Software through Pictures®

Millennium Edition (Windows)

StP/DOORS Integration User Guide

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Introduction

This document describes the StP/DOORS integration, which links StP with DOORS, a tool for managing system requirements.

Topics covered are as follows:

Overview of StP/DOORS

DOORS, a registered trademark of Telelogic, is designed to capture, manage, link, trace, generate, and analyze textual and graphical information to ensure a product's compliance with system requirements and specifications.

The StP/DOORS integration allows you to:

- Export single or multiple objects from StP to DOORS.
- Navigate from StP-exported objects to DOORS.
- Allocate requirements to those exported objects using DOORS.
- Navigate from exported objects in DOORS back to StP.

The integration of StP and DOORS ensures that both requirements and application development models systematically reflect changes made throughout the development cycle.

The StP/DOORS integration is available from all StP editors and products. All objects that support allocated requirements can be exported to DOORS.

For detailed information on DOORS, refer to the DOORS product documentation.

How DOORS Stores StP Objects

The StP/DOORS integration allows StP objects to be sent to DOORS and allows DOORS to manage the details of linking these objects to requirements. The only restrictions placed upon the storage of StP objects in DOORS are related to how the objects are grouped into modules.

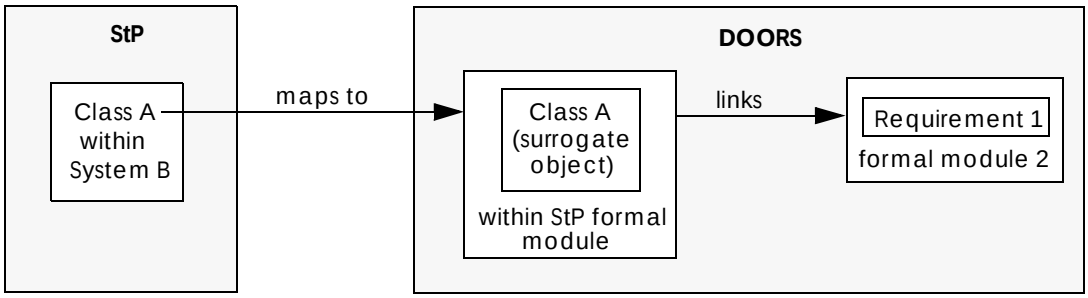
DOORS stores StP objects in formal modules. All StP objects from the same StP system are grouped together into their own module. Therefore, you will have one module for every StP system you are using with DOORS. DOORS manages all links from the formal module to requirements.

When you export an StP object to DOORS, several things happen:

1. The integration checks to make sure you have a project open. If no project is open, a dialog appears telling you to open a project and to press OK to continue.
2. The integration searches the project for formal modules belonging to the StP system that owns the StP object.
   - If such a module is found, it is opened and the object is added to it or is updated if it already exists.
   - If no module is found, you will be prompted for the name of the new module. The default name provided is the name of the StP system. If you choose to abort, the module is not created.
3. DOORS stores the StP object as a surrogate object, which represents the actual StP object in DOORS.

The process is illustrated in Figure 1.

Figure 1: How StP objects map to DOORS



After you have exported an StP object to DOORS, you can perform any valid DOORS operation involving the exported object, such as linking the object with requirements, editing the object's attributes, and so on. You can write reports in DOORS that show the status of these StP objects and their linked requirements. It is also possible to write a QRL report in StP that will extract the DOORS requirements linked to StP objects, and print them in an StP report, such as a Sofware Requirements Specification (SRS).

Enabling the StP/DOORS Integration

Both StP and DOORS must be installed before you can enable the StP / DOORS integration. Follow the steps below to enable the integration.

1. Set up your ToolInfo file for DOORS integration.
   - Set `use_doors_integration`. Set it to "True" for each StP / DOORS user. "True" enables DOORS; "False" disables DOORS. Note: for general information about setting environment variables, refer to Chapter 2 of the *StP Administration Guide*.
   - Set `product`. Set it to the product type of the StP system to which you will be navigating. For example, if you have an SE system that you want to integrate with DOORS, add the following line to your ToolInfo file before you start StP:

```
product=se
```

If you later want to integrate DOORS with a UML system, you can do this by exiting StP, changing the ToolInfo product variable to "uml", and restarting StP. Note that since UML is the default product, adding "product=uml" to ToolInfo is not required but is good practice.

2. Move the following from the *StP\templates\ct\doors\addins* directory to the DOORS installation directory:
   - *stp*\: The *stp* directory contains the StP customization. Copy the entire directory to the *%*DOORSHOME*%\lib\dxl\addins* directory.
   - *startup.dxl*: Add the contents of this file to:

     *%*DOORSHOME*%\lib\dxl\startup.dxl*

     If the file does not exist, create it.
   - *addins.hlp*: Add the contents of this file to:

     *%*DOORSHOME*%\lib\dxl\addins\addins.h*lp

     If the file does not exist, create it.
   - *addins.idx*: Add the contents of this file to:

     *%*DOORSHOME*%\lib\dxl\addins\addins.idx*

     If the file does not exist, create it.
3. Add, to your $PATH environment variable, the name of the directory where the StP executables are stored. For example, if you have installed StP on your *c:* drive, use:

   *c:\StP\bin\W32NTX8*6

Note: If you change the location of your project after the surrogate module has been generated, you need to specify the new location by setting StP_ProjectDir within DOORS. To set StP_ProjectDir:

- Open DOORS, then open the surrogate module.
- Choose File > Module Properties, then select "StP_ProjectDir".
- Press the edit button, modify the attribute, then press OK.

Using the StP/DOORS Integration

When you have enabled the StP / DOORS integration, you can perform the following additional actions within the StP and DOORS programs:

1. Export objects from StP to DOORS.
2. Navigate from StP to DOORS.
3. Navigate from DOORS to StP.
4. Update renamed objects exported to DOORS.

These actions are described in detail in the sections that follow.

Exporting Objects from StP to DOORS

Exporting objects is the means for creating a link between an object in the StP model and its requirements in the corresponding DOORS module. When StP objects are exported to DOORS, identifying information about the StP objects is sent to DOORS, which then adds the object to the StP surrogate module. You can then navigate between the object in the StP model and its representative object in the DOORS module.

Objects can be exported from StP to DOORS in two ways:

1. *From the desktop*. Select one or more files, right click to bring up the context menu, and select **Export to DOORS**. This action exports all exportable objects in the selected diagrams into DOORS.
2. *In the editors as a result of the navigation commands*. As a convenience, navigation from StP to DOORS automatically exports the selected object to DOORS if it does not already exist in the DOORS surrogate module. To export objects in this manner, select a single object (class, use case, process, and so on) and choose the **DOORS** menu item from the **Go To** menu. This action exports the currently selected exportable object to DOORS.

Note that not all types of StP objects support allocated requirements. If **Export to DOORS** and / or the **Go To > DOORS** menu items do not appear, it means that the item selected does not support allocated requirements, and thus cannot be exported to DOORS. (Multiple items cannot be selected for export to DOORS.)

Navigating from StP to DOORS

You navigate from a selected object in an StP editor to DOORS by choosing **DOORS** from the editor's **GoTo** menu.

If the **DOORS** command does not appear, and StP / DOORS is enabled, the selected object does not support allocated requirements and cannot be exported to DOORS.

To navigate from an StP object to DOORS:

1. Make sure DOORS is running.
2. In DOORS, open the project to which you want to export the StP object.
3. In StP, select an object (class, use case, process, and so on).

   You cannot export a group of objects to DOORS. Export only one object at a time; wait until the object has completely exported before exporting the next object.
4. From the **GoTo** menu, choose **DOORS**.

   If this is the first time you are exporting an StP object from this system, DOORS will prompt you to enter a name for the module.
5. Enter a name (DOORS will offer the name of the current StP system as the default) and click **Create**.

After you have exported an StP object to DOORS, you can perform any valid DOORS operation on the surrogate object, such as linking the object with requirements, editing the object's attributes, and so on.

Navigating from DOORS to StP

After you export an StP object to DOORS, DOORS lets you allocate requirements to the StP surrogate object. DOORS groups all StP objects from the same StP system into their own formal module. In other words, there is one formal module for every StP system being used with DOORS.

To navigate from DOORS to StP:

1. In DOORS, select an object (class, use case, process, and so on).
2. Choose **Navigate to StP** from the StP menu.

   If StP has more than one object with the name of the selected object, an **Object Selector** dialog appears, listing the object locations.
3. Select the object location you need and click **OK** or **Apply**.

After you navigate from DOORS to StP, the repository browser appears, which enables the next navigation. An StP / DOORS navigation requires an StP editor because the navigation uses QRL statements. The Repository Browser appears because it accepts QRL statements and is not StP product specific.

Updating Renamed Objects Exported to DOORS

Whenever you rename an object by using the editor's **Edit > Rename Object Systemwide** command, you need to update the object's references in DOORS. To do so, select **Tools** from the desktop and choose **Synchronize DOORS with StP**.

For more information on the **Rename Object Systemwide** command, see the StP product-specific documentation, for example, *Creating UML Models*.

DOORS Limitations

The StP / DOORS integration is mostly seamless, but please follow the recommendations below. Make sure that you:

- Work within a single StP project directory and use that name as your `projdir` ToolInfo variable.
- Use only one StP product (e.g., UML, SE) with DOORS.
- Set your `use_doors_integration` ToolInfo variable to True. The variable is defined in the *Toolinfo.<architecture>* file at the top level of the StP install directory.
- Depending on the version of DOORS installed, the integration may only work properly if DOORS has been first invoked from StP. If you find that the navigations from one tool to the other are not working, restart DOORS from StP. This is accomplished by running any DOORS navigation from StP without the DOORS tool previously started.