

Esri Production Mapping Product Library: Spatially Enabled Document Management System



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Esri Production Mapping Product Library: Spatially Enabled Document Management System

An Esri White Paper

Contents	Page
The Challenge	1
Product Library	1
Part of Esri Production Mapping	1
Key Benefits of Using Product Library	2
Managing Files and Documents.....	2
Managing Production Rules.....	4
Managing Cartography	6

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The Challenge

Managing spatial data and documents is critical to the success of any geographic information system (GIS) project. During the life cycle of a project, many versions of files, such as databases, map documents, production rules, and outputs, are produced. Managing changes to these files, including knowing which version is the latest and being able to find historical versions if something goes wrong, can be a daunting task. As a result, conflicts may arise with data availability or overwriting critical changes, which can compromise a schedule or budget, introduce unnecessary risks, and jeopardize project success.

Product Library

Current database and file systems, including conventional GIS and relational database management systems (RDBMS), are not well equipped to simultaneously manage project data, business rules, and documents. Product Library is a geodatabase that provides a means for organizing and interacting with the various parts of your project as well as for managing permissions to project files. Product Library maintains file versions and locking when configuring, retrieving, and sharing products (project deliverables). In essence, it can be considered a spatially enabled document management system.

Part of Esri Production Mapping

Product Library is just one of the many functionalities within Esri Production Mapping. Production Mapping provides tools for database production, maintenance, quality control, cartographic product generation, and workflow management.

While you can manage any files associated with your project, the tools within Product Library focus on creating and managing files for data editing and cartographic production. Product Library can store all the rules that customize Esri Production Mapping for your data and cartographic specifications.

- **Editing**—Production rules, including validation and attribute display rules, can be stored and configured through Product Library. These rules are used when editing data to ensure features are being collected according to your business rules.
- **Cartography**—Map documents store essential GIS information such as the layout for a cartographic product, area of interest, symbology, and a link to the data. Product Library allows you to easily create multiple maps for various areas of interest from a defined template and maintain the history of changes to each individual map. Additional cartographic rules such as symbology and surround elements can also be managed to ensure that cartographic documents have consistent symbology.

Key Benefits of Using Product Library

Managing Files and Documents

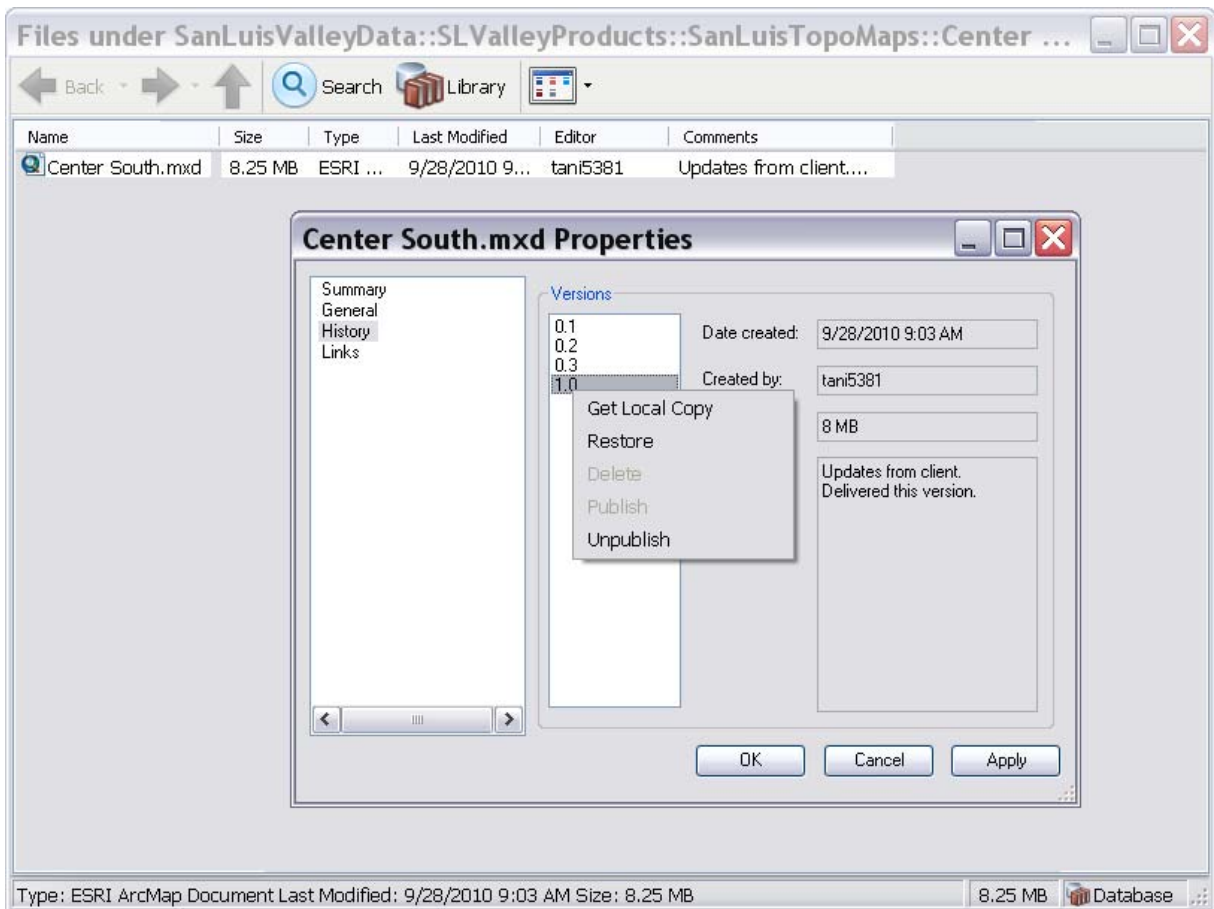
One of the challenges of managing a GIS project is also managing all the associated files. Product Library can be used to store and manage documents that will be used throughout the project life cycle. By storing all project information in a central location, work progress can be monitored with ease and efficiency. Since Product Library can house different file formats, it is possible to maintain a product in any format required by project deliverables.

Files that can be stored in Product Library include, but are not limited to, the following:

Production Phase	Possible File Types
Source management	<ul style="list-style-type: none">■ Data model files■ Business rules■ Raster or other image files■ Product specification descriptions■ Computer-aided design (CAD) drawings■ Work orders
Production	<ul style="list-style-type: none">■ Databases■ Template .mxd files■ Individual product .mxd files■ Grid definitions for the Grids and Graticules Designer■ Data validation rules
Export/Distribution	<ul style="list-style-type: none">■ Hard-copy map products in any format such as PDF or EPS files■ Graphics (.jpg, .tif, .gif, and .bmp) files■ Exported shapefiles■ Geography Markup Language (GML) files

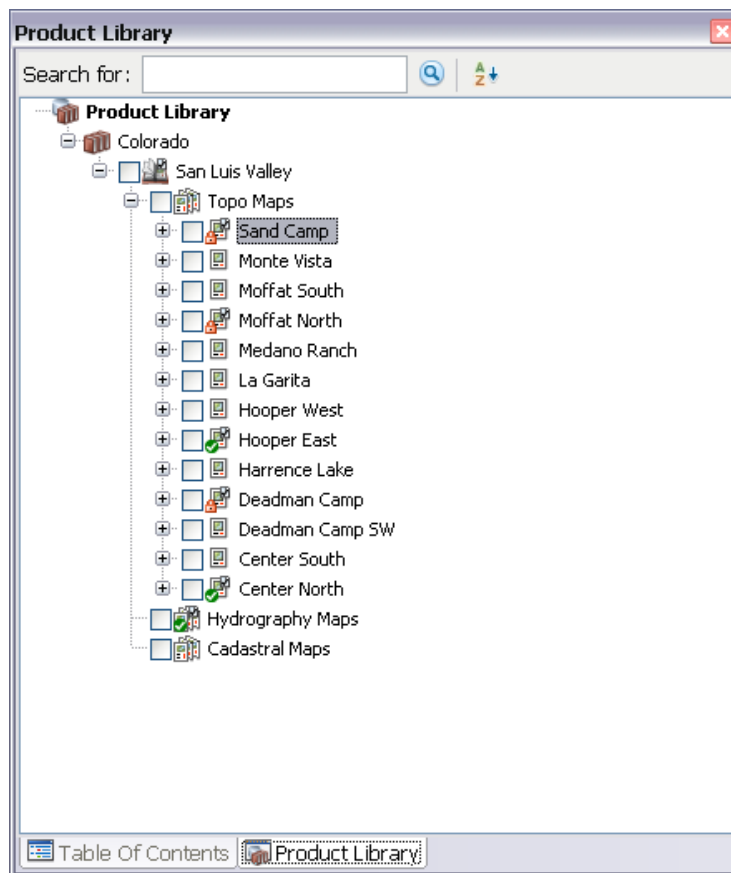
Product Library works as a document management system allowing you to set permissions and maintain file versions. When configuring Product Library, you can assign user permissions to limit which users can check out files for editing and which users can only view files. You are prevented from making changes to products that someone else has already checked out, which helps avert lost changes. When files are checked in, a new version of the file is created to maintain a history of changes to the file. If this is an ongoing project, you can use Product Library to publish versions of files at various stages so you can have a snapshot of a chart or map at a specific time. Managing files in Product Library also allows you to restore a previous version of a file if an inappropriate change was made.

J-9846



Product Library manages the history of files by storing versions and allowing you to publish or restore versions.

The Product Library dockable window in ArcMap™ allows you to view the contents of your product library in a tree structure. Since Product Library is a spatially enabled document management system, it also allows you to view the geographic extent of the products in the library by checking the box next to that component. The icons displayed next to items in the tree structure allow you to quickly see which products are being actively worked on.



The Product Library tree allows you to see the products currently being worked on. The red lock indicates that someone else has the document checked out, while the green check indicates that you have the product checked out.

Managing Production Rules

Depending on the project, various types of rules may be configured to ensure consistency and accuracy of the products being created. Production rules can include rules for the database such as schema of the database, validation rules, and attribute display rules. One key reason to store these rules in Product Library is to ensure that all users have access to up-to-date versions of the files.

The production database works in tandem with Product Library and contains the data you are using for production tasks. Depending on the data model you are using, data in the production database can be used to create a digital or hard-copy map, chart, or specific type of data. Different production rules can be associated to Product Library when you use production databases with different schemas or for different purposes.

The editing tools within Esri Production Mapping, such as the Feature Manager, recognize when you are using Product Library and a production database and seamlessly adapt to use your production rules. Attributes in the Feature Manager are displayed according to your configurations, so some fields may be hidden while others are displayed in bold. When editing attributes, custom controls, such as a calendar or multipick list, can be configured for use in production.

J-9846

Manage Features

Template: House of Worship Metadata: None

<Search>

Buildings

- Amusement Park
- Capitol Building
- Fire Station
- Government Building
- Hospital
- Hotel
- House
- House of Worship**
- Multi Unit Dwelling

Create Update Metadata Selections: 0

Create Attributes

	Field Name	Field Value
<input type="checkbox"/>	grid	
<input type="checkbox"/>	BuildingType	3 - House of Worship
<input type="checkbox"/>	nam	<Null>
<input type="checkbox"/>	WorshipType	0 - Unknown
<input type="checkbox"/>	ao0	0
<input type="checkbox"/>	exs	0 - Unknown
<input type="checkbox"/>	hgt	0
<input type="checkbox"/>	len_	0
<input type="checkbox"/>	zv2	0
<input type="checkbox"/>	CREATION_DA...	
<input type="checkbox"/>	OPERATOR	

Create Attributes

Apply Save Template..

Validation Results

Errors(1):

School Type: When the Building Type is a School the School Type attribute cannot be set to Not Applicable. Please select the appropriate school type or choose Unknown.

Warnings(1):

Name is Unknown: Please set the nam value if the name of the feature is known

OK

Rules for customizing field display through Esri Production Mapping and for enhanced validation are stored in Product Library.

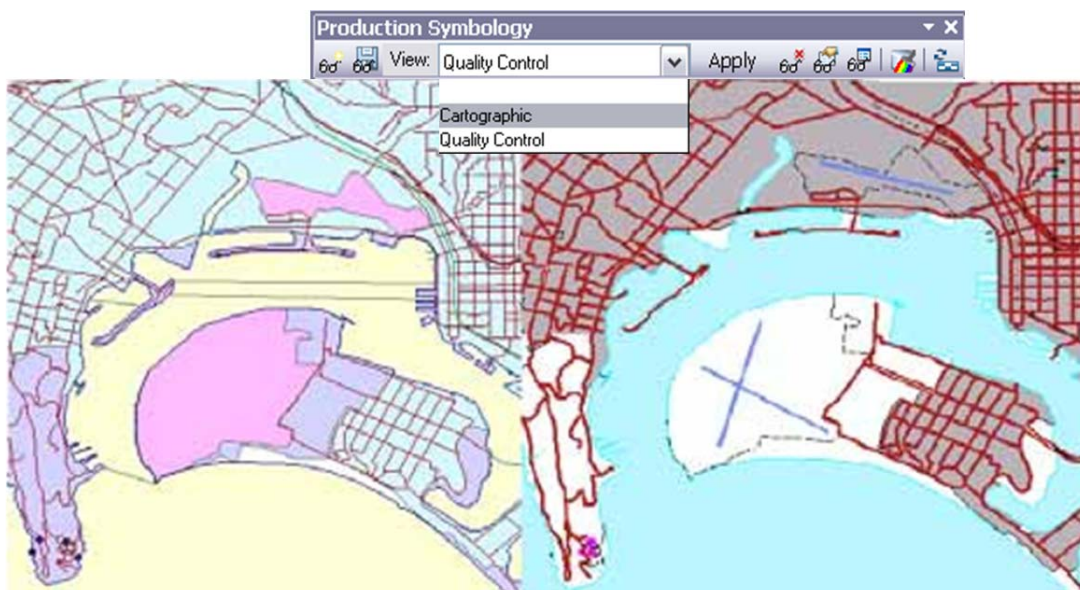
The validation rules that are associated with Product Library will be used to ensure data quality every time you click the Apply button in Feature Manager. These rules allow you to ensure that the attributes of the feature are valid before changes are committed to the database. You can configure standard database validation rules such as ensuring that a

value is in a domain as well as enhanced rules such as discontinuous ranges or dependencies between values.

Managing Cartography

Although Product Library can be used to manage projects in general, its structure can also be used to manage documents within a map series. The files stored in Product Library are broken into a tree structure that allows certain characteristics to be inherited by default. If you want to create a series of maps using the same layout as a template, the template associated with the parent (series) node will be inherited by all the child nodes that represent the pages in the map series. With more complex products, each product may have a custom page layout, and data frames may have different data sources. In these cases, Product Library can be used to manage all aspects of the product.

Cartographic rules, including symbology and surround elements, can also be managed by Product Library. Many cartographic tools within Esri Production Mapping, such as Views and Visual Specifications, use rules that can be stored in Product Library. Symbology allows you to represent features so they are meaningful to those looking at your map or chart. With the Views and Visual Specifications tool, you can create consistent, rule-based symbology with cartographic representation. The tool allows you to define the symbol that will be applied to a feature based on that feature's attribute combination and also allows you to use linked attributes from other feature classes or stand-alone tables to determine what symbol will be applied to a feature. Consistent symbology and data visualization can be critical to ensuring the accuracy of the data displayed in your cartographic products.



Storing views in Product Library makes it easy to apply stored layer symbology.

Views are named groupings of map settings that can be saved and retrieved from Product Library. Views are a quick way of saving layer properties, such as symbology, definition queries, and transparency, as well as data frame properties, such as scale, coordinate system, and layer order. They allow you to decide which layer and data frame properties to apply when the view is retrieved.

Product Library can also be used to store surround elements such as your organization's logo, north arrows, legends, or dynamic tables created with the Graphic Table Element tool in Esri Production Mapping. These elements can be stored in Product Library and easily added to your map layout without having to search for their location.

For more information, visit esri.com/productionmapping or e-mail productionmapping@esri.com.



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.

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