ArcGIS 10.3 for INSPIRE: INSPIRE Geodatabase Templates Installation Guide

Content

1   Introduction

The purpose of this document is to provide instructions on installation of the ArcGIS 10.3 for INSPIRE Geodatabase Templates. The target audience of this document is existing ArcGIS for INSPIRE users who want to upgrade the geodatabase to ArcGIS 10.3 for INSPIRE and first-time users who want to install ArcGIS 10.3 for INSPIRE directly on their machines.

2   System Requirements

See the System Requirements section of the ArcGIS for INSPIRE web help at

- English
- French
- German
- Spanish

3   Installation

To apply the ArcGIS 10.3 for INSPIRE Geodatabase Template, you must first install the template and then follow instructions to load data for the INSPIRE database. If you already have ArcGIS 10.2.1 or 10.2.2 for INSPIRE Geodatabase, you will need to upgrade to 10.3.

3.1   Prerequisites

3.1.1   Database User Rights

3.1.1.1   ArcGIS 10.3 for INSPIRE

Prior to ArcGIS 10.1 SP1 for INSPIRE, there have been some limitations when connecting to an enterprise geodatabase. The user connecting to the geodatabase when running the service needed to be the data owner.

Start from 10.1 service pack 1, this limitation has been eliminated. The product now supports connecting to and creating INSPIRE services as a user but not necessarily the INSPIRE data owner. This upgrade allows a clear separation of database roles, as the "service user" only needs read access to the INSPIRE schema data. This is more in alignment with common security practices for IT production environments.

Starting from 10.1 service pack 1, the following privileges are necessary for the user to connect to the INSPIRE geodatabase, and it no longer requires the create view privilege.

- Read privilege to the INSPIRE geodatabase.
- Insert, update, and delete access for the PredefinedDatasets table. The table is used for creating stored queries for INSPIRE download services.

Make sure that the user interacting with the database layer is allowed to create and delete database views. For that, grant specific rights on the database level to the user:

```
GRANT CREATE VIEW TO <USER|ROLE>;
GRANT DELETE VIEW TO <USER|ROLE>;
```

3.2 Install

The geodatabase implementation of the INSPIRE data models is defined using the Esri geodatabase XML description. For more detailed information, see "XML Schema of the Geodatabase" at support.esri.com/en/knowledgebase/whitepapers/view/productid/43w/metaid/695.

The latest version of the INSPIRE Esri geodatabase template file can be found in the ArcGIS for INSPIRE distribution folder (e.g., *<ArcGIS for INSPIRE_DVD>\GDB Templates*).

3.3 Create a new INSPIRE Geodatabase

In order to support additional data themes for INSPIRE II and III, start with 10.3 more flexibility are added so that user have the option to create geodatabase for Annex I, data themes for Annex II and III such as LC, GE, either individually or any of the combinations, the overall process is like the following:

1. Create the common info tables for ArcGIS for INSPIRE

   - Import ArcGIS XML workspace document a4icomon.xml (e.g., *<ArcGIS for INSPIRE_DVD>*\GDB Templates)

2. If you would like to create or add the ArcGIS Geodatabase for INSPIRE Annex I, load the respective record sets into the tables created in step 1. Precisely:

   a. Select the "Load XML RecordSet Document" option on LayerInfo table and select <ARCGIS FOR INSPIRE_DVD>\GDB Templates\A1\A1_LayerInfo.xml as the source to load

   b. Select the "Load XML RecordSet Document" option on RelationshipInfo table and select <ARCGIS FOR INSPIRE_DVD>\GDB Templates\A1\A1_RelationshipInfo.xml as the source to load

   c. Select the "Load XML RecordSet Document" option on SpatialObjectTypeInfo table and select <ARCGIS FOR INSPIRE_DVD>\GDB Templates\A1\A1_SpatialObjectTypeInfo.xml as the source to load

   d. Select the "Load XML RecordSet Document" option on SubtypesInfo table and select <ARCGIS FOR INSPIRE_DVD>\GDB *Templates\A1\A1_*SubtypesInfo.xml as the source to load

   e. Import (schema only) the XML workspace document *<ARCGIS FOR INSPIRE_DVD>\GDB Templates\A1*\A1.xml into the geodatabase

3. If you would like to create or add the ArcGIS Geodatabase for INSPIRE Land Cover, load the respective record sets into the tables created in step 1. Precisely:

   a. Select the "Load XML RecordSet Document" option on LayerInfo table and select *<ARCGIS FOR INSPIRE_DVD>\GDB Templates\LC\lc_LayerInfo.xml* as the source to load

      b.   Select the "Load XML RecordSet Document" option on RelationshipInfo table and select *<ARCGIS FOR INSPIRE_DVD>\GDB Templates\LC\lc_*RelationshipInfo.xml as the source to load

      c.   Select the "Load XML RecordSet Document" option on SpatialObjectTypeInfo table and select *<ARCGIS FOR INSPIRE_DVD>\GDB Templates\LC\lc_*SpatialObjectTypeInfo.xml as the source to load

      d.   Select the "Load XML RecordSet Document" option on SubtypesInfo table and select *<ARCGIS FOR INSPIRE_DVD>\GDB Templates\LC\lc_*SubtypesInfo.xml as the source to load

      e.   Import (schema only) the XML workspace document *<ARCGIS FOR INSPIRE_DVD>\GDB Templates\LC*lc.xml into the geodatabase

4.   If you would like to create or add the ArcGIS Geodatabase for INSPIRE Geology, load the respective record sets in the tables created in step 1. Precisely:

      a.   Select the "Load XML RecordSet Document" option on LayerInfo table and select *<ARCGIS FOR INSPIRE_DVD>\GDB Templates\GE\ge_LayerInfo.xml* as the source to load

      b.   Select the "Load XML RecordSet Document" option on RelationshipInfo table and select *<ARCGIS FOR INSPIRE_DVD>\GDB Templates\GE\ge_*RelationshipInfo.xml as the source to load

      c.   Select the "Load XML RecordSet Document" option on SpatialObjectTypeInfo table and select *<ARCGIS FOR INSPIRE_DVD>\GDB Templates\GE\ge_*SpatialObjectTypeInfo.xml as the source to load

      d.   Select the "Load XML RecordSet Document" option on SubtypesInfo table and select *<ARCGIS FOR INSPIRE_DVD>\GDB Templates\GE\ge_*SubtypesInfo.xml as the source to load

      e.   Import (schema only) the XML workspace document *<ARCGIS FOR INSPIRE_DVD>\GDB Templates\GE*ge.xml into the geodatabase

After completing the steps above, the geodatabase can be used as target geodatabase for populating INSPIRE data for the data themes installed in the geodatabase.

Example: General steps for importing ArcGIS XML workspace:

1.   Start ArcCatalog.

2.   Right-click your spatial database connection and choose Import > XML Workspace Document (figure 1).
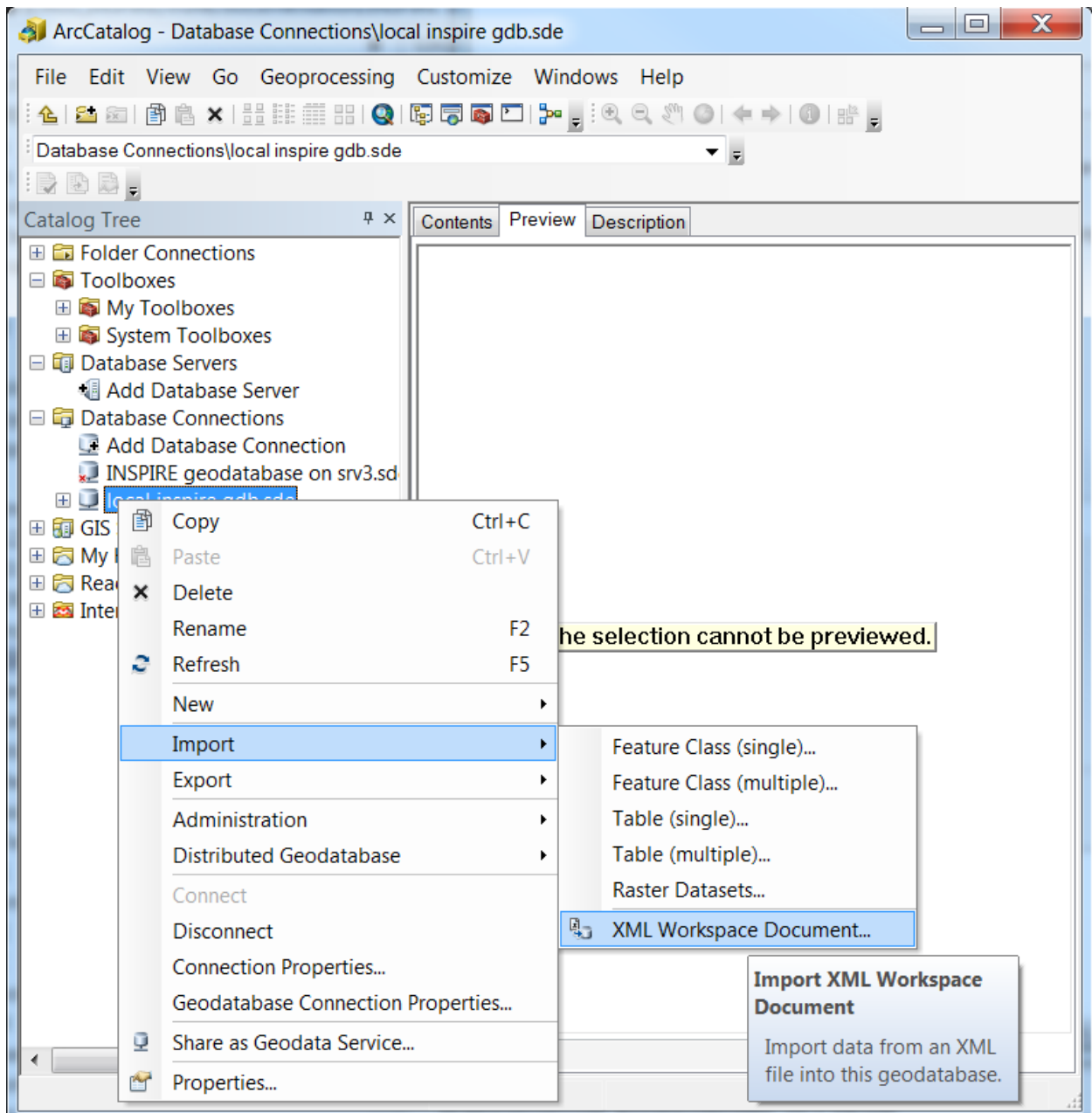
Figure 1: Import of XML Workspace Document

3. Navigate to the desired xml workspace file (e.g. *<ArcGIS for INSPIRE_DVD>\GDB Templates\a4icommon.xml* and click Next (figure 2). Make sure you have selected the Data option, because the workspace document contains some information required to run ArcGIS for INSPIRE correctly.
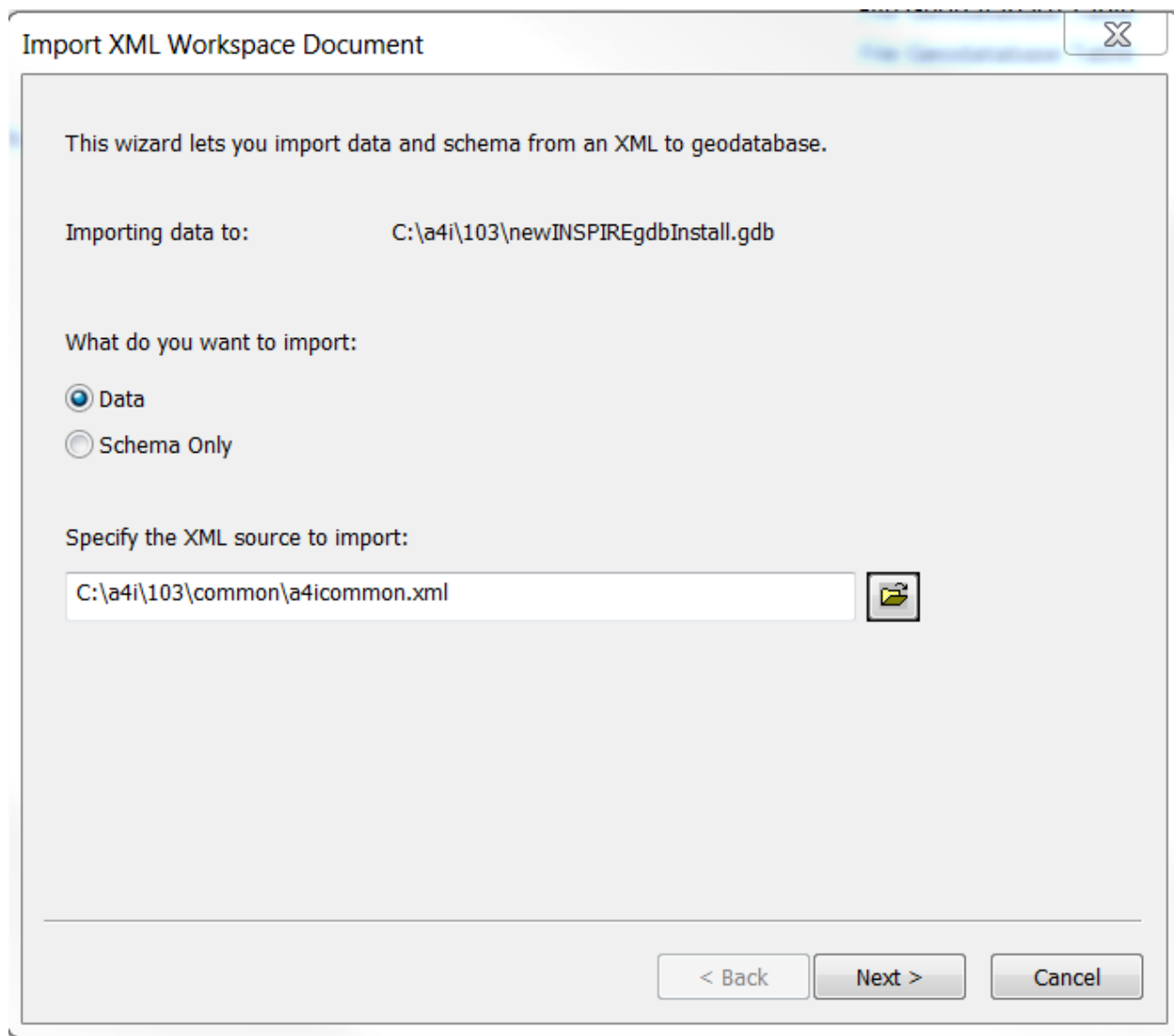
Figure 2: Specify XML Workspace Document to Be Imported

4. Click Next. ArcCatalog displays a table that indicates the details of objects to be created (figure 3). The table includes the following columns: Type, Source Name, Target Name, and Config. Keyword. Each type can be a table, a feature class, or a domain.
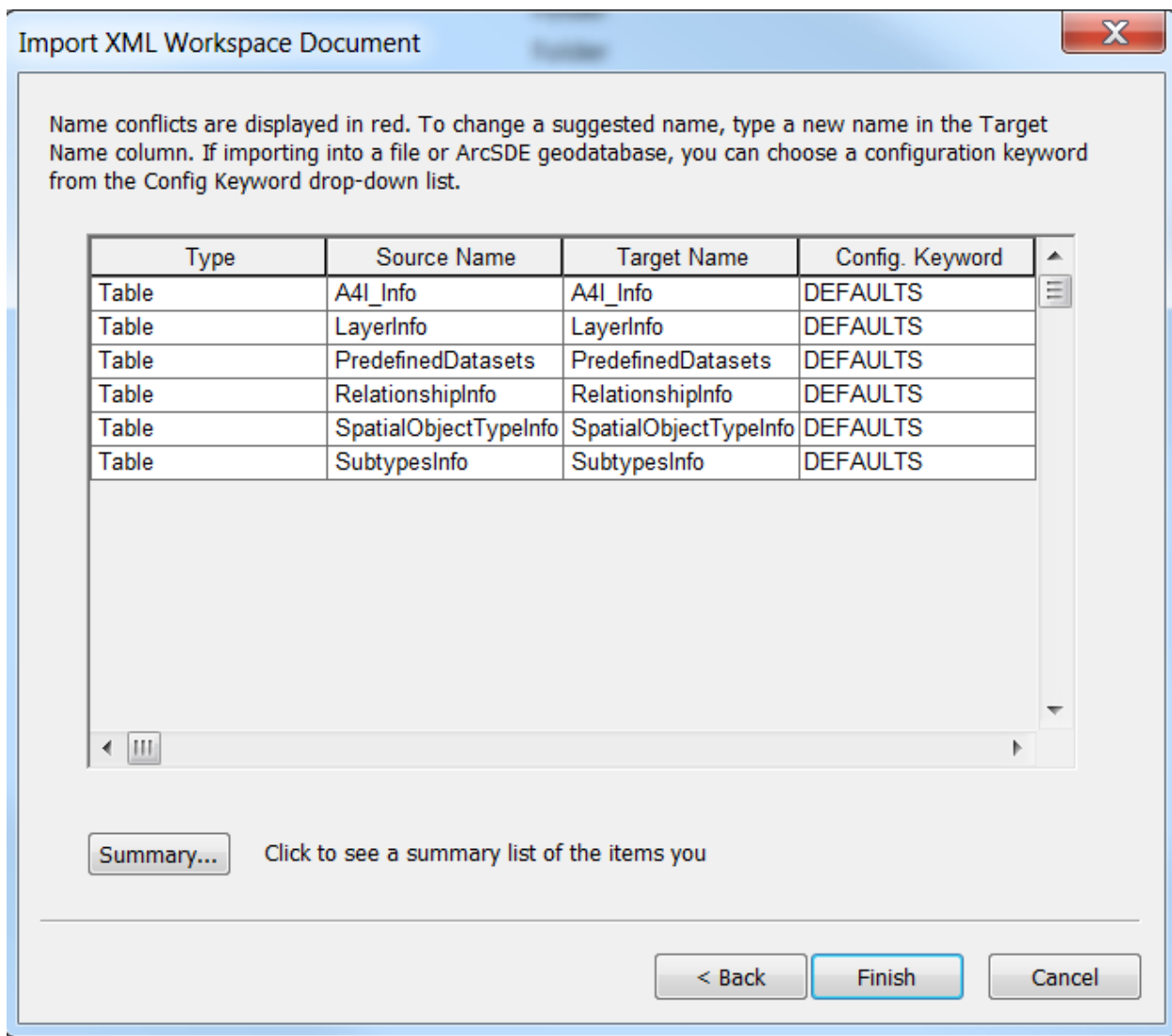
Figure 3: Overview of Feature Classes and Tables to Be Imported

5. Click Finish to complete the import. ArcCatalog imports the data and creates the geodatabase for INSPIRE common tables.

Detailed documentation can also be found in the web help topic "Importing a geodatabase schema from an XML workspace document," at
http://resources.arcgis.com/en/help/main/10.2/#/Importing_a_geodatabase_schema_from_an_XML_workspace_document/003n0000002q000000.

3.4   Update the INSPIRE Geodatabase

You would need to read this section only if you would like to upgrade from an earlier version of ArcGIS for INSPIRE geodatabase template, please also verify that your database is still supported at ArcGIS 10.3 for INSPIRE.

Note: You will need to apply the changes below incrementally starting from your current version to 10.3.

3.4.1   Updating the INSPIRE Geodatabase from ArcGIS 10.2.2 to 10.3

If you would like to upgrade an existing 10.2.1 or 10.2.2 INSPIRE geodatabase to 10.3, please follow the steps below:

- Add GDBTEMPLATE_NAME field to LayerInfo

- Add GDBTEMPLATE_NAME field to SpatialObjectTypeInfo

- Use ArcMap to calculate value for GDBTEMPLATE_NAME field value to "A1" for layerInfo for all Annex I entries

- Use ArcMap to calculate value for GDBTEMPLATE_NAME field value to "A1" for SpatialObjectTypeInfo for all Annex I entries

- Update value for GDB_VERSION in A4I_Info to "10.3"

- If you would like to add Land Cover Theme or Geology Theme (Optional) follow the add geodatabase template instructions in the previous section.

3.4.2   Updating the INSPIRE Geodatabase from ArcGIS 10.2.1 to 10.2.2

The geodatabase template has not changed from 10.2.1, it will continue to work with 10.2.2 and no update is needed.

3.4.3   Updating the INSPIRE Geodatabase from ArcGIS 10.1 SP1 Patch 1 to 10.2.1

If you already have an ArcGIS for INSPIRE Annex I geodatabase upgraded to ArcGIS 10. 1 SP1 Patch 1 for INSPIRE, the optional change is on Table "A4I_Info": attribute GDB_VERSION value is updated to "10.2.1".

3.4.4   Updating the INSPIRE Geodatabase from ArcGIS 10.1 SP1 to ArcGIS 10.1 SP1 Patch1

- A field (width_void) has been added to indicate whether width_lower/width_upper is NIL for hypSurfaceWaterL, hypSurfaceWaterP and hypSurfaceWaterS. You might use the following steps to update the geodatabase: make sure no other user is connecting to the database to be updated when performing the update

    1. Rename hypSurfaceWaterL, hypSurfaceWaterP and hypSurfaceWaterS

    2. Import GDB_Template_Annex_I_SP1_Patch1_Updates.xml included in the patch package.

3.4.5   Updating the INSPIRE Geodatabase from ArcGIS 10.1 to 10.1 SP1

- The LayerInfo table has been updated to better handle layer order and support definition queries.

    o Updated LayerInfo table changes the ID values of point, multipoint, line, and surface sublayers to allow an "order by" selection from Addin so line layers will automatically be placed above surface layers.

        ▪ All point layers will not reside within the 4000–4999 range.

        ▪ All multipoint layers will not reside within the 5000–5999 range.

        ▪ All line layers will not reside within the 6000–6999 range.

- All surface layers will not reside within the 7000–7999 range.

- For example: The layer PS.ProtectedSitesHealthAndWelfare.MP had ID 196; now it has ID 5196.

  o Updated LayerInfo table adds the {0} placeholder for those definition queries pointing to a different table. The placeholder will be replaced during runtime with the qualified table name prefix.

- If you don't have any custom change to the LayerInfo table for 10.1, you can simply rename the old LayerInfo table and import the new LayerInfo table for 10.1 SP1 (GDB_Template_Annex_I_Table_LayerInfo.xml).

- There are no other geodatabase template changes to 10.1 SP1.

3.4.6   Updating the INSPIRE Geodatabase from ArcGIS 10 to 10.1

There are basically five changes that have been made to the geodatabase template in comparison to the template included in ArcGIS for INSPIRE 1.0 SP2:

- Renaming of field isolation from table sdSpeciesDistribution

  Makes an update of your existing geodatabase mandatory

- Definition queries for Administrative Units theme in table LayerInfo

  Makes an update of your existing geodatabase and services mandatory if you are exposing Administrative Units data

- Introduction of several indexed fields on the whole data model

  Update of your geodatabase is strongly recommended as it improves performance

- New Table A4I_Info

  Geodatabase update optional

- Improved antialiasing for feature classes and fields

  Geodatabase update optional

See " MigrationGuide_ArcGISForINSPIRE_10_1_EN.pdf " for a detailed explanation of the changes and improvements.