*An Esri® White Paper • August 2010*

# Product Library in Esri Aeronautical Solution: Enabling Seamless Product, Data, and Document Management

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## An Esri White Paper

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## The Challenge

Managing spatial data and documents is critical to the success of any aeronautical project. Current database and file systems, including conventional geographic information systems (GIS) and relational database management systems (RDBMS), are not well equipped to simultaneously manage project data and documents. As a result, conflicts arise with data availability, maintenance, retrieval, and versioning of inputs and outputs. These conflicts can compromise schedules and budgets and introduce unnecessary risks, jeopardizing project success.

## The Need for a New Tool

Product Library (PL) was developed as an efficient tool for managing spatial and nonspatial data and documents from disparate sources. PL capabilities include the ability to store many different types of documents, product-specific rules, data, and more. PL provides an intuitive method for easy configuration, file retrieval, and sharing of products through database control and versioning. PL is essentially a spatially enabled document management system.

## Product Library Overview

PL is a multiuser geodatabase that has been designed to enable maintenance and file management workflows as well as store and graphically depict the relationships within a project hierarchy. PL works in tandem with a production database, which stores all project data. Stored within PL is data related to various product specifications or cartographic production parameters you are using with your project such as the data models, symbology rules, masking rules, spatial references, and relationships between the different levels of the project on which you are working. Examples of files that are often stored in PL for aeronautical projects are cartographic specifications, source documents, Aeronautical Information Publications (AIPs), map documents, QA/QC plans, chart templates, and final chart exports. Individual map documents can be stored in PL, checked out for editing, and returned, so PL acts as a central repository.

There are six distinct levels in the PL hierarchy (see graphic below). Each level is related to the one below or above it in spatial terms. Product specifications and cartographic production parameters stored within your PL are inherited from the level above. The family of Esri® solutions leverages the concept of inheritance of information regarding the various product specifications and cartographic production parameters used within a project. This allows changes in levels to be propagated to lower levels without additional effort. The hierarchy provides an intuitive visual navigation tool to all your project components. The tree view organization of PL facilitates easy location and access of information stored throughout the solution structure.

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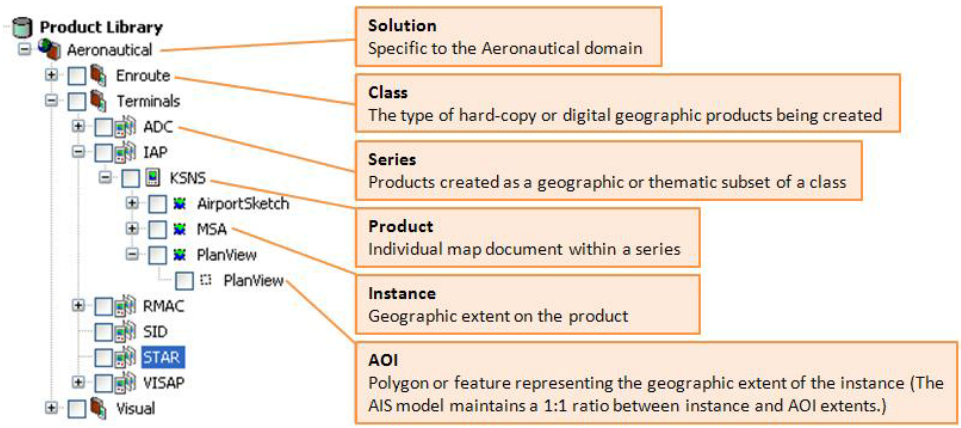


## Key Benefits of Using Product Library

### *Input and Source Management*

When work begins on a project, PL can be used to store and manage documents that will be used as source documents to construct project datasets. File management can also be aided through enterprise management techniques such as versioning. Files that can be stored in PL for this phase can include, but are not limited to, the following:

- Data model files
- Business rules
- Data quality rules
- Raster or other image files
- Product specification descriptions
- Computer-aided design (CAD) drawings
- Shapefiles

### *Production*

During production, PL can be used as a data repository for project data and documentation. By storing all project information in a central location, you can monitor work progress with ease and efficiency. Workflow and data changes can be controlled through check-in/checkout editing permissions. Examples of other production elements that can be stored and tracked include the following:

- Databases with data for individual product instances
- Template .mxd files for series and product classes
- Individual product .mxd files
- Grid definitions (Extensible Markup Language [XML] files) for the Grid Designer
- ArcGIS® Data Reviewer batch job (.rbj) files
- Permission controls

The production database works in tandem with PL and contains the data you are using for production tasks. This can be stored within and managed by PL, or it can be a separate entity based on your project organization. Within Esri Aeronautical Solution, while using the Aeronautical Information System (AIS) data model, the production database is stored

outside PL. The data in the production database usually corresponds with a data model and product class in PL. For instance, if you load the AIS data model into your PL to create aeronautical charts, an AIS database should be used as the production database. The charts and chart templates are stored and managed through PL and pull data from the production database.

### *Output and Distribution*

The final aspect of many projects is delivering the data, maps, or charts to a client. PL can track and archive multipart deliverables. Since PL can house different file formats, it is possible to maintain a product in any format required by project deliverables. If this is an ongoing project, you can also use Product Library to save different versions of files at various stages in the project's life cycle so you can have a snapshot of a chart or map at a specific time. Examples of outputs and file formats that can be stored in PL include the following:

- Portable Document Format (PDF) and encapsulated PostScript (EPS) files
- Graphics (.jpg, .tif, .gif, and .bmp) files
- Shapefiles
- Geography Markup Language (GML) files

## Part of Esri Aeronautical Solution

Product Library is just one of the many tools within Esri Aeronautical Solution improving management, quality, and integrity of air navigation data and chart products. Aeronautical Solution is an end-to-end solution for managing aeronautical data, production, and workflows.

## More Information

For more information, visit www.esri.com/aeronauticalsolution.

## About Esri

Since 1969, Esri has been helping organizations map and model our world. Esri's GIS software tools and methodologies enable these organizations to effectively analyze and manage their geographic information and make better decisions. They are supported by our experienced and knowledgeable staff and extensive network of business partners and international distributors.

A full-service GIS company, Esri supports the implementation of GIS technology on desktops, servers, online services, and mobile devices. These GIS solutions are flexible, customizable, and easy to use.

## Our Focus

Esri software is used by hundreds of thousands of organizations that apply GIS to solve problems and make our world a better place to live. We pay close attention to our users to ensure they have the best tools possible to accomplish their missions. A comprehensive suite of training options offered worldwide helps our users fully leverage their GIS applications.

Esri is a socially conscious business, actively supporting organizations involved in education, conservation, sustainable development, and humanitarian affairs.

## Contact Esri

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Printed in USA