Integrity™ Asset Library™

MAKE ASSET PUBLICATION, MANAGEMENT, AND REUSE EASY

Integrity Asset Library is a highly scalable, standards-based tool for specifying, publishing, managing, finding, and reusing your organization's systems, hardware, and software assets. When optionally integrated with Integrity Modeler, it also enables asset-based modular design.

Design challenges

Many of today's systems and applications are built from subsystems, software components, or service oriented architectures. Because of these complexities, during design you often have to choose between disconnected sub-models or large, highly complex models.

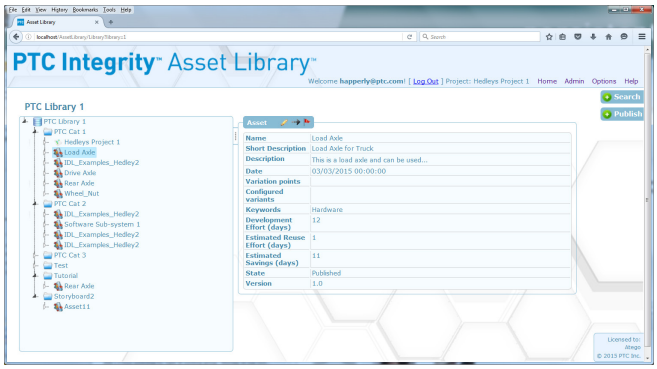
What you need is a way to design systems-of-systems or modular software applications the same way you build them—with fine-grained models that map directly to your subsystems or software components. Ideally, this approach also allows you to plug together models to build higher-level solutions and layer on variability for systems and software product line engineering.

Top-down architected modular design

Asset Library solves these problems and more by providing an index of published assets you can search to see if a required subsystem already exists. If the asset you need is not available, you can negotiate changes with the owner of an existing asset or specify requirements for another team or organization to design and deliver a new asset.

After you find or take delivery of the subsystem or component you need, you can drag it straight into your system or software design model and start building your system-of-systems. Asset Library implements the OMG Reusable Asset Specification and the OSLC Asset Specification, with integration mappings to Integrity Modeler's Systems Modeling Language (SysML) and Unified Modeling Language (UML).

When new assets are published, automated email notifications kick off your process of impact analysis and optional subsystem or component upgrade. As a result, your "super-model" becomes a configuration of subsystems designed the way you build.



Asset Library makes asset management easy.

Bottom-up asset mining and reuse

You can also use Asset Library for asset mining and reuse by auto-publishing structured artifacts that may or may not have been modeled (for example, IDL or WSDL files). It also includes a standard Open Services for Lifecycle Collaboration (OSLC) Asset Specification interface. The OSLC interface is used to integrate with Integrity Modeler and other tools such as pure-systems' pure::variants asset management and enable variable asset reuse. Once published into Asset Library, these assets can also be used in your higher-level models for architected reuse, legacy wrapping, and system integration.

Asset Library's integration with Modeler gives you a single, simple design approach that is equally applicable for green-field and brown-field projects. It breaks up complex system designs into more easily understood sub-models, dramatically improving communication, understanding, and configuration management. This feature also facilitates parallel design and design-by-contract, radically increasing design-time productivity.

Key benefits

Architected systems-of-systems

By using Asset Library for your designs–whether applying component-based design (CBD), a service-oriented architecture (SOA), or system of systems (SoS)–you can achieve all the benefits of modular construction at the beginning of the lifecycle.

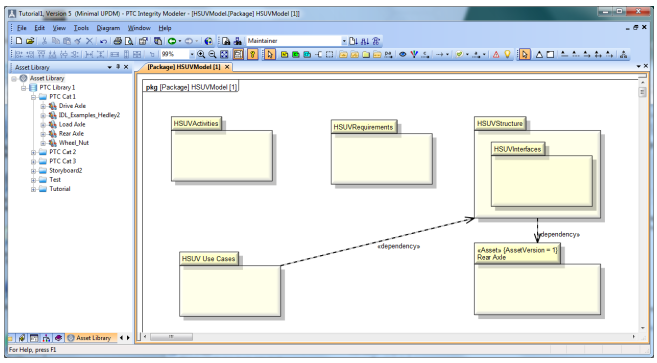
Asset Library helps you track your design-time reuse metrics and prove the return on investment of your modular design. Maintenance overheads also are reduced, as you can easily replace parts of your design over time and exploit new and improved assets. Finally, distributed design is simplified, with separate teams taking responsibility for their own sub-models and versions, and traceability is provided up to your configuration super-models.

Asset-based modular design

Asset Library is a true enabler for enterprise-scale reuse and modular design. Its integration with Modeler enables parallel design for systems-of-systems, component-based development, and service-oriented architectures. In conjunction with Modeler, Asset Library implements the asset-based modular design process defined in the Integrity Process Perspective best practices for model-based systems engineering. Asset meta-data and traceable links seamlessly join your models, giving you a design environment that is a step above the rest.

Design the way you build

Reusing pre-designed and implemented subsystems, components, and services can produce dramatic savings for system and software development projects. Modular construction, plug-and-play maintenance, and architected reuse also yield significant cost reductions.



Asset Library enables modular design.

Capabilities and specifications

- New asset specification for top-down design
- Existing asset publication for bottom-up mining and reuse
- Find and reuse asset interface designs, services, and asset files
- SysML model-based systems engineering (MBSE) and UML software modeling drag-and-drop integration for CBD, SOA, and SoS design

- Object Management Group (OMG) reusable asset specification (RAS) database
- OSLC Asset Specification provider interface for easy integration with tool-chain data
- Extended meta-model and OSLC interface for asset variability and integration with tools such as pure::variants asset management
- Design description of future or existing assets, including requirements, use cases, interface specifications, and variation points
- User definable mappings to Modeler and asset artefact file types
- 100 percent thin client for all major browsers
- Extensible and highly scalable multi-user repository
- Reuse metrics dashboard to prove return on investment for asset data

Asset compatibility

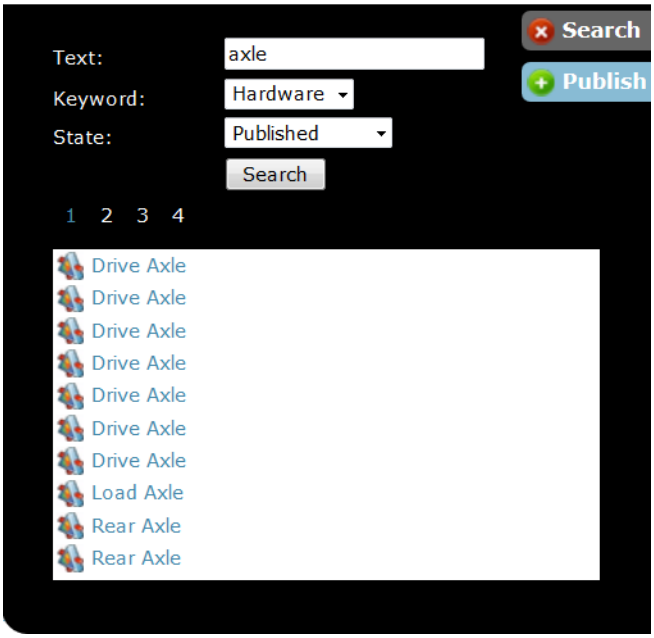
- Modeler SysML, UML, or IDL Profile
- Any asset artefact file type (for example, Microsoft® Word®, Microsoft Excel®, Microsoft PowerPoint®, source code, or executables)
- Auto interrogation of IDL and WSDL out-of-the-box

Productivity features

- Rich asset descriptions
- Fine-grain access control
- Custom asset properties
- Custom mappings to Modeler
- Interest registry and automated email notification
- Development and reuse effort metrics for ROI dashboard

Search facilities

- Navigable catalogs
- Free text search
- Organization defined keywords
- Organization defined states
- Logical project groupings
- Interfaces, services, and parameters



Locating needed assets is simple.

Publish and reuse mappings

- Generic (any file type)
- Auto publication of interrogated WSDL and IDL
- Modeler SysML blocks and ports
- Modeler UML classes and interfaces
- Modeler IDL interfaces

Supplier and consumer process

- Asset consumer can search, find, and reuse assets
- Asset consumer can request modifications to existing asset version
- Asset consumer can specify all new assets (interfaces and requirements)
- Asset consumer can use new versions and new assets
- Asset supplier can supply new assets (interfaces and variation points)
- Asset supplier can supply new asset versions (interfaces and variation points)

For more information, visit: PTC.com/go/integrity

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