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bridging the enterprise



Legend[™] Enterprise Feature List

Legend 9.0



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Change Record

Date	Comment
12/1/2006	Created for Legend for PDMLink 8.0
2/1/2007	Updated for UG NX4 Support
5/18/2007	Version supported updated for CATIA V5
3/13/2008	Updated for Legend for PDMLink 9.0
4/25/2008	Updated supported CAD Systems and miscellaneous updates



About This Guide

Related Documentation

Legend for PDMLink Users Guide
[Legend for PDMLink Best Practices Guide](#)

Technical Support

Visit www.i-cubed.com or call at +1-919-755-5305
Support hours of operations: M-F 9am-5pm (GMT -5)



1 General Features

This chapter lists and describes all of the end user and administration features delivered out-of-the-box in Legend for Windchill.



Wizard User Interface

Legend uses a Wizard based user interface to guide you through your migration setup and execution.

File Source

The file source is where Legend looks for files to process. Only one source is allowed for a given project.

File System

Legend allows for files from multiple directories on local hard disks and windows mapped drives to be loaded as a single Legend project. The user can select one or multiple base directories and all files in that directory and subdirectories will be processed through Legend for loading.

CSV File

Legend can use a CSV file that contains content location and content metadata. When migrating from an existing database or PDM system, the customer will generally want to retain some or all of the metadata from their existing system. Legend will read a CSV file source input which is typically used to support migrations from existing data management systems.

Project Features

Legend uses the term Project to represent the containerized Legend run.

New Project

You can create a new project and save the location for this project. The default location is `<Legend_root>\Projects`.

Existing Project

You can open a saved project to the point where you last saved the project. Saving a project also saves its projects files, log files, and reports.

Document Destination

Legend allows you to select a context within your Windchill system for the document migration destination. The destination is defined on a per project basis. Using a CSV file will allow you to define the Document Destination on a per file basis.



Part Destination

Legend allows you to select a context within your Windchill system for the Part migration destination. The destination is defined on a per project basis. Using a CSV file will allow you to define the Part Destination on a per file basis.

Attribute Mapping Methods

Basic Mapping

The Basic Mapping user interface allows constant values or directory names to be mapped to Windchill Out-of-the-Box or to user-defined attributes (soft attributes).

Application Attributes to Windchill Out-of-the-Box Attributes

The CAD-specific mapping user interfaces allow attributes defined within the CAD application files to be mapped to Windchill out-of-the-box attributes including: cad name, description, document folder, document number, document name, part number, part name, lifecycle template, lifecycle state, revision. This feature is available for all CAD systems except Pro/ENGINEER. Also available is mapping of MS Word and Excel summary and custom properties to OOTB attributes.

Application Attributes to Windchill Soft Attributes

The CAD-specific mapping user interfaces allow attributes defined within the CAD application files to be mapped to user-defined custom Windchill attributes. This feature is available for all CAD systems except Pro/ENGINEER. Pro/ENGINEER designated parameters will be automatically mapped to Windchill attributes. Also available is mapping of MS Word and Excel summary and custom properties to soft attributes.

CSV Mapping

CSV mapping allows for the use of a comma separated value (CSV) file to define your migration information including: primary content file path, secondary content file paths, and metadata to out-of-the-box attributes and soft attributes.

Supported Attribute Mappings

Document Name Mapping

- Windchill restrictions on length. Document name is restricted to 200 bytes.



Document Number Mapping

- Family Table instance document numbers can not be mapped.
- Pro/E file document numbers can not be mapped.
- Windchill length restriction of 200 bytes.
- Auto numbering supported for loading single version of non-CAD documents

Part Name Mapping

- Windchill length restriction of 60 bytes.

Part Number Mapping

- Family table instance part numbers can not be mapped.
- Pro/E file part numbers can not be mapped.
- Windchill length restriction of 40 bytes.
- Auto numbering supported for loading single versions

Lifecycle Template Mapping

- Must be a valid defined lifecycle template in Windchill

Lifecycle State Mapping

- Must be a valid lifecycle state within the assigned lifecycle template.

Revision Mapping

- Map to any revision in the versioning scheme.

Iterations Mapping

- Iterations are used for ordering when loading multiple iterations of one object.
- Iterations are not directly mapped into Windchill and are only used for correct content ordering when loading multiple iterations of one object.

Document Subtype Mapping

- Document subtypes can be mapped using the fully qualified path of the subtype as an input when using a CSV file. Document subtype support must be available in Windchill for the objects to be sub typed.

Part Subtype Mapping

- Part subtypes can be mapped using the fully qualified path of the subtype in a CSV mapping configuration.



Destination Folder Mapping

- Define the destination context and folder for
 - All Objects at once
 - All Documents and All Parts
 - Individual Files
- If the specified folder does not exist within a given context, Legend can create it for you.

Soft Attributes Mapping

Soft attribute data types supported:

- String
- Boolean
- Date/Time
- Pro/E Designated Parameters of type:
 - Float
 - Boolean
 - String
 - Integer

Cage Code

- Set Cage Code in a WADM environment
- Can be set via input CSV file, attribute or property

Data Filtering

Unsupported Data Types

Any file type not defined in the Legend configuration file for Legend processing will be filtered out of the batch and identified in html reports.

Zero Byte Files

Files in the batch that have zero bytes will be filtered out and identified in html reports.

Filter Duplicates

Legend will identify and report on duplicate files by filename which are in the same batch for loading. The user can configure this option to filter or not.

Legend will identify and report on duplicate objects in Windchill based on CAD file name or document number.

Legend will identify duplicate instances in Pro/ENGINEER family tables.



Missing Dependencies

Legend will walk the structure of your CAD model files and search for required dependencies within the load batch and within Windchill to determine if all required dependencies exist before loading the CAD model file. Legend will identify and report any missing dependencies in the html reports and remove those files that depend upon the missing files.

Data Loading

CAD Document Creation

Legend will create a CADDocument in Windchill for each CAD file that passes the data filtering stages.

Family Table CAD files will have EPMFamilyTable relationship links created in Windchill between the generic and its' instances.

CAD Document Updates

Legend can be configured to update existing CADDocuments. If the existing CADDocument is at the desired revision, it will be iterated with new content and attributes. If the existing document is at a previous revision it will be revised then iterated with new content and attributes.

Document Creation

Legend will create a WTDocument in Windchill for each non-CAD file that passes the data filtering stages.

Document Updates

Legend can be configured to update existing WTDocuments. If the existing WTDocument is at the desired revision, it will be iterated with new content and attributes. If the existing document is at a previous revision it will be revised then iterated with new content and attributes. Auto-numbering must be turned off for loading updated WTDocuments.

Part Creation

Legend can be configured to create a WTPart for every CADDocument and Family Table generic and instance. Legend can be configured to create a WTPart for every WTDocument it creates. Legend can also be configured to not create any WTParts.



Pre-loaded Parts

Legend can be configured to link to and update existing WTParts. If the existing WTPart is at the desired revision, it will be iterated with new attributes and linked to the document. If the existing part is at a previous revision it will be revised then iterated with attributes and links.

Part - Doc Links

Legend can create links between WTParts and the CADDocument and WTDocuments that it loads as follows:

- Active describes links between CADDocument assemblies and components and WTParts
- Passive describes links between CADDocument assemblies and components and WTParts
- Passive describes links between CADDocument drawings and WTParts
- Describes link between a WTDocument and a WTPart
- Reference link between a WTDocument and a single WTPart.

CAD Structure

Legend will create CAD structure in Windchill by walking the CAD model structure and creating the appropriate member links and create appropriate uses and reference links which will create correct usage and reference relationships between your Windchill CADDocuments.

Bills of Material

Legend can create uses links between your WTPart objects. If a CADDocument is being actively linked to a new or exiting WTPart, Legend will propagate the CADDocument's assembly structure as the bill of material and publish the CADDocument's soft attributes to the WTPart.

Link Drawings to Parts

Legend can be configured to link CAD drawing files to an existing WTPart of the CADDocument which the drawing describes.

Secondary Content

Legend can load secondary content items such as configuration files, design tables, or other miscellaneous files using Legend's CSV input file.

Family Table

Family tables are loaded as generic and instance CADDocuments with their family relationships intact.



Reporting

Checker Report

The Checker runs first and will report on unsupported file types and files with zero bytes.

Reader Report

The Reader reports will report on files that can be loaded and files that can not be loaded into Windchill. For files that can be loaded the reports will indicate the context and folder into which the objects will be loaded. It will also denote the attributes that have been captured and will be assigned to the objects in Windchill.

For files that cannot be loaded the reports will indicate why the file has failed.

Possible failure reasons include:

- Missing dependencies
- Object already exists (this filtering is configurable)
- File did not regenerate or is corrupt

Loader Report

The Loader reports will identify all the files that successfully loaded into Windchill and the files that did not load into Windchill but were successfully read. For the failed files, Legend will identify why the file did not load into Windchill.



2 Pro/ENGINEER Features

This chapter lists and describes the Pro/ENGINEER specific features of Legend.



Version Support

- Pro/ENGINEER Wildfire 3
- Pro/ENGINEER Wildfire 4 (summer 2008)

Wildfire's Windchill Integration Compatibility

Legend uses Pro/ENGINEER J-Link to load Pro/ENGINEER files into Windchill. This ensures Legend loaded Pro/ENGINEER files will be compatible with the Pro/ENGINEER Wildfire's Windchill integration.

Features

- Legend can be configured to ignore non-required dependencies in Pro/E files so the models will load regardless of missing non-required dependencies
- Legend can be configured to add soft attributes other than those from designated parameters to non-family table CADDocuments.
- Populate soft attributes with like named designated Pro/E parameters
- Supports family tables
- Create and link to new or existing WTParts
- Designate Pro/E parameters (VerDes)
- Verify Pro/E Family Table instances (VerDes)

3 CATIA V5 Features

This chapter lists and describes the CATIA V5 specific features of Legend.



Version Support

- CATIA V5 R15
- CATIA V5 R16
- CATIA V4 components are supported when they are running through a CATIA V5 environment and are part of a CATIA V5 assembly

Features

- Support for CATPart, CATProduct and CATDrawing file types.
- Legend will capture CATIA attributes and map them to soft attributes.
- Usage and reference links are modeled in Windchill
- Design tables are modeled as family tables within Windchill. In addition, the design table file is loaded as secondary content
- Supports external reference relationships
- Supports drawing reference relationships

Special Requirements

Due to Dassault Systemes licensing requirements, the CATIA Abstraction Library must be built onsite with the sites' license of CAA-RADE. The level of CAA-RADE must match the level of CATIA you are using.

Additionally, the C++ compiler is required. The version of the compiler required is dependent upon the CATIA version you are using:

- for CATIA V5 R15 – Visual Studio 6
- for CATIA V5 R16 – C++ Visual Studio.Net 2002



4 SolidWorks Features

This chapter lists and describes the SolidWorks specific features of Legend.



Version Support

SolidWorks typically supports files created in previous versions. Files that are supported in SolidWorks 2005 can be migrated using Legend. Note: Files authored in version other than SolidWorks 2005 will retain their ability to be opened in their authoring application version even though they are required to load through Solid Works 2005.

- *SolidWorks Pre-2005
- SolidWorks 2005
- SolidWorks 2006

*Files must be able to be opened and read with SolidWorks 2006

Features

- Support for SLDPRT, SLDASM, SLDDRW file types
- Summary and Custom properties are captured as metadata and can be mapped to Windchill attributes
- Usage and references links are modeled in Windchill
- External reference relationships are supported as reference links in Windchill
- Configurations and External Design Tables will be modeled as Family Tables in Windchill. The configuration files will be loaded as secondary content



5 AutoCAD Features

This chapter lists and describes the AutoCAD specific features of Legend.



Version Support

AutoCAD typically supports files created in previous versions. Files that are supported in AutoCAD 2006 can be migrated using Legend. Note: Files authored in version other than AutoCAD 2005 will retain their ability to be opened in their authoring application version even though they are required to load through AutoCAD 2006.

- *AutoCAD 2004
- *AutoCAD 2005
- AutoCAD 2006

*Files must be able to be open and read with AutoCAD 2006

Features

- Legend will capture attributes by "Tag" name and mapped to Windchill attributes. Unique tag names are required with Legend for predictable operation
- AutoCAD XREF relationships are captured and modeled in Windchill as reference links
- MDT and AutoCAD LT are not supported



6 Unigraphics Features

This chapter lists and describes the Unigraphics specific features of Legend.



Version Support

Unigraphics typically supports files created in previous versions. Files that are supported in Unigraphics NX4 can be migrated using Legend. Note: Files authored in versions other than Unigraphics NX4 will retain their ability to be opened in their authoring application version even though they are required to load through Unigraphics NX4.

- *Unigraphics Pre-NX4
- Unigraphics NX4

*Files must be able to be open and read with Unigraphics NX4

Features

- Legend captures UG properties
- Legend loads Part Families as Family Tables
- Assemblies are identified by parts linked to other parts using Assembly mode add component
- Supports external reference relationships



7 Inventor Features

This chapter lists and describes the Inventor specific features of Legend.



Version Support

- Inventor 10

Features

- Summary and Custom properties are captured as metadata and can be mapped to Windchill attributes
- Support for IPT, IAM, and IDW file types
- Usage and references links are modeled in Windchill



8 Microsoft Office Features

This chapter lists and describes the Microsoft Office specific features of Legend.



Version Support

- Microsoft Word XP, 2003, 2007
- Microsoft Excel XP, 2003, 2007

Features

- Summary and Custom properties are captured as metadata and can be mapped to Windchill attributes
- Hyperlinks to other Office documents are captured and propagated to Windchill as reference links



About I-Cubed

Since 1984, when we first began to open up CAD information to the world, I-Cubed has been at the forefront of the CAD intelligence revolution. The combination of CAD systems, operating systems, hardware platforms, and network security creates a complex and challenging environment. I-Cubed bridges the divide between CAD data and the enterprise, enabling corporations and industries to more effectively leverage information assets in streamlining development processes.

CAD Integration with PLM

I-Cubed provides CAD integration capabilities into Product Lifecycle Management (PLM) solutions to companies all over the world. As a component of PLM, our CAD integration products automatically extract valuable engineering and product information from complex CAD models and drawings files and publish this information to PLM systems. By supporting multiple versions of all major CAD systems running on both Windows and UNIX operating systems, I-Cubed serves as a single source solution for CAD integration solutions.

Loading Legacy Data

Loading legacy data is a critical component of implementing PLM. I-Cubed's Legend product migrates legacy data into PLM systems for multiple applications, including all major CAD systems, MS Office, and Adobe Acrobat. Additionally, Legend's pre-processing tools and reports assist customers in evaluating data cleanliness allowing more informed choices earlier in the process. By using off the shelf tools, customers forego the risks and costs associated with custom scripts and receive the benefit of cost predictability. For complex migrations Legend is the clear choice.

Professional Services

I-Cubed's focus is delivering packaged technology solutions in lieu of open ended consulting engagements. Our services model encourages fixed cost projects coupled with a structured knowledge transfer program that fosters customer independence. Over the past decade we have partnered with F1000 customers to migrate design assets to PLM. Our experience with multiCAD environments is delivered via Legend Loader and CAD integration QuickStarts.

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