Honeywell

Spyder Model 5 and Spyder Model 7

MIGRATION GUIDE

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ABOUT THIS GUIDE

This guide describes how to use the Spyder To Irm Nx Migrator tool to migrate Spyder applications to Spyder Model 5 or Spyder Model 7 supported applications on a Supervisor or remote host.

ABOUT MIGRATION TOOL

The Irm Nx Migrator tool uses the latest WEBs-N4 workbench to migrate a Spyder source file such as a station, library, exported library, and custom palette to a Spyder Model 5 or Spyder Model 7 compatible station.

Prerequisites

It is assumed that you are familiar with basic WEBs-N4 techniques and functions, such as connecting to platforms, stations, networks, etc.

To use the Spyder To Irm Nx Migrator tool, you must download and install the latest Spyder Model 5 and Spyder Model 7 Tool from the Honeywell Building Forum. Refer to the latest Spyder Model 5 and Spyder Model 7 release notes to download the latest Spyder Model 5 and Spyder Model 7 Tool.

The following are the list of modules required for migration:

Table 1 Modules List

Spyder Model 5 and Spyder Model 7 Engineering Modules	Honeywell Spyder Modules
• airFlowBalancer.jar • docHoneywellSylkDevce-doc.jar • honeywellSylkDevice-rt.jar • honeywellSylkDevice-ux.jar • honeywellVersionManager-rt.jar • honIrmAppl-rt.jar • honIrmConfig-doc.jar • honIrmConfig-rt.jar • honIrmConfig-wb.jar • honIrmControl-doc.jar • honIrmControl-rt.jar • honIrmControl-ux.jar • honIrmControl-wb.jar • spyderToIrmNxMigrator-wb	• airFlowBalancer.jar • docHoneywellSpyder.jar • genericUIFramework.jar • honeywellBacnetSpyder.jar • honeywellSpyderMigrator.jar • honeywellSpyderTool.jar • wsStdLonDeviceTemplates.jar • wsVavBalancer.jar

The following file types can be migrated from a Spyder to a Spyder Model 5 or Spyder Model 7 using the Spyder To Irm Nx Migrator tool.

Table 2 Migrated File Type

Station	Use Spyder backup to migrate the station to the Spyder Model 5 or Spyder Model 7.
Library	Migrate Spyder library to Spyder Model 5 or Spyder Model 7 compatible application library.
Exported Library	Migrate exported Spyder libraries to Spyder Model 5 or Spyder Model 7 compatible applications.
Custom Palette	Migrate custom palettes containing Spyder applications to Spyder Model 5 or Spyder Model 7 compatible palettes.

NOTE:
The Spyder To Irm Nx Migrator tool can only be used with the stations, application libraries, and exported libraries in WEBs-N4. Users will not be able to use the Irm Nx Migrator tool if any of the above are in WEBs-AX.

STEPS TO MIGRATE

Steps to migrate Spyder application to Spyder Model 5 or Spyder Model 7 application:

1. Open the WEBs-N4 Workbench.
2. Navigate to **Tools** and select **Spyder To IRM Nx Migrator** option.

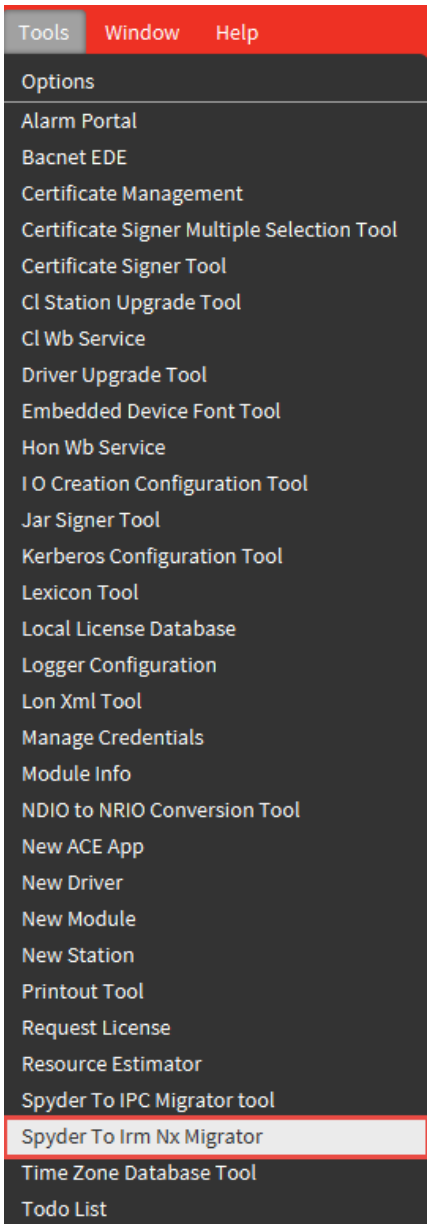

Fig. 1 Spyder To Irm Nx Migrator Tool

The default Spyder To IRM Nx Migrator tool window is displayed.

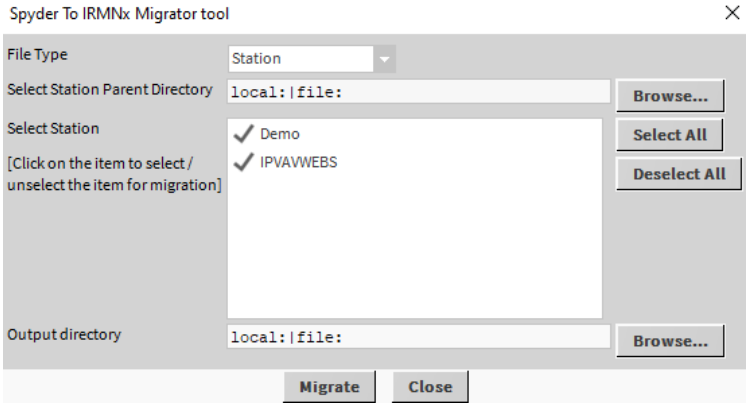

Fig. 2 Spyder To Irm Nx Migrator Tool Window

The following are the different file types that are provided as an input to the Spyder To Irm Nx Migrator tool:

- Station
- Library
- Exported Library
- Custom Palette

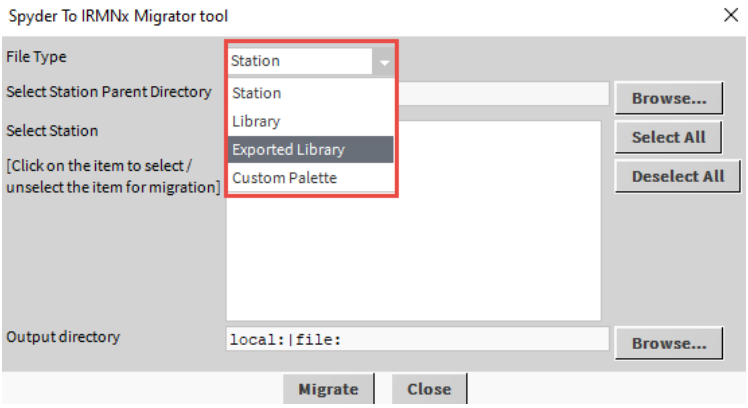

Fig. 3 Migration File Type

Steps to Migrate Station

Steps to migrate a station:

1. Select file type as a **Station** from the File Type drop-down list.

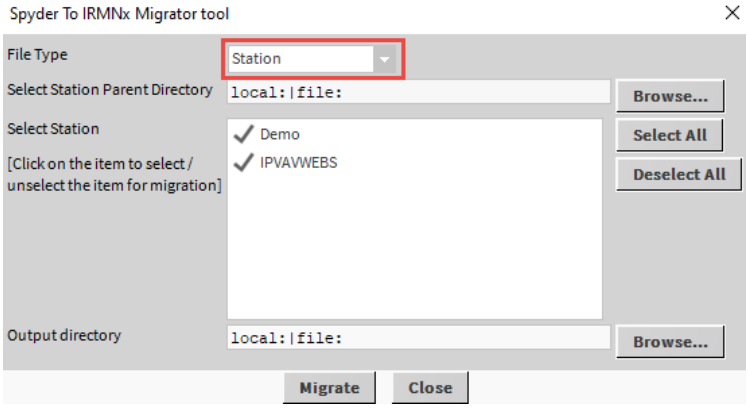

Fig. 4 Station File Type

2. Click **Browse** to select the directory where the list of stations is available.

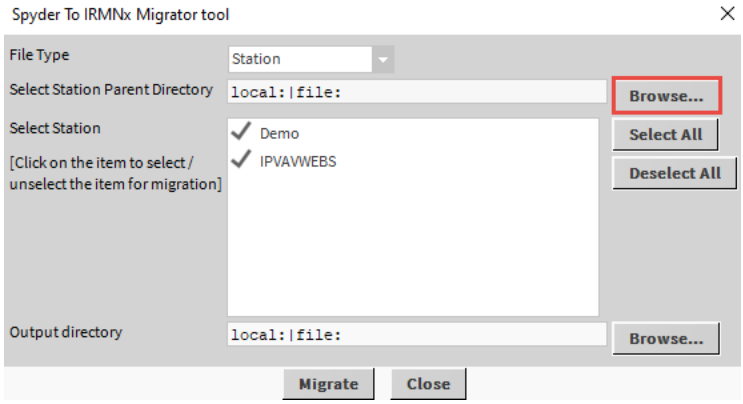

Fig. 5 Browse Station Parent Directory

3. Select the station which needs to be migrated. Users can select more than one station.

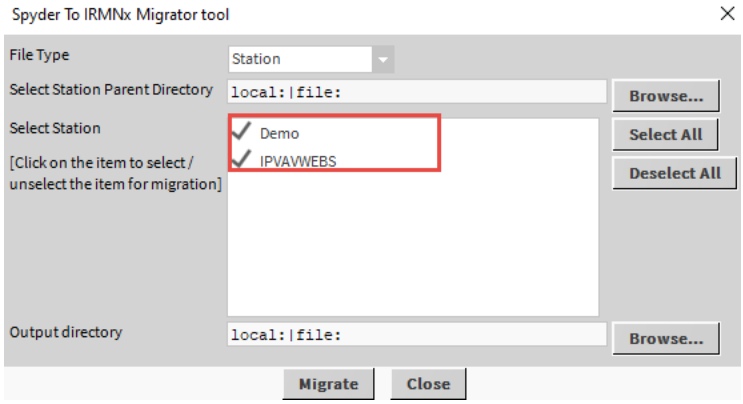

Fig. 6 Station Selection

4. Click **Browse** to select the location where the station files need to be stored.
   By default, the migrated applications are stored in the **/stations/MigratedStations** folder.

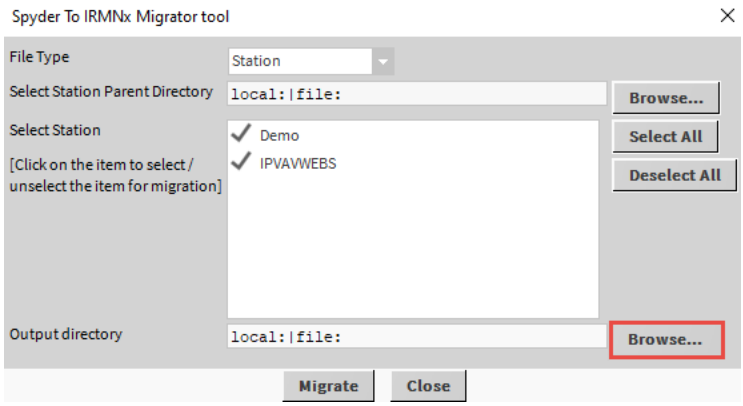

Fig. 7 Browse Output Directory

5. Click the **Migrate** button to start the migration. After the migration is completed, the migrated files can be found in the selected output directory.

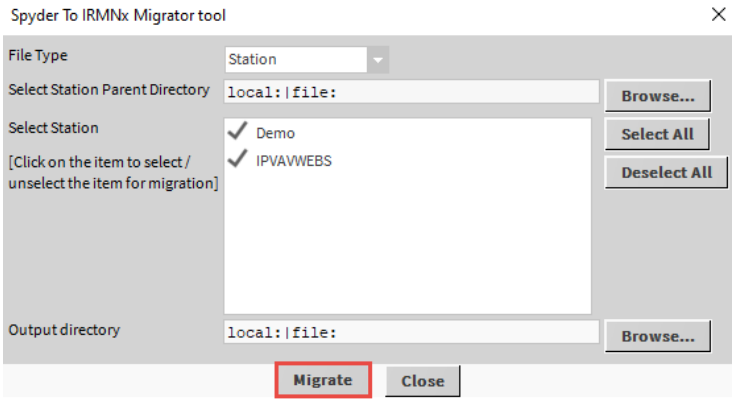

Fig. 8 Migrating Selected Station

Browse to the output directory, **MigratedStations**, where the migrated applications are stored.

Steps to Migrate a Library

Choose the library file type under Spyder To Irm Nx Migrator tool, and the user can migrate the following in the selected library:

- Spyder devices
- Applications
- Macros, which contain some part of the application
- SBus wall module

Steps to migrate a library:

1. Select file type as a **Library** from the File Type drop-down list.

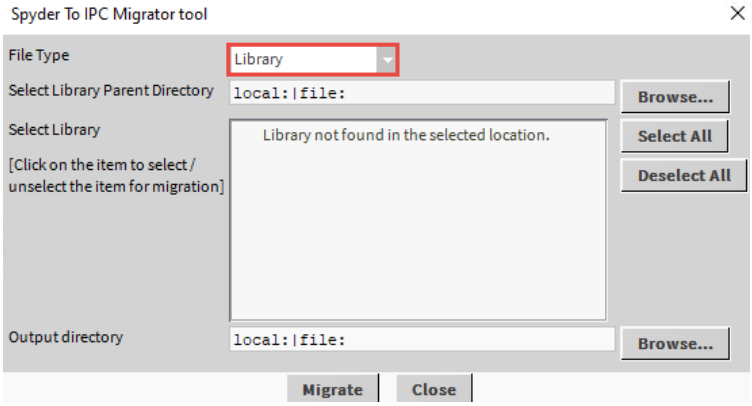

Fig. 9 Library File Type

2. Click **Browse** to select the directory where the list of libraries is available.

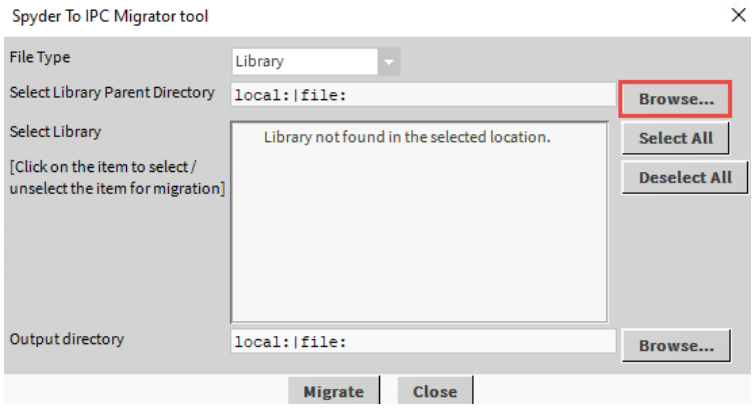

Fig. 10 Browse Library Parent Directory

3. Select the libraries which need to be migrated.
4. Click **Browse** to select the location where the library files need to be stored.
   By default, the migrated applications are stored in the **/MigratedLibraries** folder.

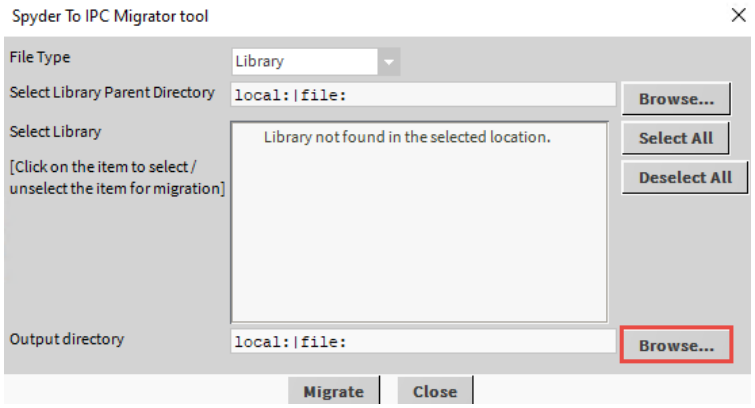

Fig. 11 Browse Output Directory

5. Click the **Migrate** button to start the migration. After the migration is completed, the migrated files can be found in the selected output directory.

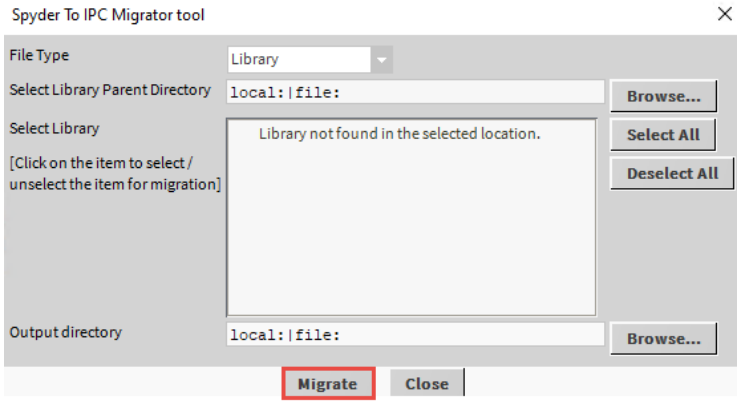

Fig. 12 Migrating Library

Browse to the output directory, **MigratedLibraries** where the migrated applications are stored.

Steps to Migrate Exported Library

The Exported Library option allows the user to convert the Spyder exported library into a Spyder Model 5 or Spyder Model 7. When the Spyder library is exported, the application creates a folder.

Steps to migrate exported library:

1. Select file type as **Exported Library** from the File Type drop-down list.

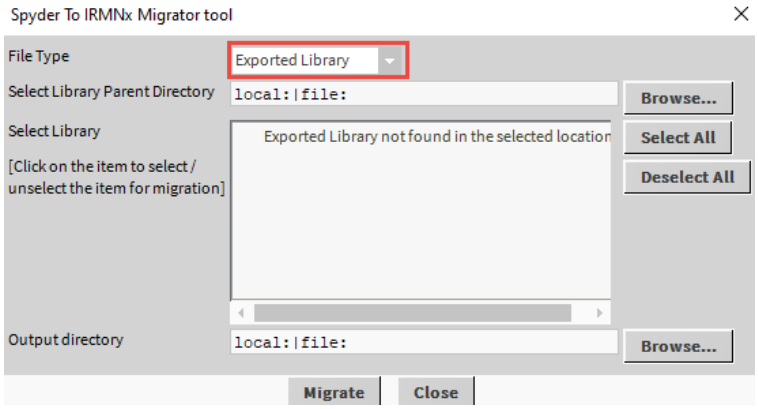

Fig. 13 Export Library File Type

2. Click **Browse** to select the directory where the list of exported libraries is available.

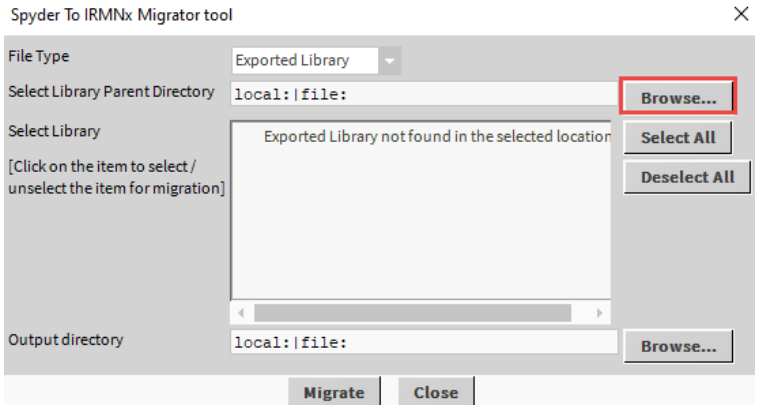

Fig. 14 Browse Exported Library

3. Select the exported libraries which need to be migrated.
4. Click **Browse** to select the location where the exported library files need to be stored. By default, the migrated applications are stored in the **/ExportedLibrary** folder.

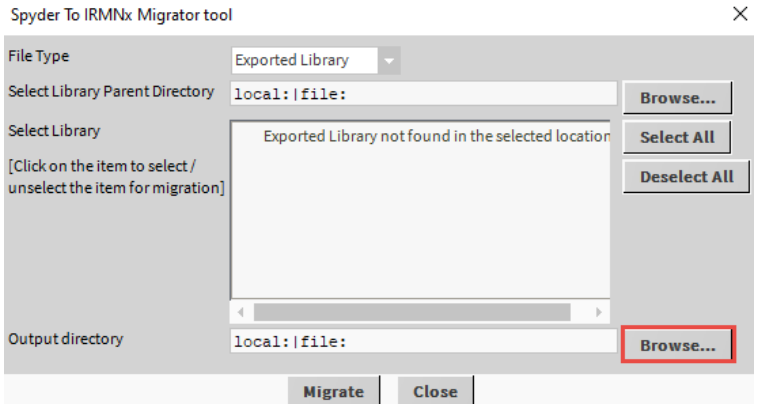

Fig. 15 Browse Output Library

5. Click the **Migrate** button to start the migration. After the migration is completed, the migrated files can be found in the selected output directory.

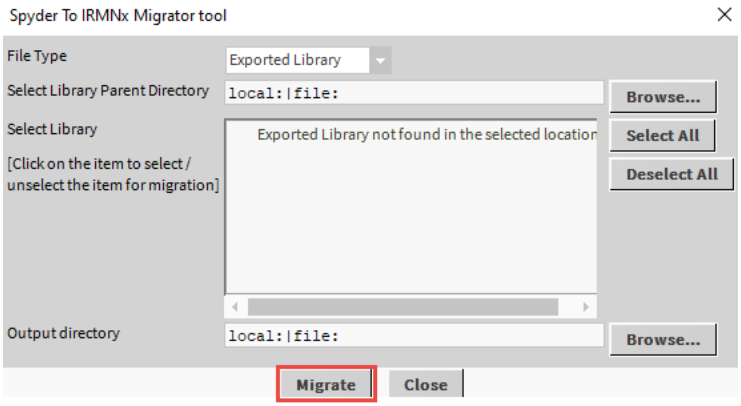

Fig. 16 Exported Library to Migrate

Browse to the output directory, **MigratedExportedLibraries**, where the migrated applications are stored

Steps to Migrate Custom Palette

Users can migrate custom palette files containing Spyder applications using the Spyder To Irm Nx Migrator tool. The custom palettes that have been migrated are saved in the Migrated Palettes folder.

Steps to migrate exported custom palette:

1. Select file type as **Custom Palette** from the File Type drop-down list.

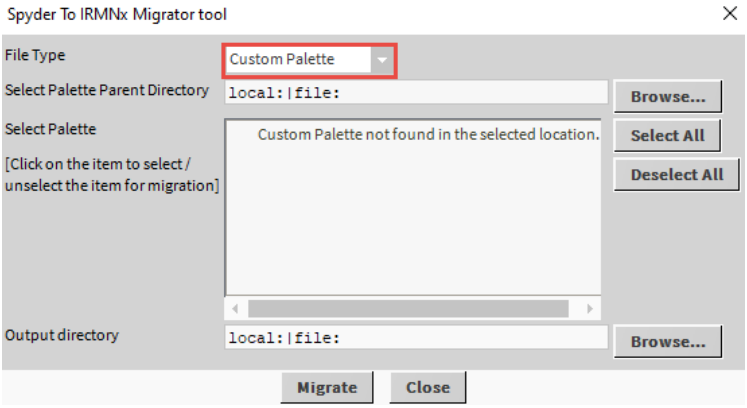

Fig. 17 Custom Palette File Type

2. Click **Browse** to select the directory where the custom palette is available.

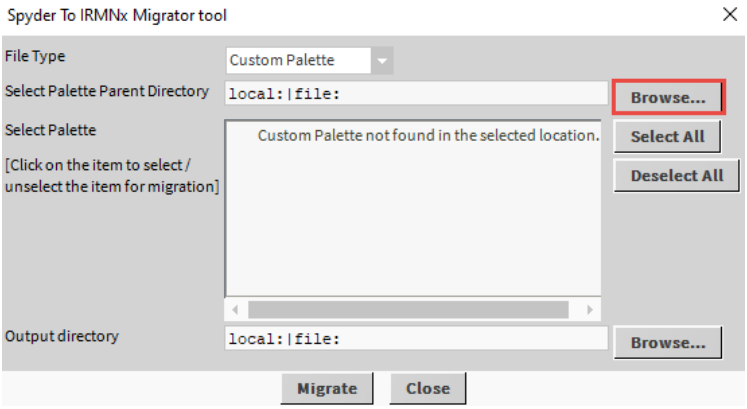

Fig. 18 Browse Palette Directory

3. Select the custom palette that needs to be migrated.
4. Click **Browse** to select the location where the custom palette needs to be stored.
   By default, all the migrated applications are stored in the **/MigratedPalettes** folder.

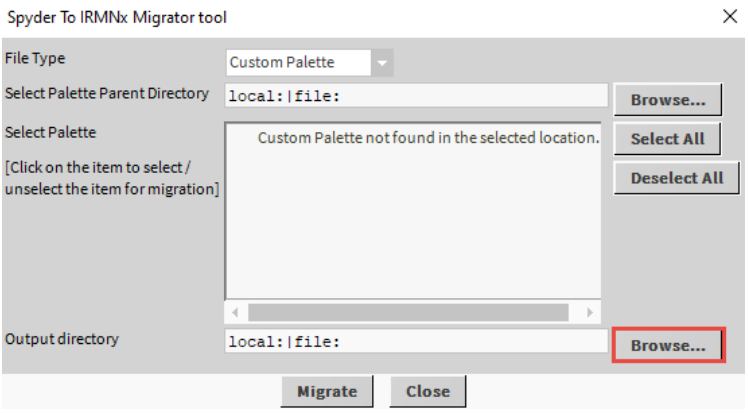

Fig. 19 Browse Output Directory

5. Click the **Migrate** button to start the migration. After the migration is completed, the migrated files can be found in the selected output directory.

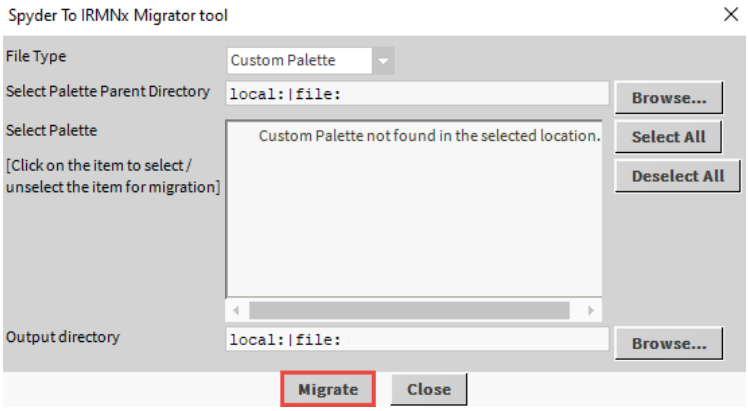

Fig. 20 Migrating Custom Palette

Browse to the output directory, **CustomPalette**, where the migrated applications are stored.

Copy Migration Results to Spyder Model 5 or Spyder Model 7 Application

NOTE:
During the migration process, a *.bog file* is generated in the specified output directory. Once the migration process is completed, the user may see multiple *.bog files*. One *.bog file* represents one Spyder application. When expanding these *.bog files*, the user can see Spyder Model 5 or Spyder Model 7 Network, which then can be copied to a new station.

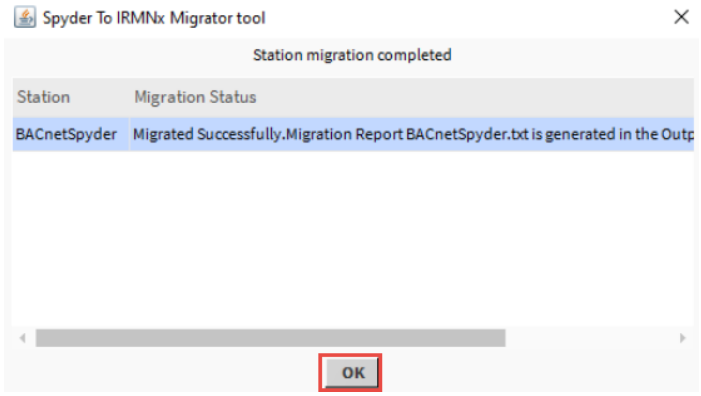

Fig. 21 Successful Station Migration

IMPORTANT:
The station password will not be migrated after migration. The user must open the bog file and update the admin user's credentials.

To confirm that the migration was successful, navigate to **C:\Users\useraccount\Niagara4.x\Webs\stations\MigratedStations** and look for the migrated station.

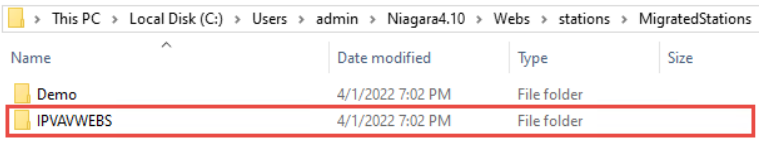

Fig. 22 Migrated Station Location

To use the migrated station, copy the logic from the **Sequenced Control Program** folder in the Nav tree and paste it into the **Sequenced Control Program** of the new station with the Spyder Model 5 and Spyder Model 7 controllers.

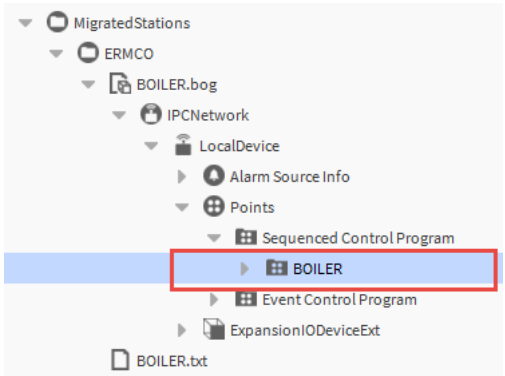

Fig. 23 Migrated Object Location

LIMITATIONS OF SPYDER TO IRM NX MIGRATOR TOOL

The following are the limitations in the migration process:

General Limitations

- Only the control programs and their associated points are migrated during the process.
- In the current migration tool, the IOs in the application are migrated as per Spyder Model 5 target model. The user must update the device model and IO pin assignment to reflect the intended model for which this application will be used.
- **Air Flow Balancer Tool:** The user needs to configure the correct units for CfgKfactor, BalBoxZeroOffset, and BalKFactorOffset data points after migrating the existing Spyder application to Spyder Model 5 or Spyder Model 7.
- Pin assignment to IO terminals may not be retained after migrating, depending on the IO terminal availability.
- There is no one-to-one device model mapping from Spyder to Spyder Model 5 or Spyder Model 7. As a result, the migrator assumes the application is being migrated to the highest-end model of Spyder Model 5 or Spyder Model 7 with maximum IO combination.
- The Spyder Model 5 or Spyder Model 7 controller does not support the **Pulse Meter** input. The Spyder **Pulse Meter** input will appear as a standard modulating input in Spyder Model 5 or Spyder Model 7 application with default configuration values after migration.

NOTE:
The S0_Pulse options in the characteristics drop-down on the BI terminal property sheet perform the same operation as the S0_Counter. The Pulse meter should not be confused with the S0 Pulse feature.

- The Spyder Model 5 or Spyder Model 7 controllers support the **Counter** input. You can use **S0 Counter** or **S0 Pulse** as Counter in the Spyder Model 4 or Spyder Model 7 application. Current Spyder to Irm Nx Migrator tool does not support migration of Counter.
- The Spyder Model 5 and Spyder Model 7 controllers do not support the Momentary type **BinaryInput**. The Spyder Momentary type **BinaryInput** input will appear as a standard modulating input in Spyder Model 5 or Spyder Model 7 application with default configuration values after migration.
- Many Spyder function blocks do not have a one-to-one mapping to Spyder Model 5 or Spyder Model 7 function blocks. The tool combines multiple objects to create a composite object (a folder containing a collection of interconnected objects).
- The Spyder Model 5 has a limitation of 32 folders and 100 function blocks under each folder for 2000 function blocks. Spyder Model 7 has a limitation of 100 folders and 100 function blocks under each folder for 6000 function blocks.
  The migrator tool does not explicitly check for these limitations when migrating the Spyder application. Because the migrator instructs the underlying Spyder Model 5 or Spyder Model 7 engineering tool, the tool may throw errors, causing the migration process to be aborted. To confirm the reason for migration cancellation, the user should examine the exception message in the workbench console log. Before retrying migration, the user must restructure the Spyder application to fit within the limits of the Spyder Model 5 or Spyder Model 7.
- The Spyder to Irm Nx Migrator Tool only allows migrating a BACnet Spyder to Spyder Model 5 or Spyder Model 7. For migrating a Lon Spyder, the user first needs to migrate the Lon Spyder to BACnet Spyder and then to a Spyder Model 5 or Spyder Model 7.
- It is recommended that the user review the custom sensor linearization data entries after the migration.
- After migration, the unassigned points are assigned to the valid terminals in the Spyder Model 5 or Spyder Model 7 engineering tool.
- After the migration, an analog output will be converted to 4-20 mA in the Spyder Model 5 or Spyder Model 7 (if user-configured modulating output as AO and set as default 0 to 10 mA).
- Enum names used in the Physical or Network points configuration of the Spyder application are not migrated.
- The Spyder to Irm Nx Migrator tool does not migrate the Enum default value. The first item in the Enum is the default value.

- The alarm and history extensions included in points for the Spyder will not migrate. The user needs to manually add them to the points.
- If multiple schedule blocks are configured in the TR75 wire sheet, only one schedule block is migrated to the Spyder Model 5 or Spyder Model 7 application during migration.
- When the user migrates the Spyder application to the Spyder Model 5 or Spyder Model 7 application, the setpoint input and output parameter links are updated in the Spyder Model 5 or Spyder Model 7 application after migration.

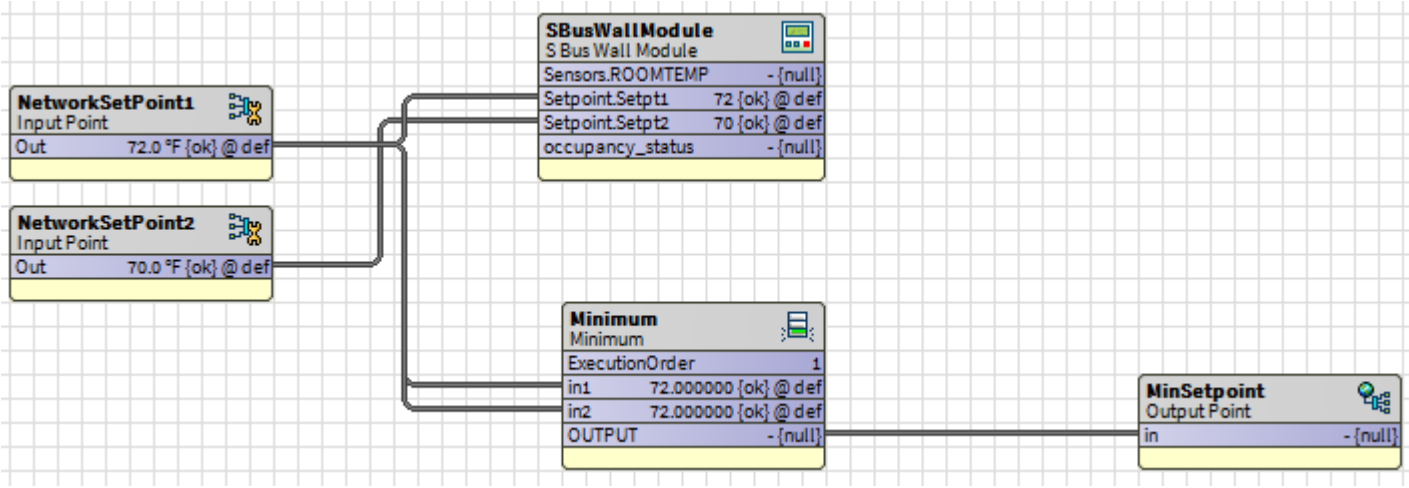

Fig. 24 Network Setpoints Associated with Sbus Wall Module

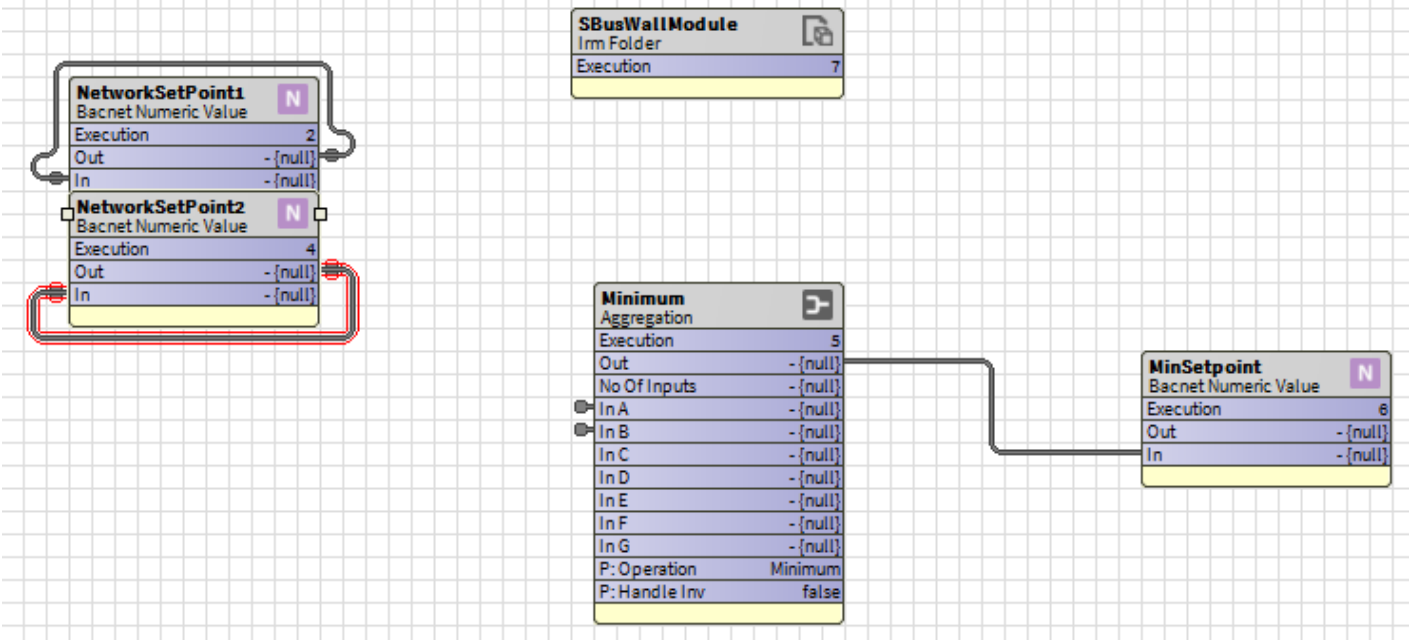

Fig. 25 Network Setpoints Reverse Connection with Sbus Wall Module after Migration

Scheduler Limitations

- This limitation applies to the Weekday or Month option in the Holidays tab for every year. The user can select a month and date for a holiday and those migrated details from this page.

  If the number in the Duration field is more than one, then the first day is migrated to Spyder Model 5 or Spyder Model 7 application. The remaining days are not migrated, and the application shows an error message that the user should separately migrate the schedule for the remaining days.

  Example: Suppose the user selects **January** from the **Select Holiday Start Month** drop-down list, **LastSunday** from the **Select Holiday Start Day** drop-down list, and three as the **Duration**. Only one of the three last days of January is migrated during the migration process, namely the last Sunday of January. The remaining two days, Monday and Tuesday, will not be migrated.

NOTE:
The TUNCOS slot of the Schedule object in Spyder is mapped to the Out Time To Next slot of the EnumSchedule of the Spyder Model 5 and Spyder Model 7. EnumSchedule in the Spyder Model 5 or Spyder Model 7 performs the same function as Tuncos in Spyder.

- Suppose the Spyder programming does not have any Schedule block in the logic. In that case, EnumSchedule is created with the default weekly schedule configuration, and the component is present under **IRM Program > Periodic Program**.

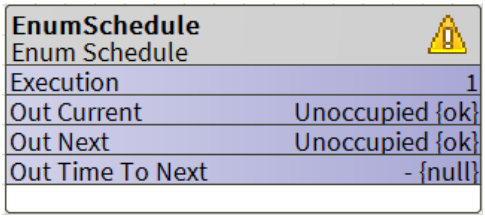

Fig. 26 Schedule Function Block

- Holidays configured for the **Last Day of Month** in the Spyder tool will not be migrated to the Spyder Model 5 or Spyder Model 7 engineering tool and are not displayed in EnumSchedule.

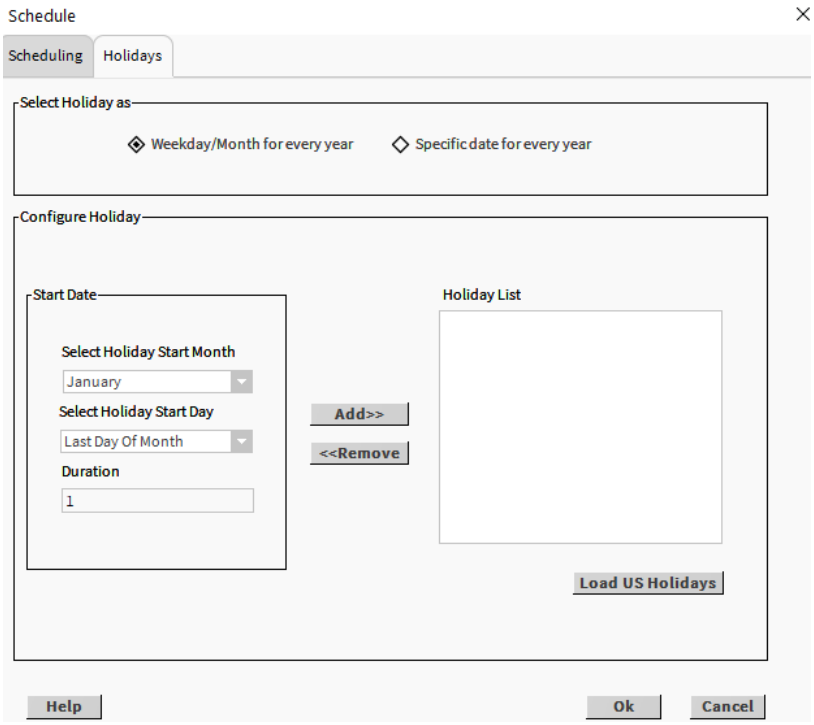

Fig. 27 Schedule Window

- Holidays in the schedule block will be migrated as events and configured in the Calendar block. EnumSchedule block will have a special event as Reference type with the ORD of Calendar block linked.

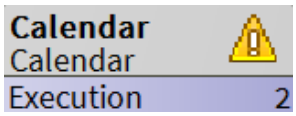

Fig. 28 Calendar Function Block

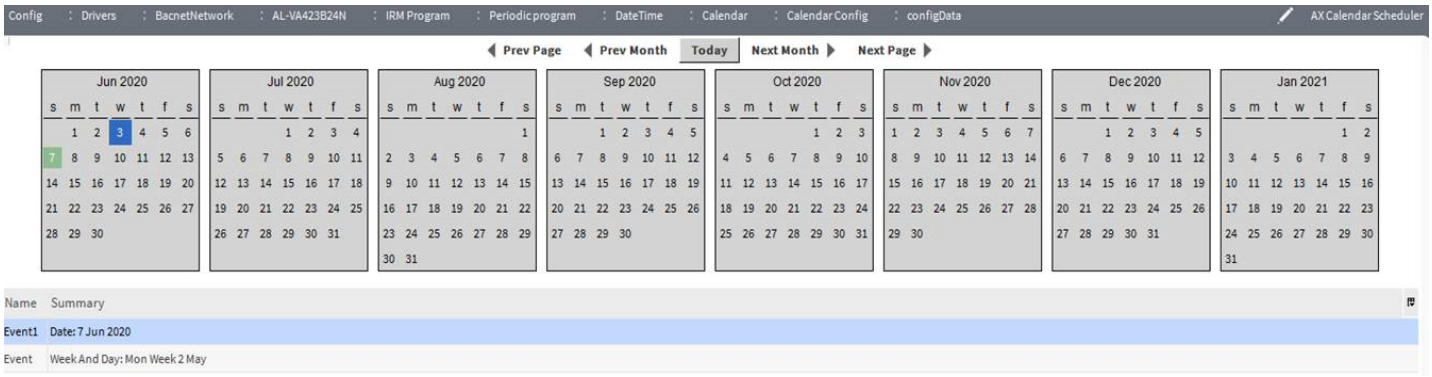

Fig. 29 Schedule Block

- Migration from Spyder to Spyder Model 5 or Spyder Model 7 will work properly only if the migrated Spyder application does not have any validation errors.

Sylk Limitations

- The migrated Sylk IO is displayed as a placeholder in the Spyder Model 5 or Spyder Model 7 engineering application if any Sylk IO migrated from the Spyder engineering application.
- TR70x device is migrated as TR71x in the Spyder Model 5 or Spyder Model 7 engineering application.
- Links to network setpoint type parameters are not bidirectional.
- The Sylk categories and parameter view is not displayed in the migrated location after migration. After adding migrated controllers into the station, you can view the Sylk categories and parameter view.

IO Limitations

- FloatingMotor output or Actuator type is migrated as periodic execution block of type B floating.
- CustomResistive and CustomVoltage Modulating Inputs are migrated as CustomSensor.
- During Library Application Migration, modulating inputs of Sensor Offsets are obtained from the Bacnet interface.

Related Technical Literature

Table 3 Related Technical Literature

Title	Reference
Spyder Model 7 VAV Product Datasheet	31-00471
Spyder Model 7 VAV Mounting instructions	31-00473
Spyder Model 7 VAV Installation Instructions	31-00475
Spyder Model 5 and Spyder Model 7 System Engineering Guide	31-00282
Spyder Model 5 and Spyder Model 7 Function Blocks User Guide	31-00364
Honeywell VAV Balancing Tools User Guide	31-00472

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