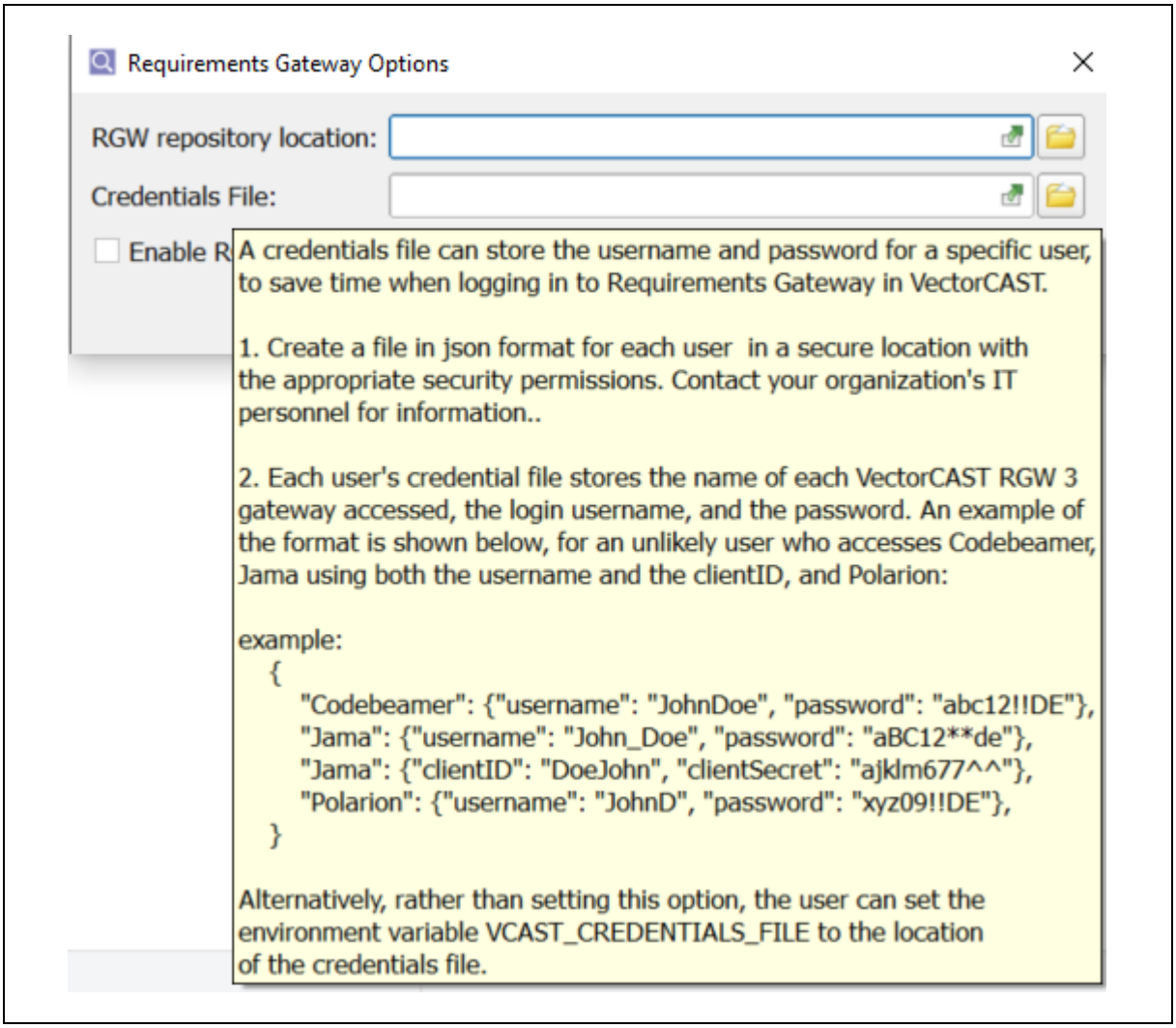

Figure 4-Credentials File

2.2 Use Case: Authenticate with the Server

To authenticate with the Visure server, first Select **Tools => Requirements Gateway => Visure** from the Menu Bar as shown in Figure 5.

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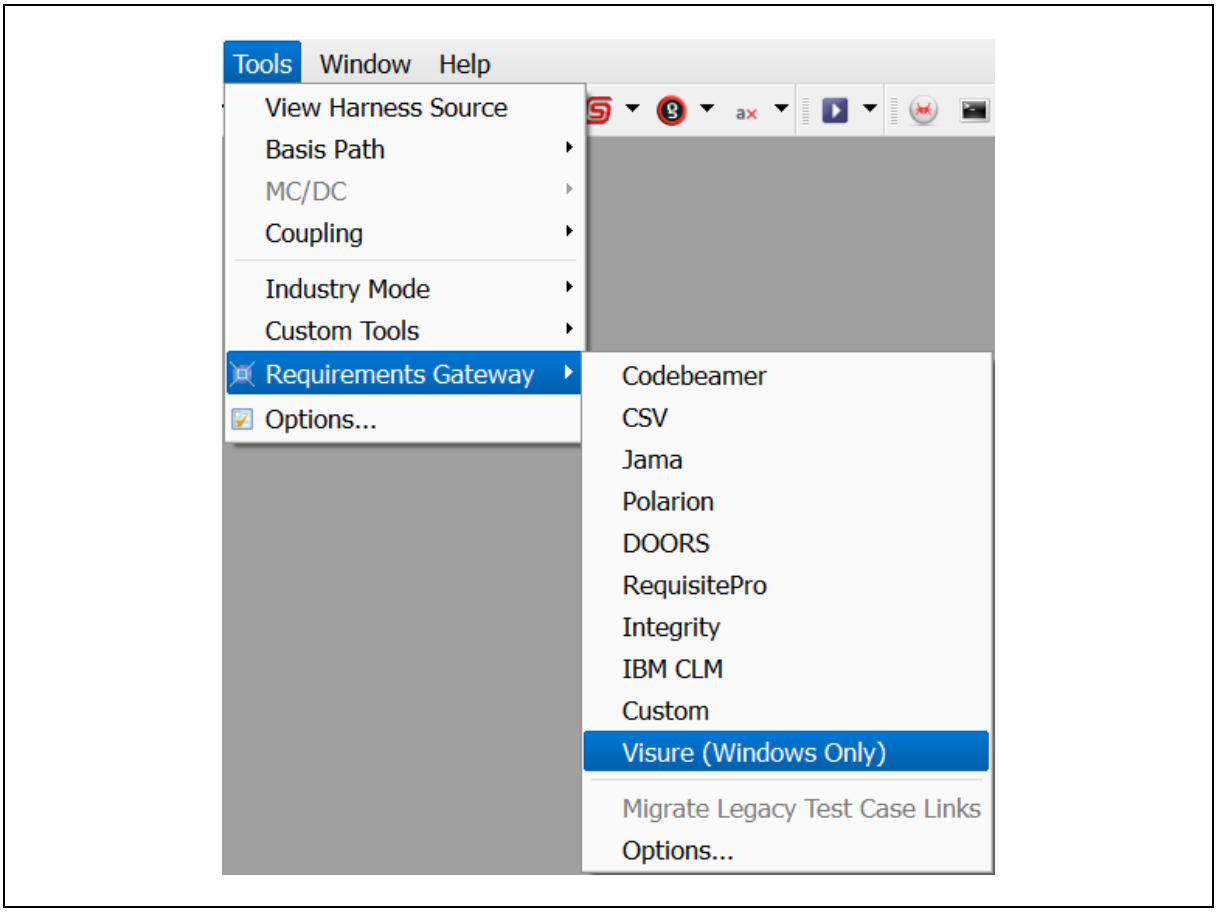

Figure 5-Select the Gateway

The **Requirements Gateway** dialog will open with Visure as the selected **Gateway Profile** and the **Authentication** tab selected at the bottom as shown in Figure 6.

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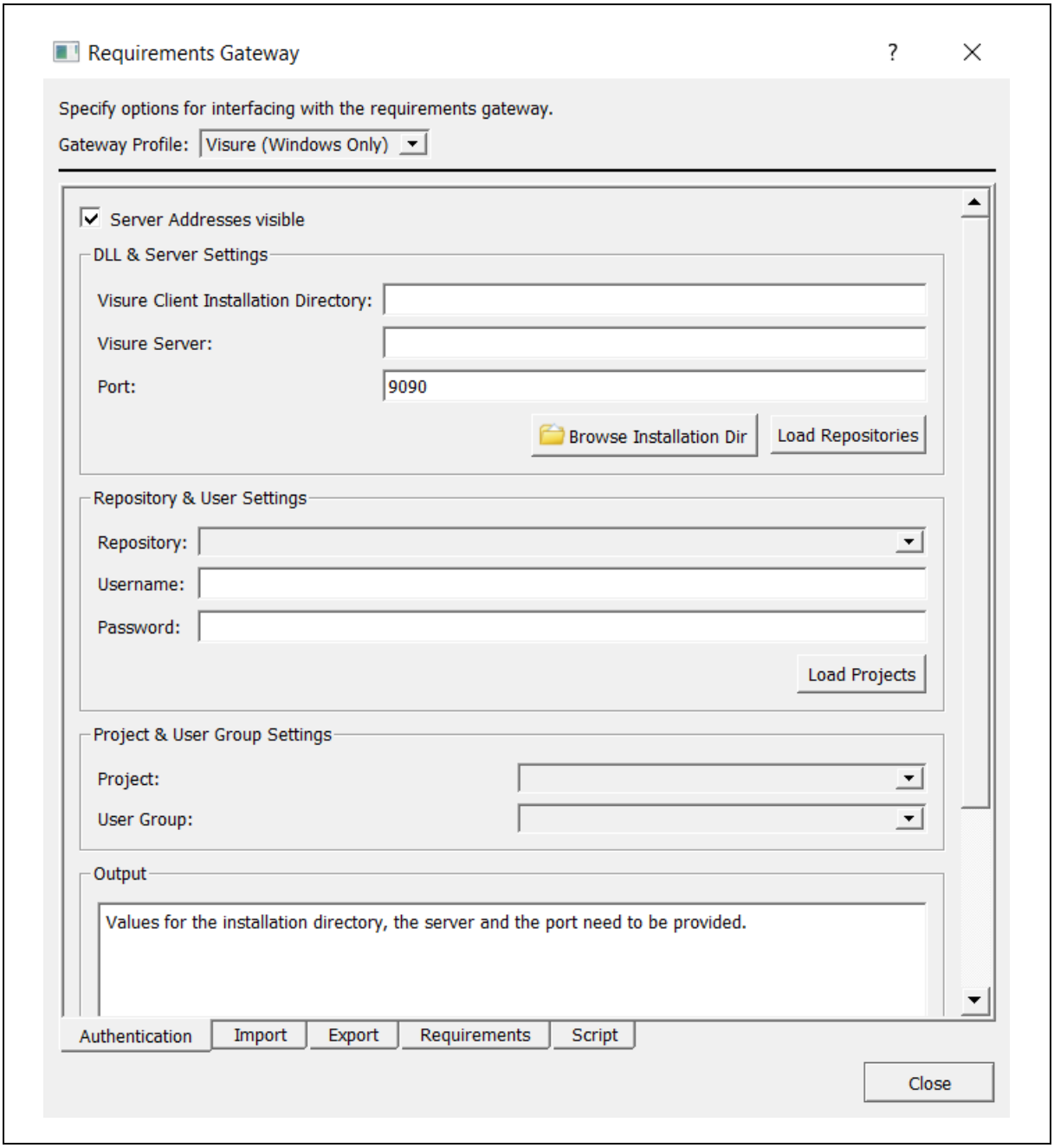

Figure 6-Authentication Tab

Enter the information needed to connect to the Visure server. This should be the same information you would use normally to connect to the Visure server via the Visure ALM Client.

After entering the **DLL & Server Settings**, press the **Load Repositories** button to see the list of available repositories in the drop-down menu, reflecting the repositories on the Visure server, shown in Figure 7.

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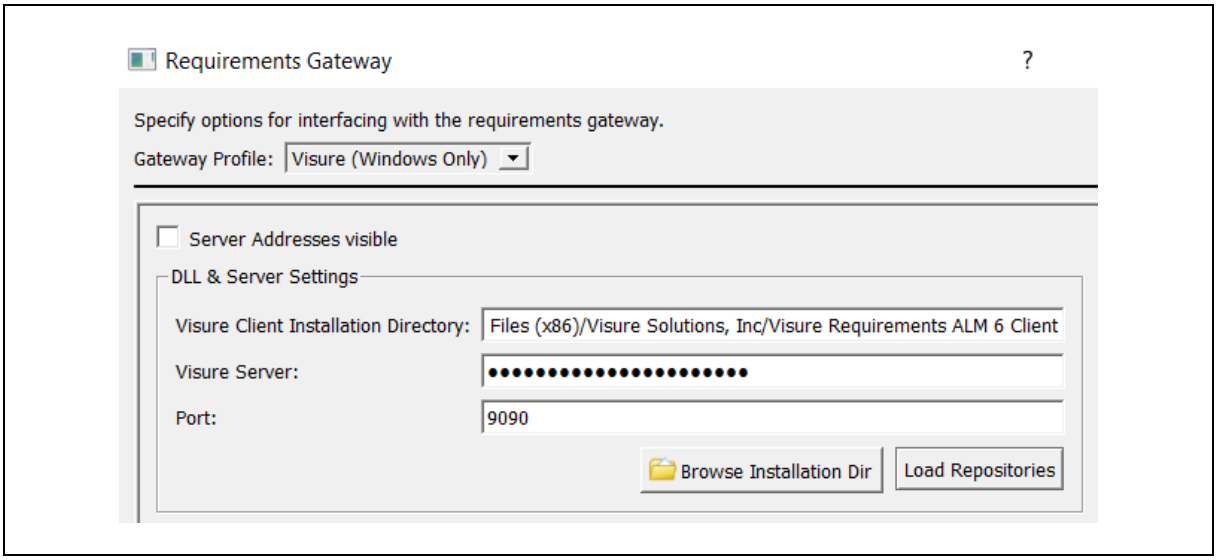

Figure 7- Authenticate with the Server: Load Repositories

Select the correct **Repository** in the drop-down menu and enter the **Username** and **Password**. Click **Load Projects** to get the list of available projects in the repository, see Figure 8.

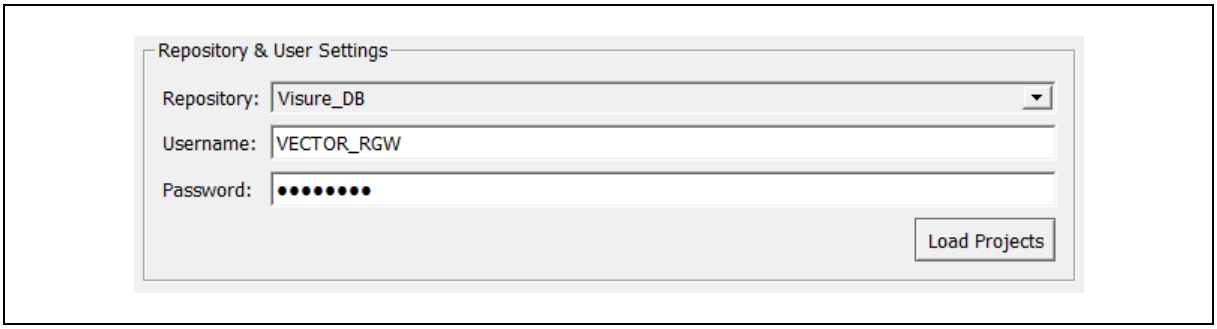

Figure 8- Authenticate with the Server: Load Projects

If the authentication fails, you will see the reason for failure in the **Output** window of the **Authentication** tab, as seen in Figure 9.

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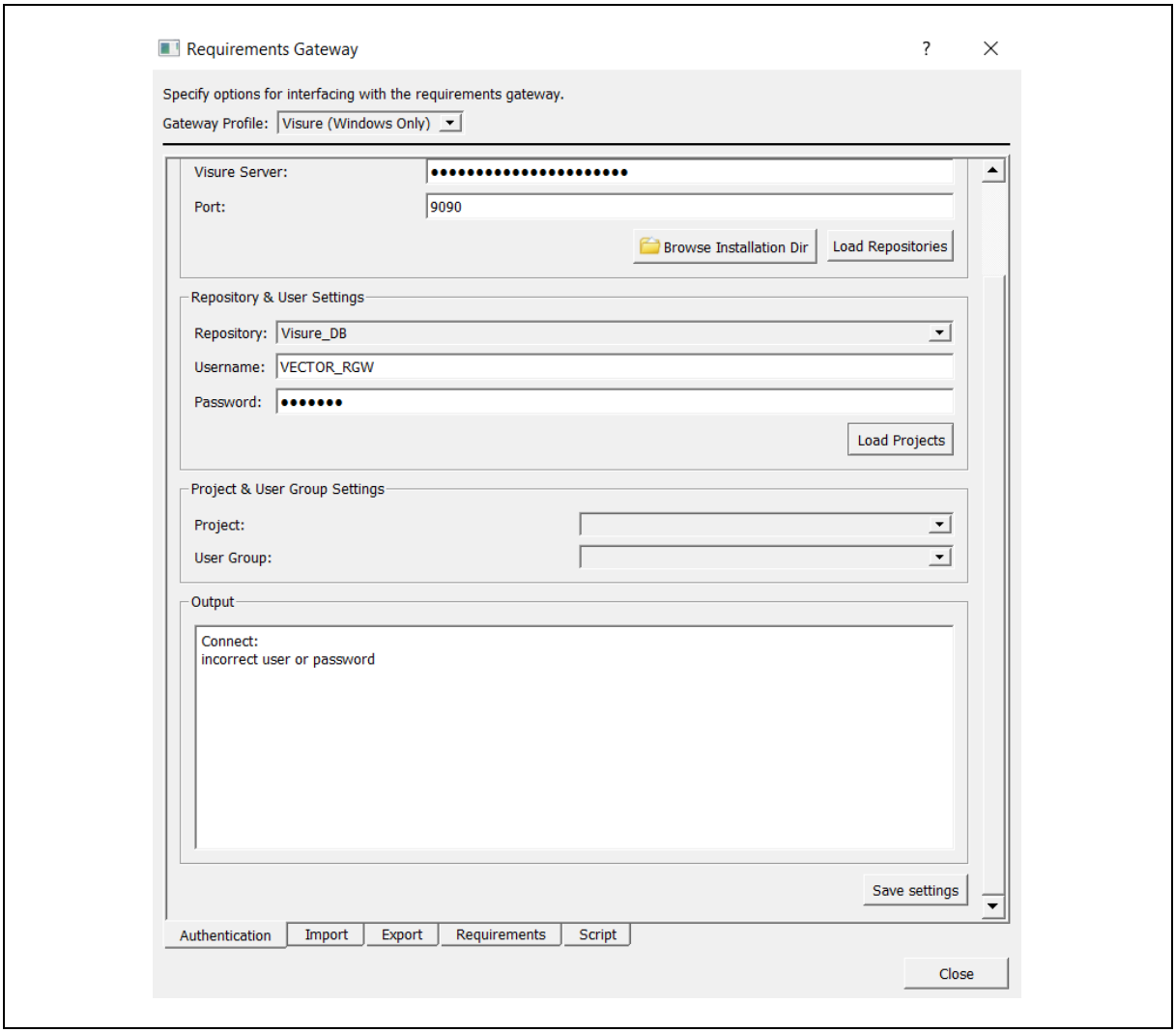

Figure 9- Authentication Failure

Select the desired **Project** and **User Group** and click **Save Settings**, see Figure 10.

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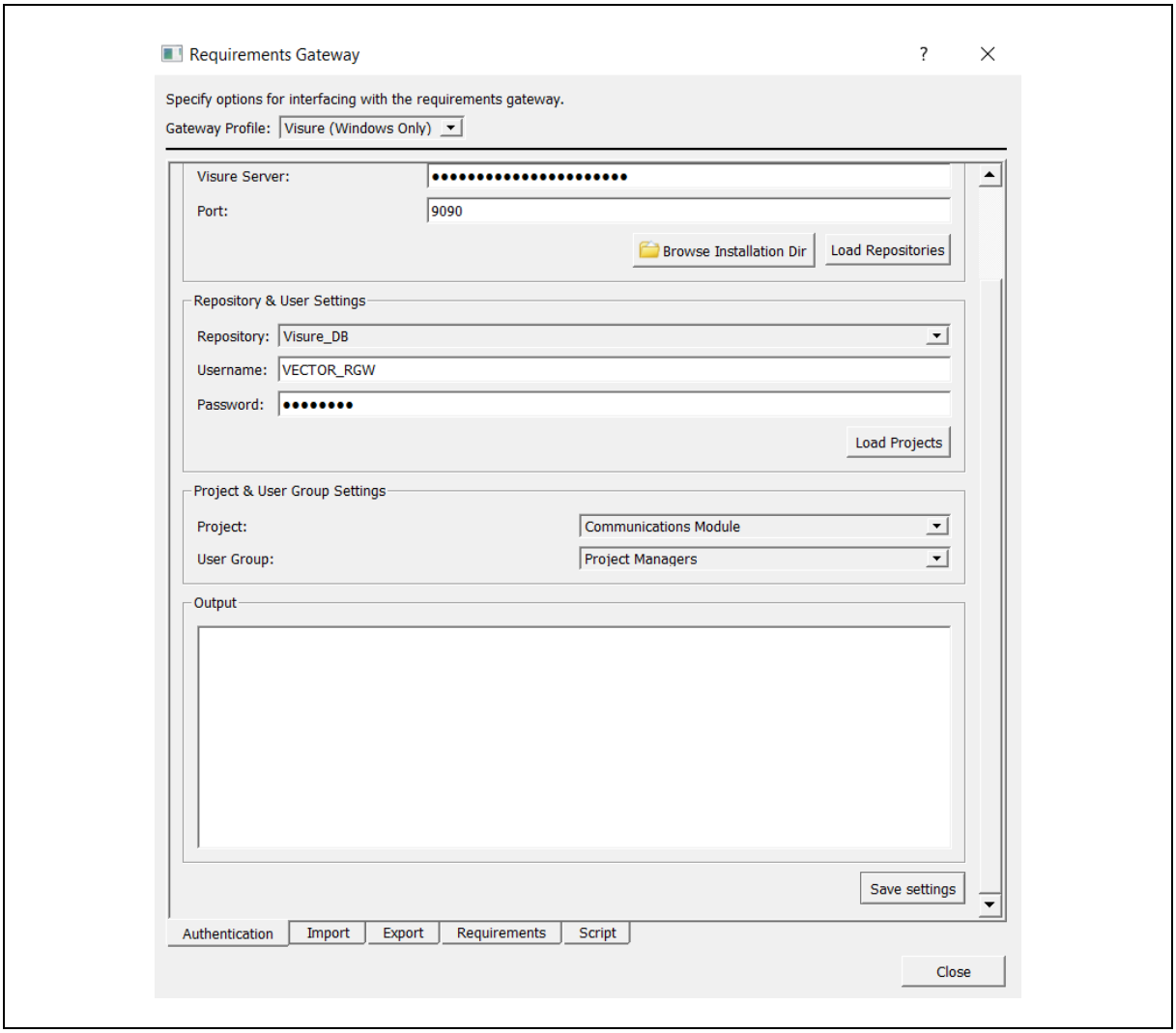

Figure 10- Authenticate with the Server: Save Settings

2.3 Use Case: Import Requirements

To import requirements from Visure, you will need to open the Requirements Gateway dialog as shown in Figure 5.

Choose the desired requirements from the Project as seen in Figure 11. Remember to click on the **Requirements** option under **Selected Specification** if not already selected.

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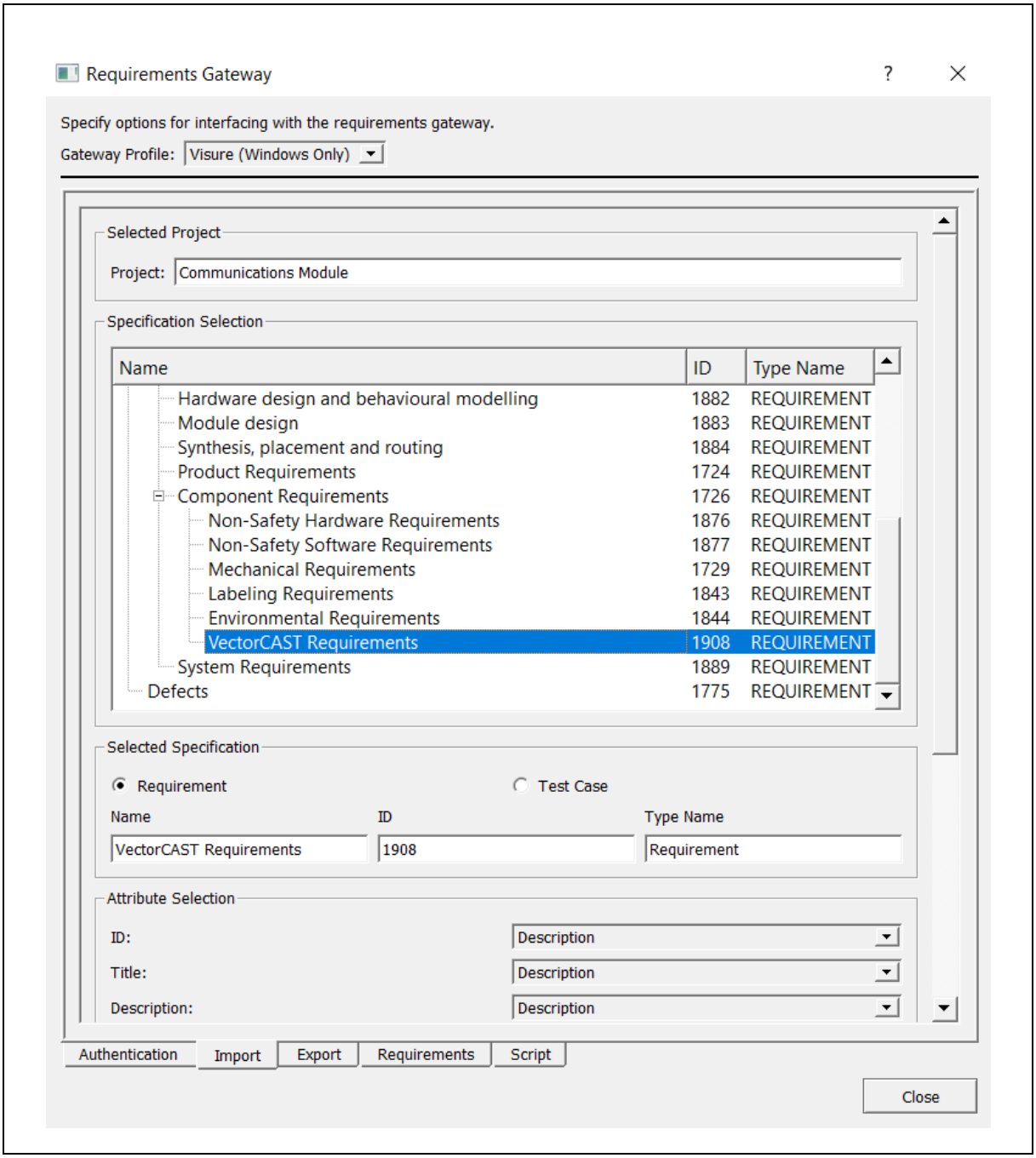

Figure 11-Select Requirements to Import from the Server

Choose the right items for **ID**, **Title** and **Description** in **Attribute Selection's** drop-down menu. Click **Import** once done, as seen in Figure 12.

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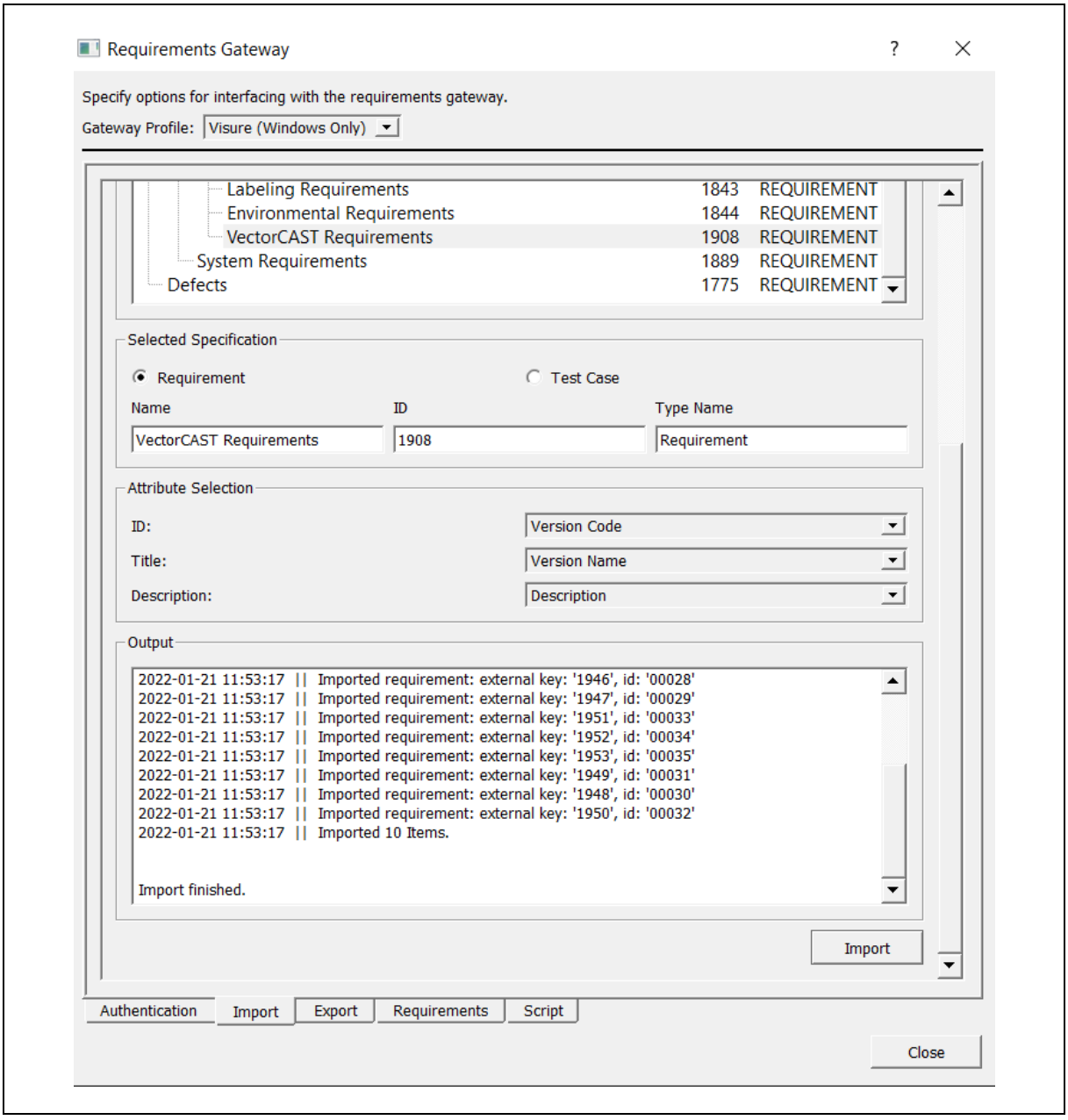

Figure 12-Attribute Selection: Requirements

VectorCAST will now fetch the requirements selected from the Visure server and import them into VectorCAST. A listing of the imported requirements will be shown after clicking on the **Requirements** tab as seen in Figure 13.

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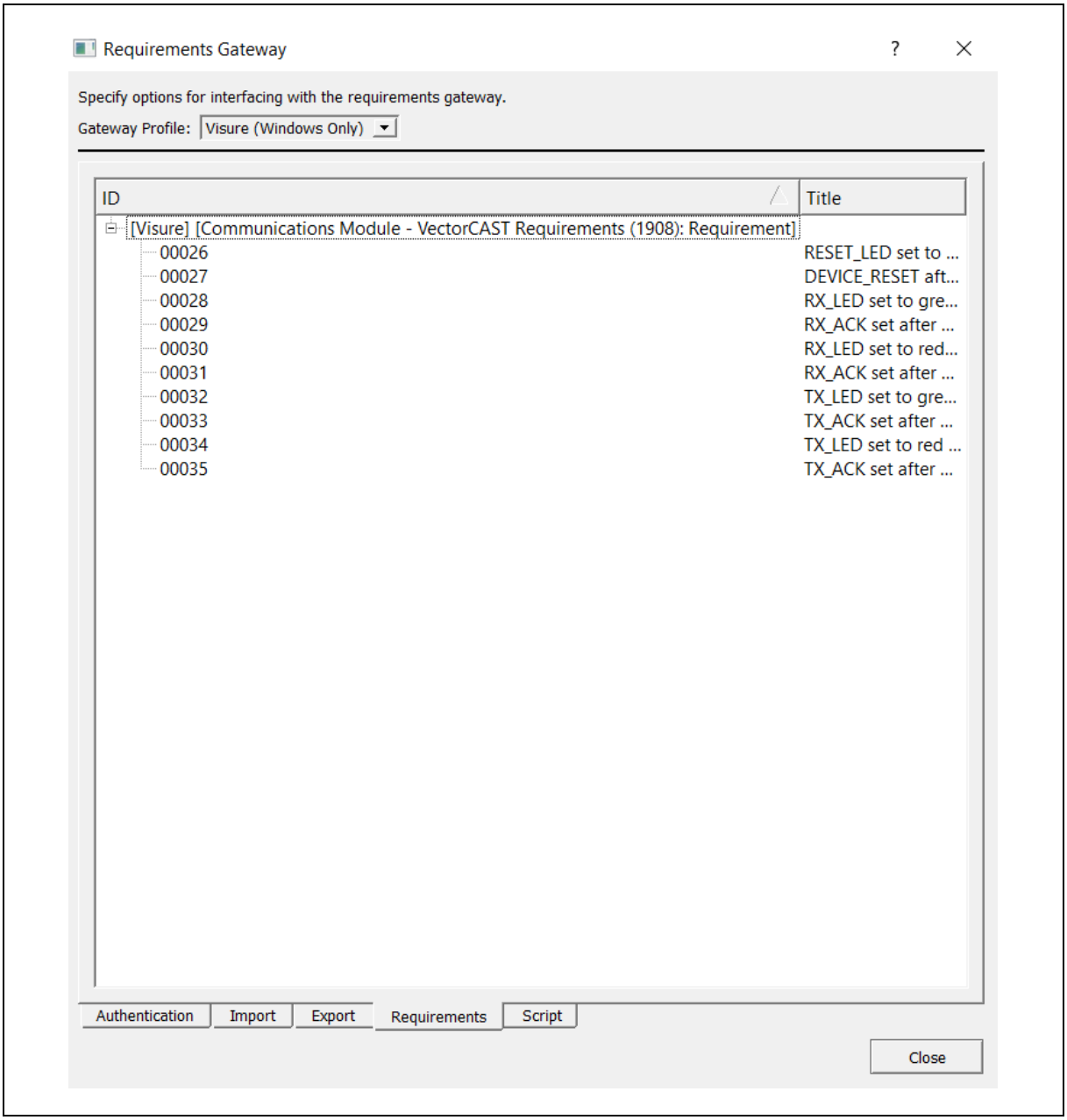

Figure 13-Import Requirements from the Server

2.4 Use Case: Import Test Cases

To import test cases from Visure, the first few steps are the same as for importing requirements.

Open the Requirements Gateway dialog as shown in Figure 5.

Select the desired Test Cases from the Project as seen in Figure 14.

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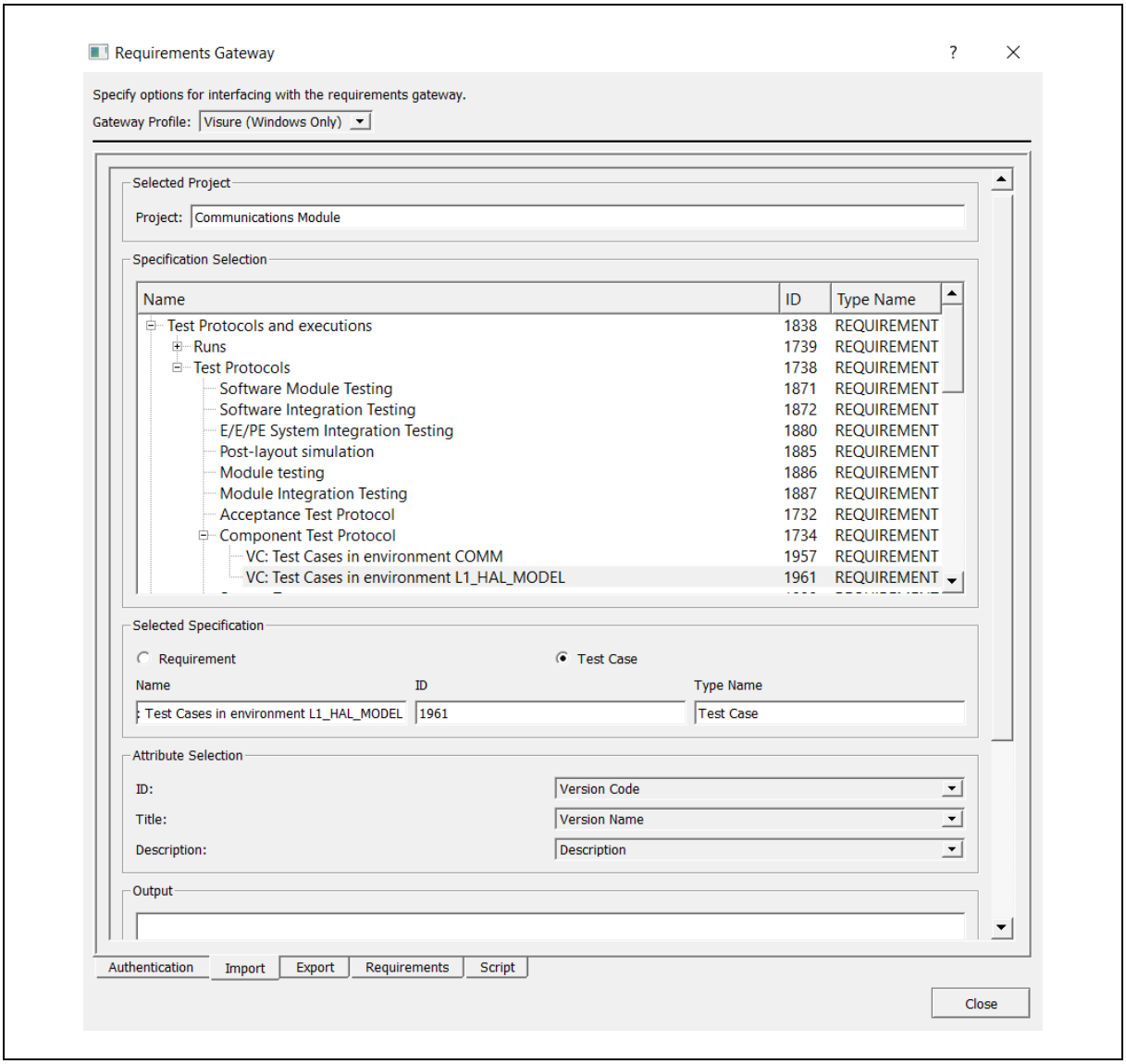

Figure 14-Select Test Cases to Import from the Server

Choose the right items for **ID**, **Title** and **Description** in **Attribute Selection's** drop-down menu. Click **Import** once done, as seen in Figure 15.

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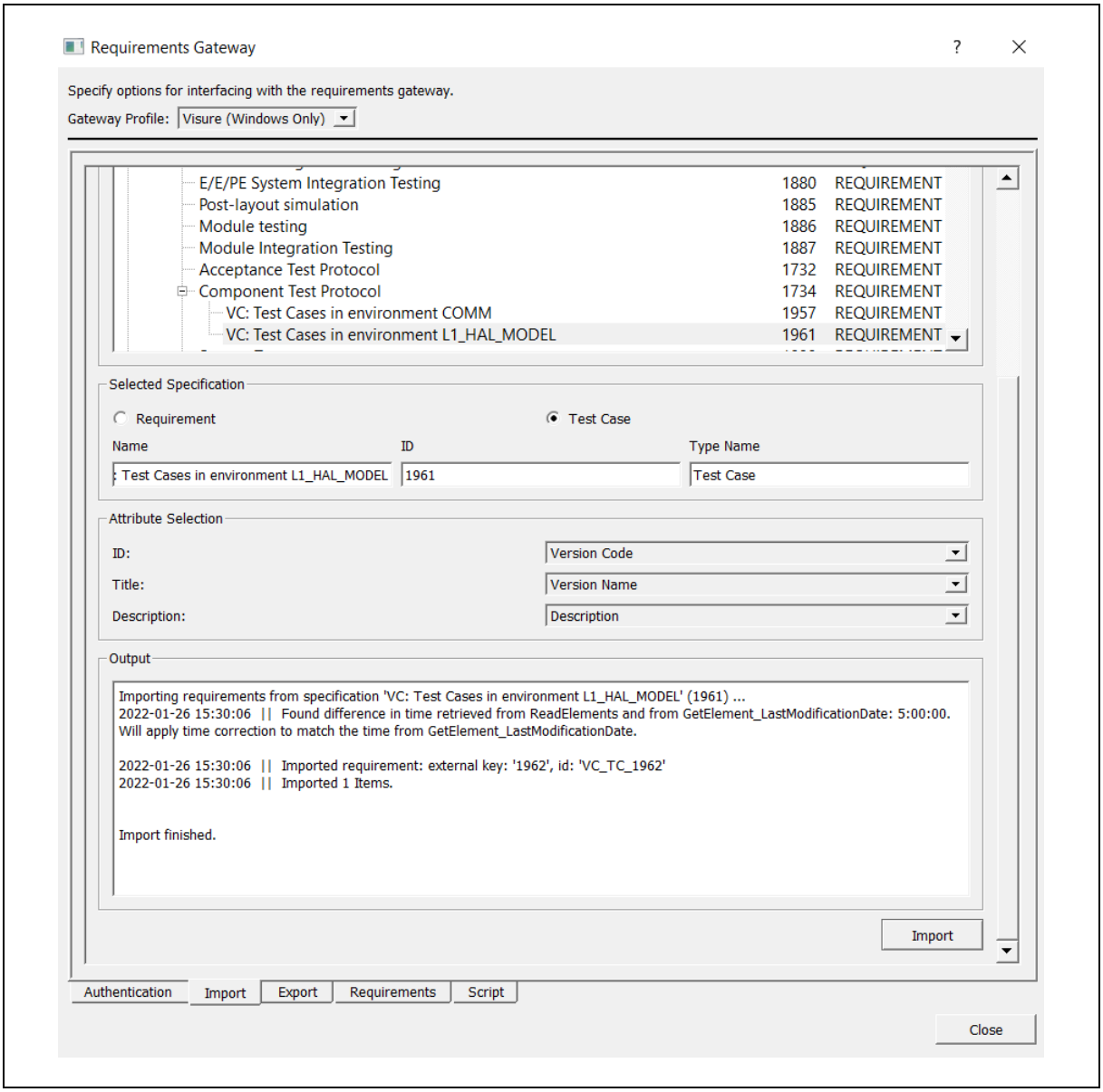

Figure 15-Attribute Selection: Test Cases

VectorCAST will now fetch the Visure test cases selected from the Visure server and import them into VectorCAST. A listing of the requirements and test cases will be shown after clicking on the **Requirements** tab as seen in Figure 16.

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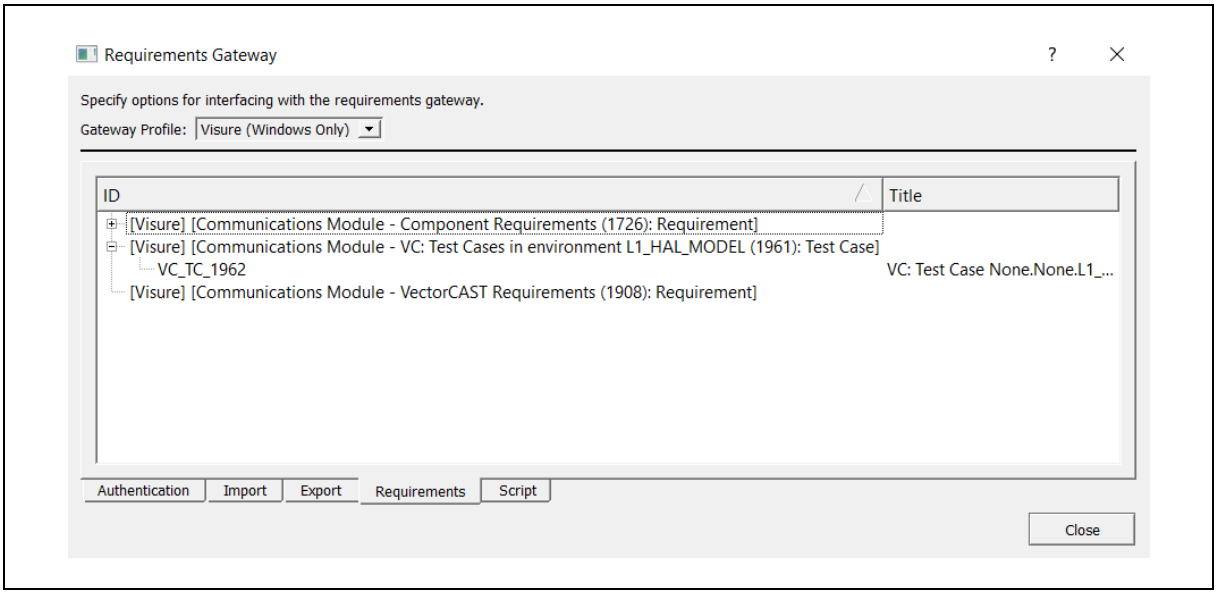

Figure 16-Import Test Cases from the Server

2.5 Use Case: Link Visure Requirements or Visure Test Cases to VectorCAST Unit Test Cases

First open a unit test environment and select a VectorCAST unit test case. Select the **Requirements** button as shown in Figure 17. Each VectorCAST unit test can be linked to either a Visure requirement or a Visure test case.

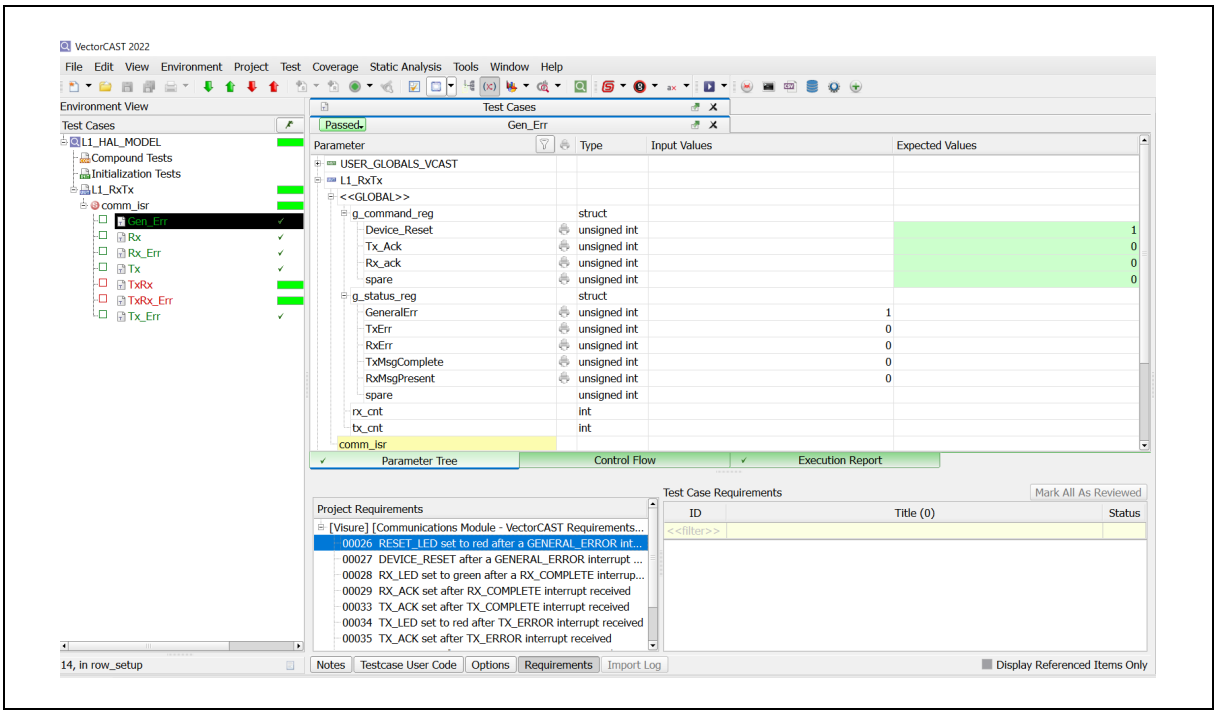

Figure 17-Select Requirements in the Unit Test Environment

In the Project Requirements window, you will see the list of imported requirements and Visure test cases.

To link a requirement to the VectorCAST unit test case, double click on the requirement. This will add the requirement to the **Test Case Requirements** as seen in Figure 18.

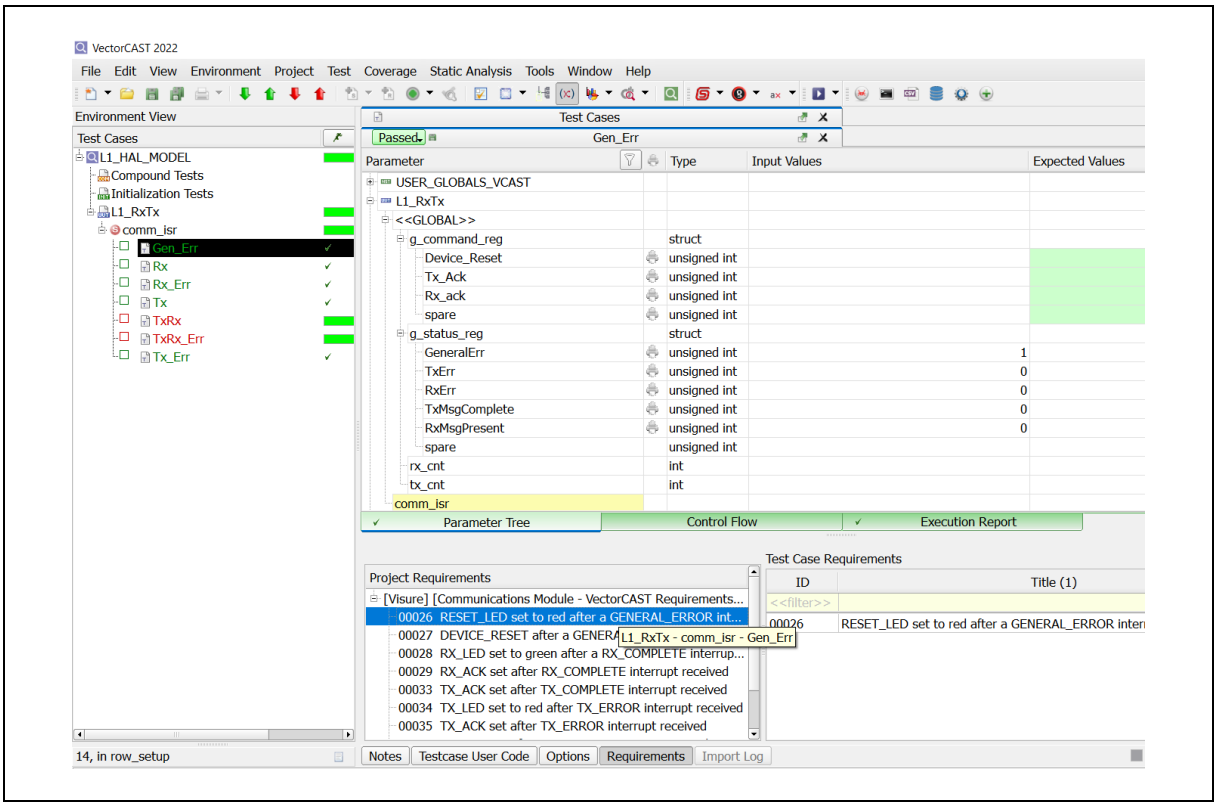

Figure 18-Link a Requirement to a Unit Test Case

To link a Visure test case to a VectorCAST unit test case, double click on the test case. This will add the Visure test case to the **Test Case Requirements** section, as shown in Figure 19.

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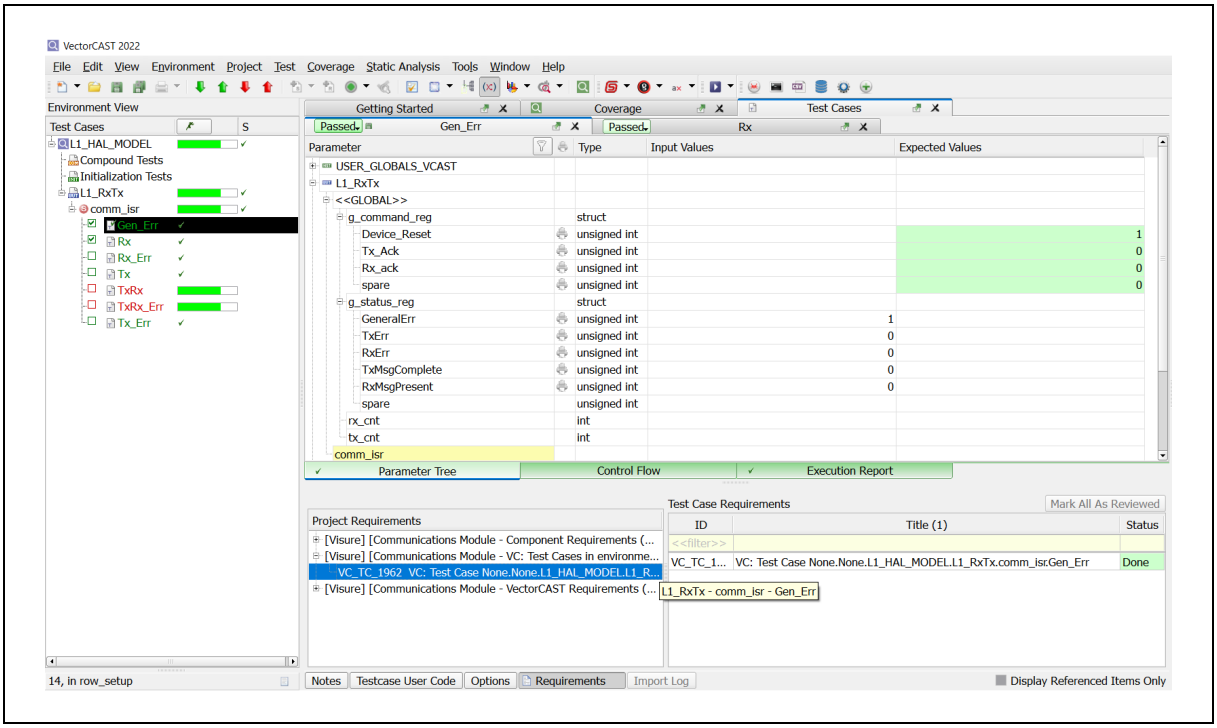

Figure 19-Link a Visure Test Case to a Unit Test Case

At this point, execute the VectorCAST unit test case to prepare for exporting the unit test as shown in Figure 20.

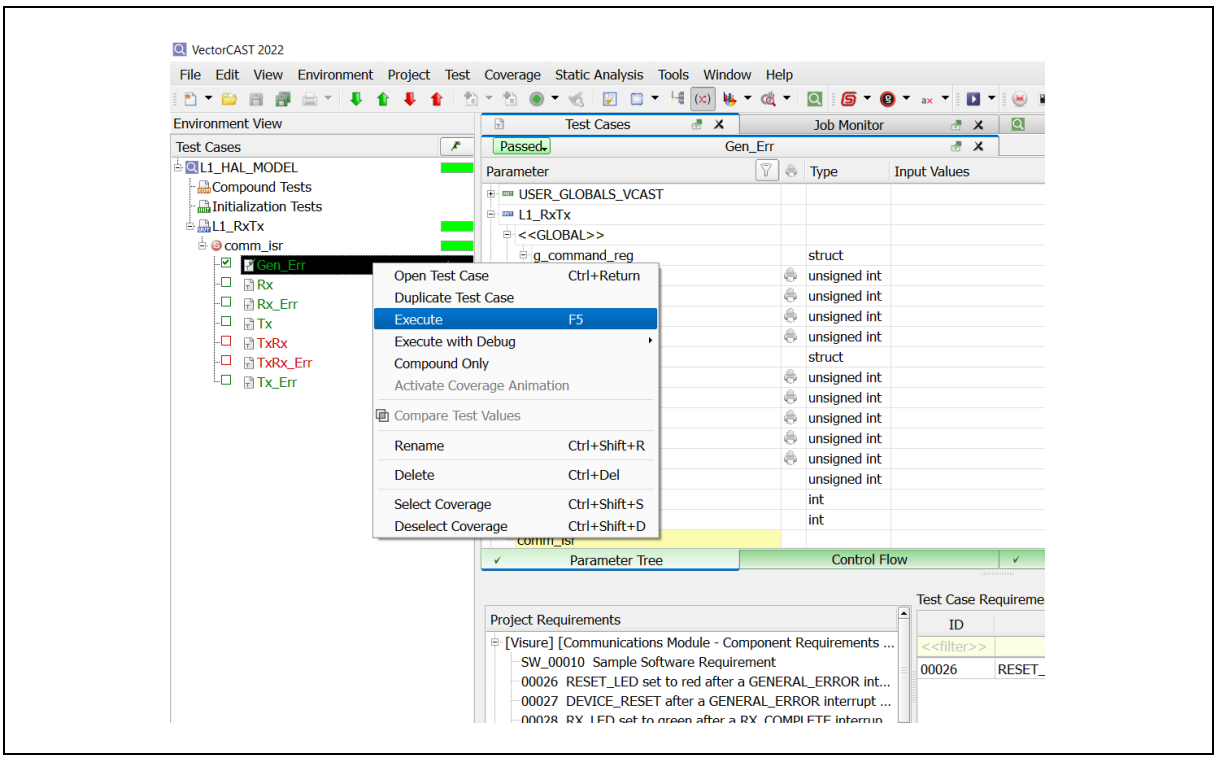

Figure 20-Execute the Unit Test Case

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Once the VectorCAST unit test case is executed (see Figure 21), you are ready to perform the export.

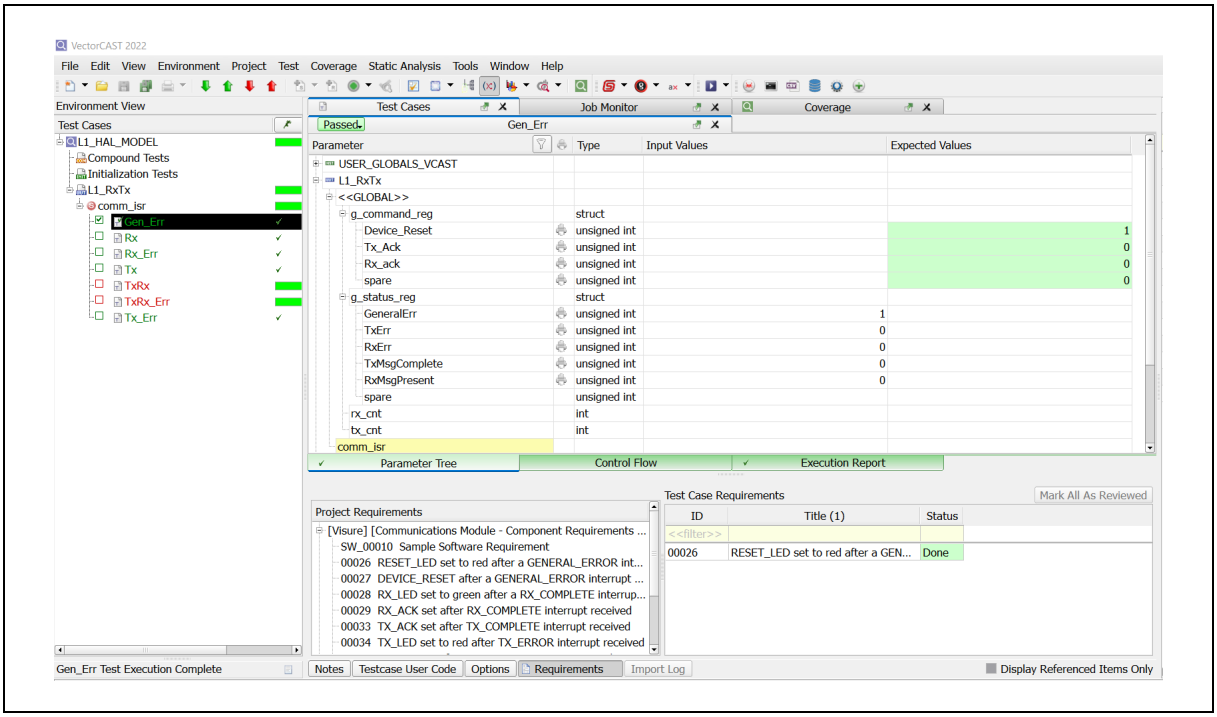

Figure 21-Unit Test Case After Execution

2.6 Use Case: Export to Visure Server

2.6.1 VectorCAST Unit Test Case

To export the VectorCAST unit test cases, first Select **Tools => Requirements Gateway => Visure** from the Menu Bar as shown in Figure 5. The **Requirements Gateway** dialog will open with Visure as the selected **Gateway Profile.** Select the **Export** tab at the bottom as shown in Figure 22.

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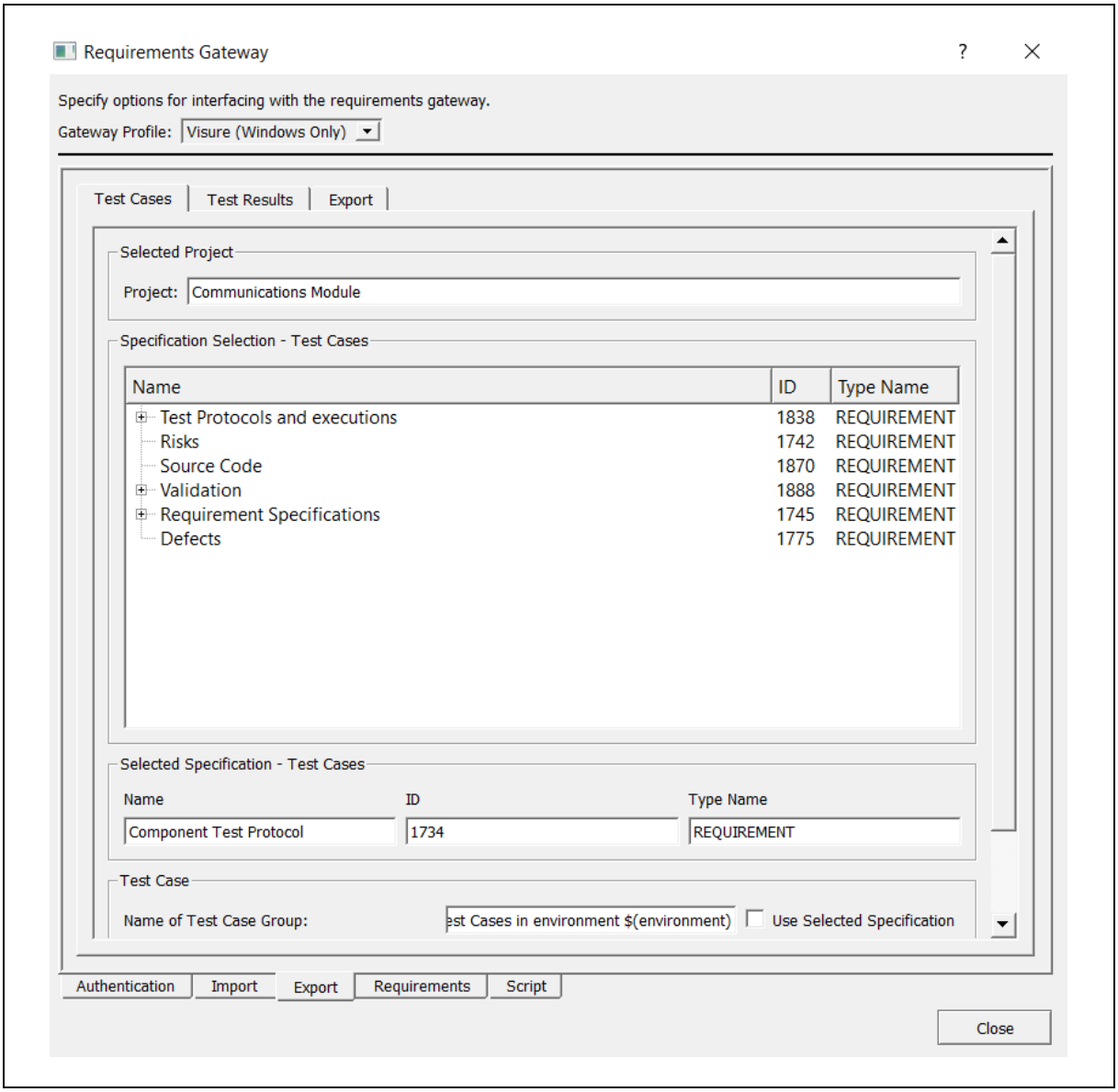

Figure 22-Select the Export Tab

The **Test Cases** tab is opened by default. Select the correct **Specification** and fill the desired options for the **Test Case**, shown in Figure 23.

Available Options:

- Name of Test Case Group - This defaults to **VC: Test Cases in environment $(environment)**. $(*variable*) is a general variable notation which gets expanded by VectorCAST with the corresponding content of *variable*. If the variable does not exist, then a NONE is used instead.
- Use Selected Specification - The **Test Case Group** is a child under the **Selected Specification** if the **Use Selected Specification** is not checked. In the example, the Test Case Group is a child under Component Test. If the box is checked, then the name of the **Test Case Group** would be Component Test.

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- Name of Test Case - The default **VC: Test Case $(project).$(configuration).$(environment).$(unit).$(subprogram).$(testcase)** uses environmental variables from the VectorCAST unit test environment configuration.
- Motive between Test Case & Requirement – This should match how the Visure project has been setup. VectorCAST will not check the validity of the motive (link type).

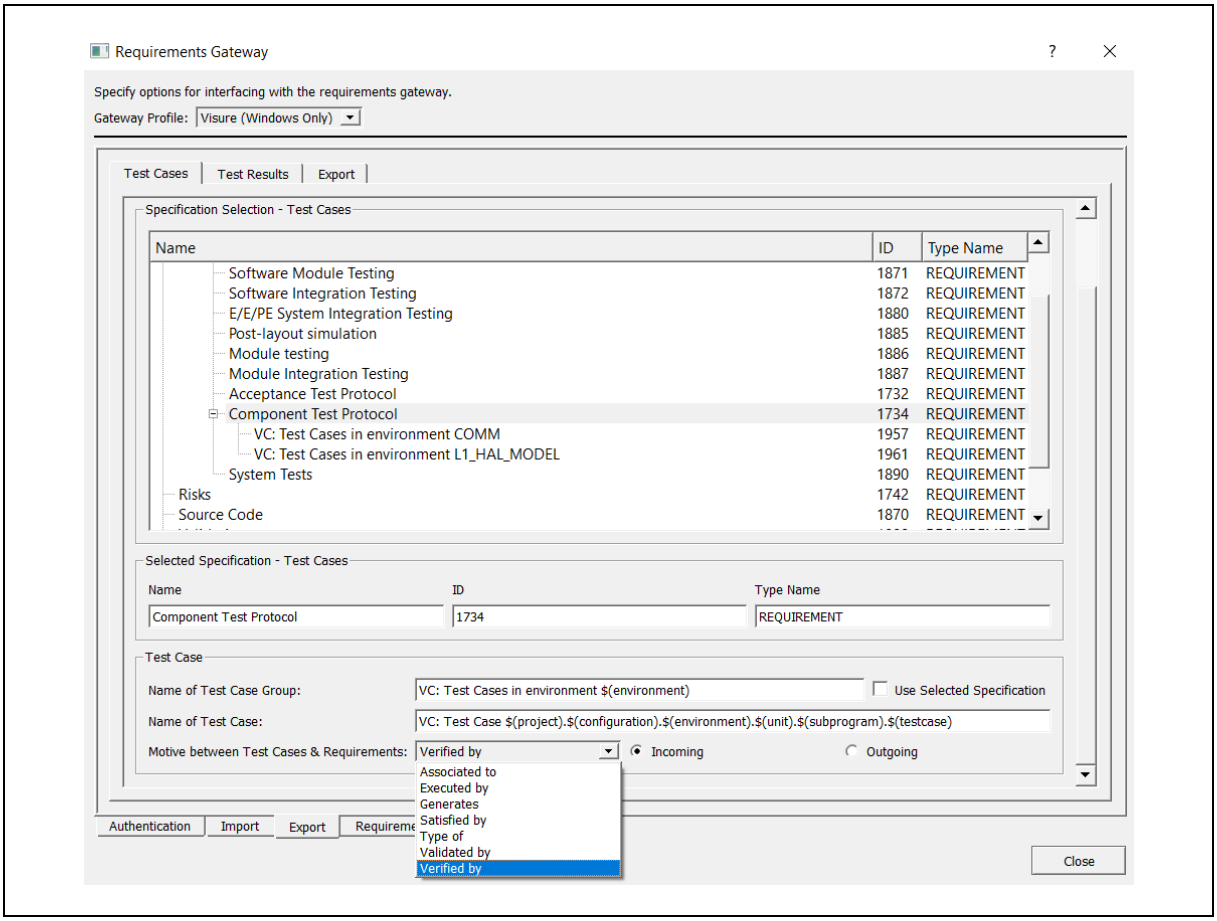

Figure 23-Test Case Export

Click on the upper **Export** Tab next to the Test Results and then the **Preview** button to see which results will be exported, seen in Figure 24.

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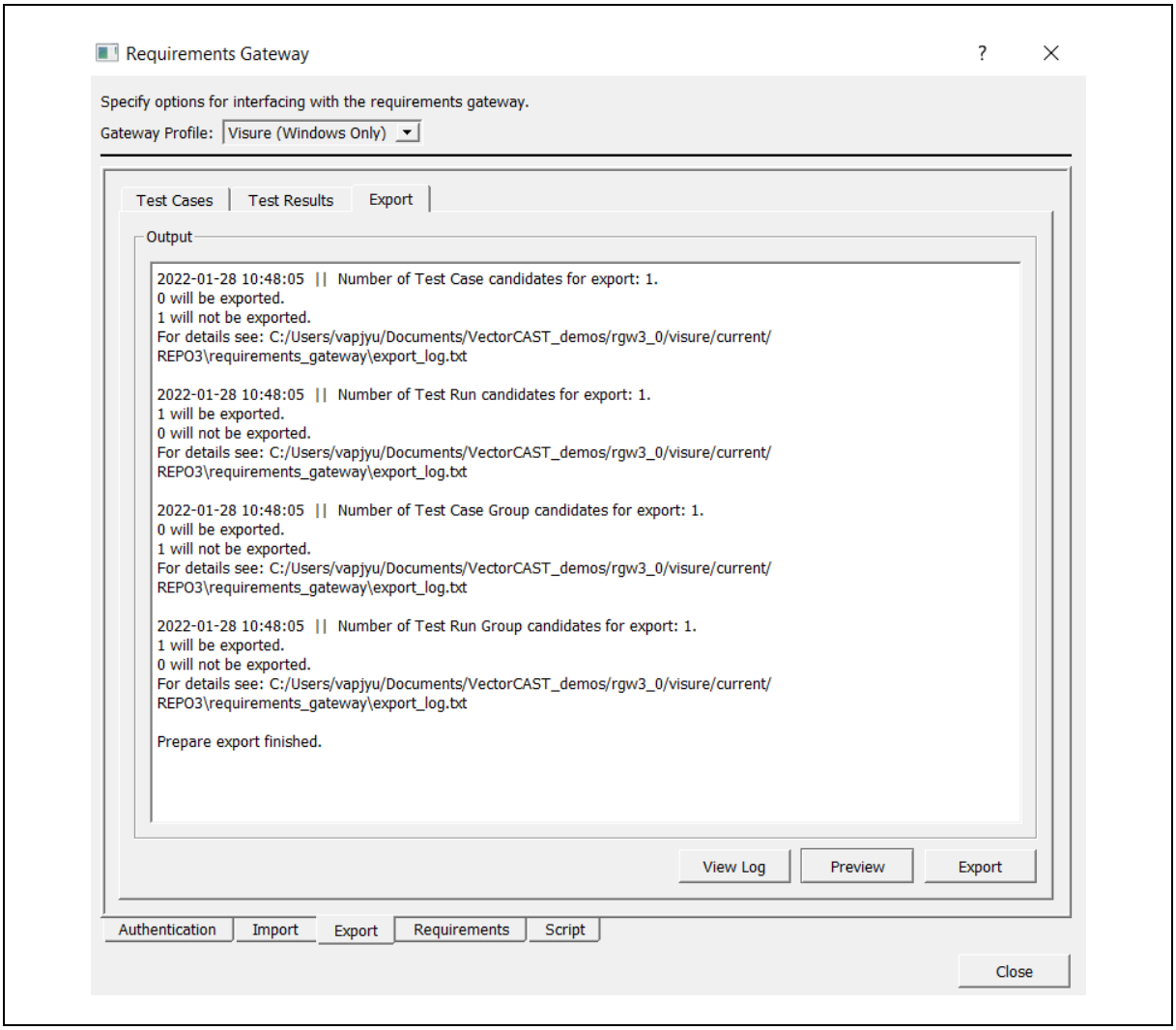

Figure 24-Preview Export

Test results can also be **Previewed** and sent along with VectorCAST unit test cases if available and desired to do so.

Note: Test results are dependent on test cases, but test cases can be exported independent of test results. If VectorCAST unit test cases were exported but not the associated test results, the unit tests would need to be run again to export the test results.

Please see Export VectorCAST Test Results in the next section for more information.

Click on the **Export** button to send the previewed results to Visure, see Figure 25.

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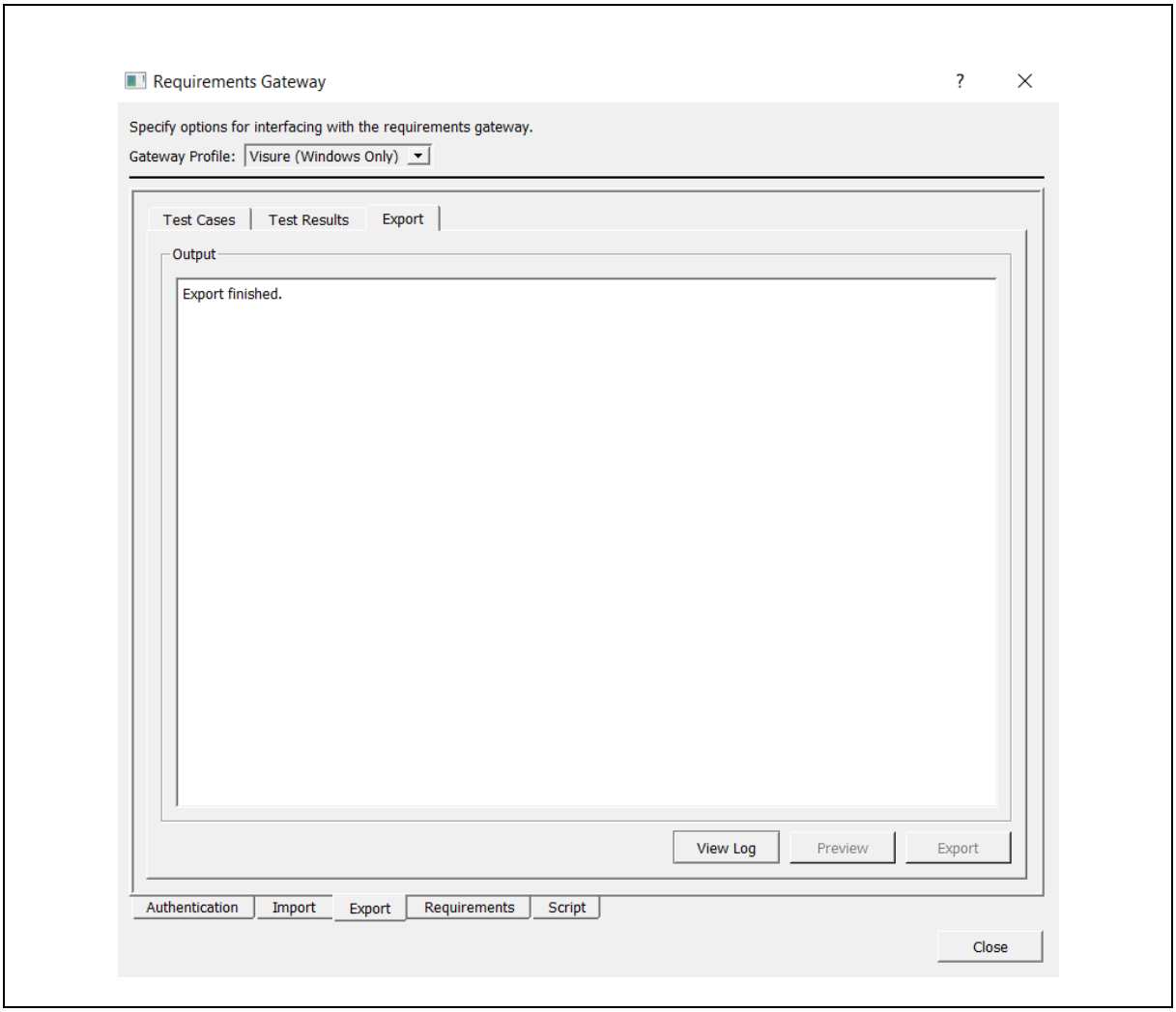

Figure 25-Export Results to Server

2.6.2 Export VectorCAST Test Results

To export the test results, first Select **Tools => Requirements Gateway => Visure** from the Menu Bar as shown in Figure 5. The **Requirements Gateway** dialog will open with Visure as the selected **Gateway Profile.** Select the **Export** tab at the bottom as shown in Figure 22.

To reiterate the note from the export VectorCAST unit test case section, test results cannot be exported on its own, they are tied to the test cases. If VectorCAST unit tests cases were exported without the test results and then the same unit tests would need to be rerun to export the test results.

The **Test Cases** tab is opened by default, select the **Test Results** tab next to it. Select the correct **Specification** and fill the desired options for the **Test Results**, shown in Figure 26.

Available Options:

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- Name of Test Case Group - This defaults to **VC: Test Cases in environment $(environment)**. $(*variable*) is a general variable notation which gets expanded by VectorCAST with the corresponding content of *variable*. If the variable does not exist, then a NONE is used instead.
- Use Selected Specification - The **Test Case Group** is a child under the **Selected Specification** if the **Use Selected Specification** is not checked. In the example, the Test Case Group is a child under Component Test. If the box is checked, then the name of the **Test Case Group** would be Component Test.
- Build Identifier – Optional Input to identify the build.
- Motive between Test Case & Requirement – This should match how the Visure project has been setup. VectorCAST will not check the validity of the motive.
- Enumeration of Test Results – Select the correct enumeration in Visure to be associated with the test results.
- Mapped Enumeration Value - Mapping of 'pass', 'fail', 'none' to enumeration values of the selected enumeration for test results.

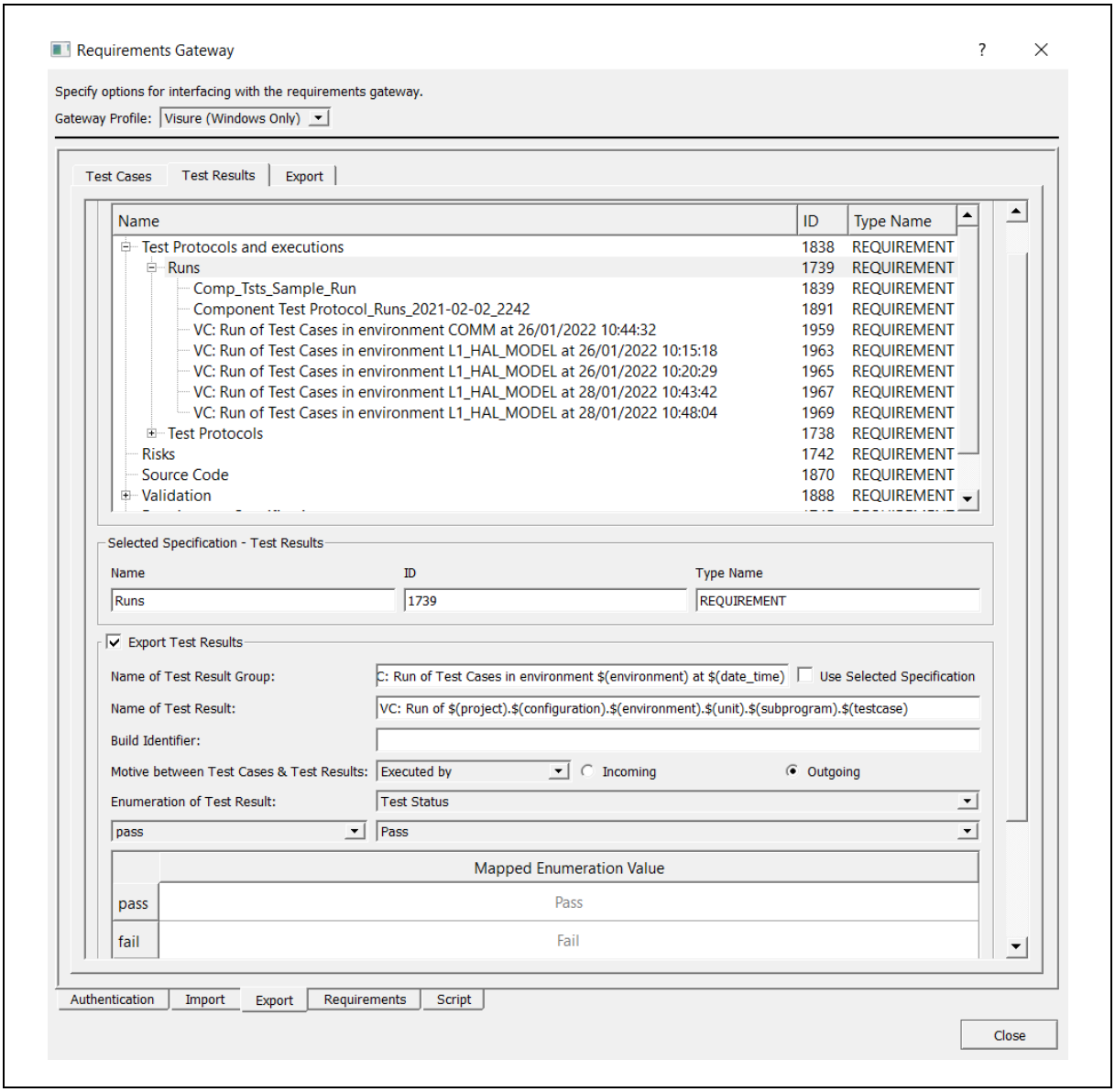

Figure 26-Test Results Export

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If the **Export Test Results** checkbox is not selected, then none of the settings will be relevant on the tab **Test Results** except for the choice not to export the test results. If test results are to be exported, then all the fields are required.

Click on the upper **Export** Tab next to the **Test Results** and then the **Preview** button to see which results will be exported, seen in Figure 24**Error! Reference source not found.**.

Click on the Export button to send the previewed results to Visure, see Figure 25.

2.7 Use Case: Review Updated Test Case/Test Results

Exported Test Cases are available and linked in Visure, as seen in Figure 27.

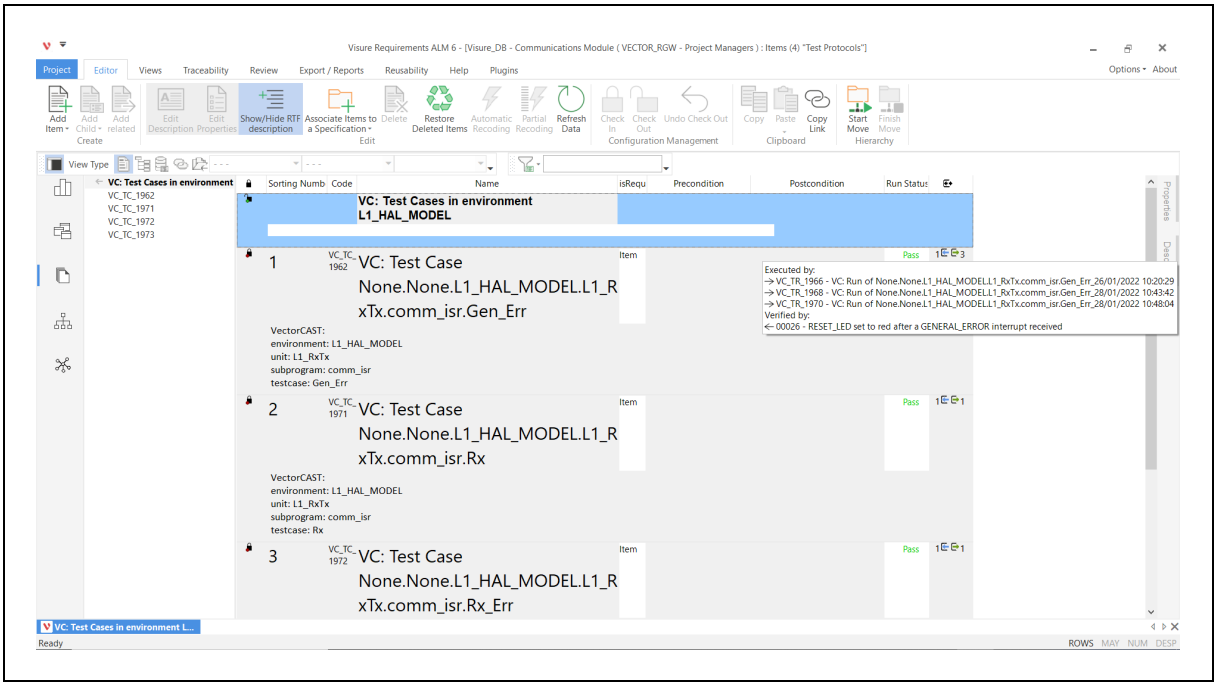

Figure 27-Exported Test Case in Visure

Exported Test Results are available and linked in Visure, as seen in Figure 28.

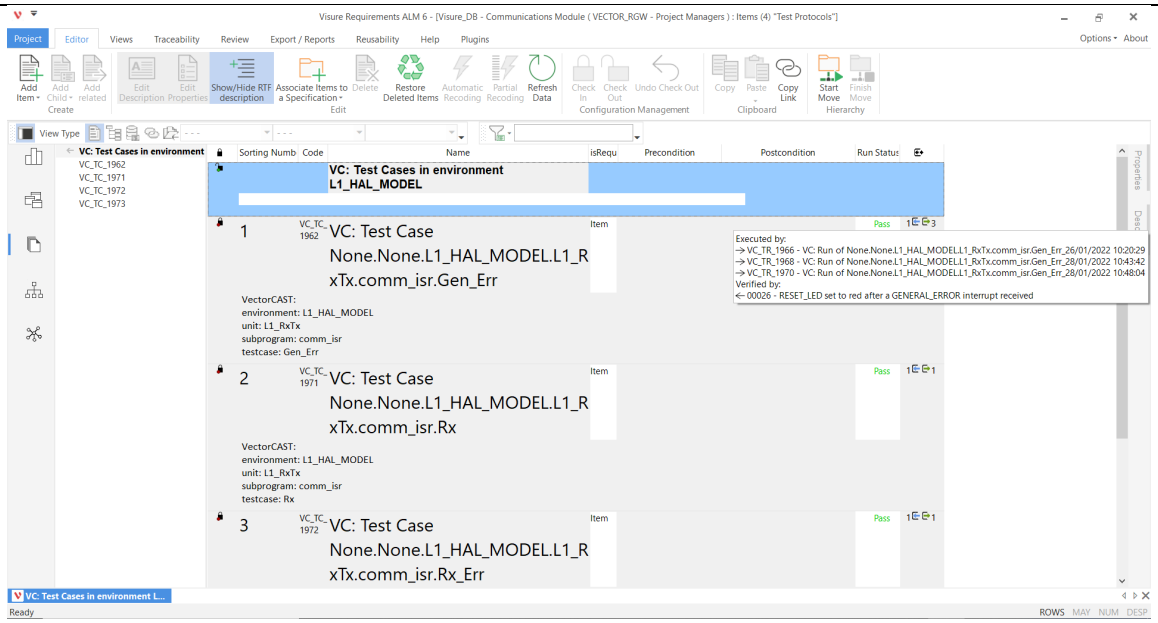

Figure 28-Exported Test Results in Visure

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