

Migrate the product library and NIS to ArcGIS Pro

These scripts are used to migrate the ArcMap NIS and product library to ArcGIS Pro.

Required ArcGIS software

The following software must be installed:

- ArcGIS Pro 2.9 with the Maritime extension enabled
- ArcMap 10.8.2 or 10.8.1 Patch 9 with the Maritime extension enabled

Prepare for migration

Complete the following steps in ArcMap:

1. Run the **Repair Nautical Data** tool to confirm all features have a valid LNAM.
2. [Reconcile](#) and [post](#) all edit versions of the NIS, then delete the versions.
3. Apply all updates to chart products if there are any that will be used after the migration.

Chart products should not have any outstanding updates to apply.

4. Check in all products into the product library.
5. Synchronize any outstanding checkout replicas into the NIS and discard them.
6. Run the **Compress Database** tool on the NIS.
7. Back up the product library and NIS.

Run the scripts

Initialize

1. Configure `initialize_pro_schema.py`.
 - a. Configure `pro_nis_schema_xml` to the ENC schema XML, `NAUTICAL_ENC_TEMPLATE_GX_EXTCLSID.xml`.

The script creates an ArcGIS Pro database and exports attribute rules that can be imported after the NIS has been migrated.
 - b. Set the `working_dir` parameter.

Note: Make sure to use the same location for configuring the next section.
2. Run `initialize_pro_schema.py` from the ArcGIS Pro Python environment.

Migrate

Configure `migrate.py` to set the NIS, product library, and a temporary working directory. You can then run the `migrate.bat` file. The `.bat` file attempts to detect Python 2.7 installed by ArcMap and run the script from the path.

The script contains detailed comments to help with configuring it for migration. The following are some of the key parameters you will need to change.

1. Configure `migrate.py`.

- a. Set the temporary path.

This is where a temporary geodatabase (`pro_nis_schema.gdb`) is created from the `NAUTICAL_ENC_TEMPLATE_GX_EXTCLSID.xml` file. If the geodatabase already exists, the script skips this step.

```
working_dir = r'C:\data\migrate'
```

- b. Set the product library.

This is the path to the product library from which the products are to be migrated.

```
p1 = r'C:\data\migrate\PRODUCT_LIBRARY.gdb'
```

Note: If migrating enterprise databases, confirm that the connection file is pointing to DEFAULT.

- c. Configure the class and series to migrate and the corresponding NIS path.

If only class is specified, all the series within the class are migrated. If the path of series in a class is specified, only the specified series are migrated and all other series in that class are ignored.

The following configuration migrates only the California and Alaska series in the ENC class:

```
nis_paths = {  
    'ENC/California': r'C:\data\migrate\NIS.gdb',  
    'ENC/Alaska': r'C:\data\migrate\NIS.gdb',  
}
```

The following configuration migrates all the series in the ENC class:

```
nis_paths = {  
    'ENC': r'C:\data\migrate\NIS.gdb',  
}
```

The following configuration migrates all the series within each AML class to different NIS databases:

```
nis_paths = {  
    'CLB': r'C:\data\migrate\AML\CLB.gdb',  
    'ESB': r'C:\data\migrate\AML\ESB.gdb',  
    'LBO': r'C:\data\migrate\AML\LBO.gdb',  
    'MFF': r'C:\data\migrate\AML\MFF.gdb',  
    'RAL': r'C:\data\migrate\AML\RAL.gdb',  
    'SBO': r'C:\data\migrate\AML\SBO.gdb',  
}
```

- d. Optionally, if the script is unable to detect the ArcMap or ArcGIS Production Mapping installation root folders, configure the ArcMap and Production Mapping installation root folder parameters.

```
arcmap_root = r'C:\Program Files (x86)\ArcGIS\Desktop10.8\  
production_mapping_root = r'C:\Program Files  
(x86)\ArcGIS\EsrriProductionMapping\Desktop10.8\  
'
```

2. Run the `migrate.bat` file.
Tip: Alternatively, run the `migrate.py` file manually from the ArcMap Python 2.7 directory.

Import attribute rules

The `import_attribute_rules.py` script imports attribute rules.

Caution: Importing attribute rules makes the schema backward incompatible. Don't run this script if the NIS is to be used in ArcMap after the migration.

1. Configure the script with the appropriate settings.
2. Run this script from the ArcGIS Pro Python environment.

[Learn more about geodatabase compatibility](#)

Work with chart products after migration

To continue working with existing chart products in ArcMap, you need to perform the following steps on each chart product after migrating the NIS to ArcGIS Pro.

1. Check out the chart product.
2. Run the **Export Replica Schema** tool with the following inputs:
 - **Export from Replica Geodatabase**—migrated NIS
 - **Output Replica Schema File**—XML of your choice. Be sure to save to a folder.
 - **Replica**—Choose the replica that corresponds to the chart product you checked out
3. Run the **Compare Replica Schema** tool with the following inputs:
 - **Compare to Replica Geodatabase**—chart geodatabase from Step 1
 - **Relative Replica Schema File** —XML from Step 2
 - **Output Replica Schema Changes File**—XML of your choice. Be sure to save to a folder.
4. Run the **Import Replica Schema** tool with the following inputs:
 - **Import to Replica Geodatabase**—chart geodatabase from Step 1
 - **Replica Schema Changes File** —output XML from Step 3
5. Check in the chart product.

The chart product is now ready for use.