FOCUS ON WINDCHILL AND STRATEGICALLY DECOMMISSION OTHER LEGACY SYSTEMS

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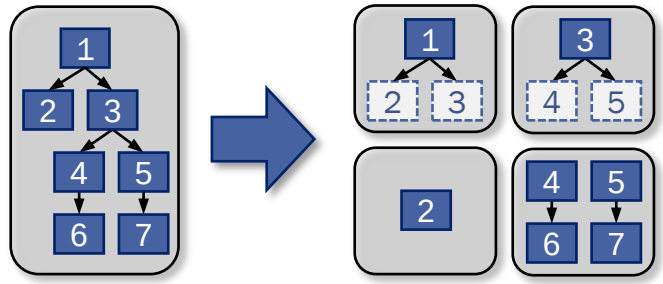
DECOMMISSION LEGACY PLM

- Decommission Concepts and Project Considerations
- Migration Strategies and Methods
- Technical Considerations for Windchill PLM Import
- PROSTEP Tools and Where to Start

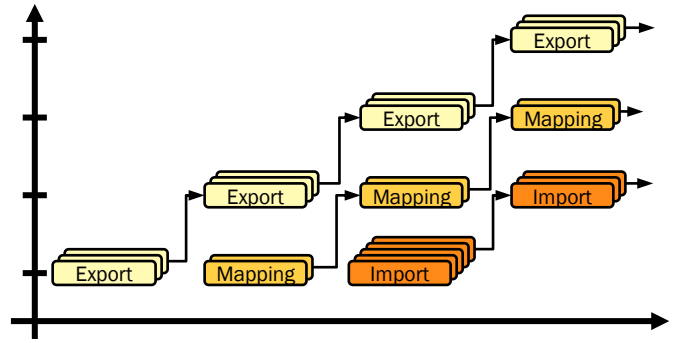
STRATEGY & REQUIREMENTS

- Differentiate the requirements for decommissioning your legacy PLM from the requirements for introducing the new PLM. This reduces time and cost of migrations.



- For Legacy PLM
  - What is the required data that needs to be extracted?
  - What version / iteration requirements? All history? Just released?
  - How to handle “other” system data like tasks, workflow history, etc. that may not map to new PLM?

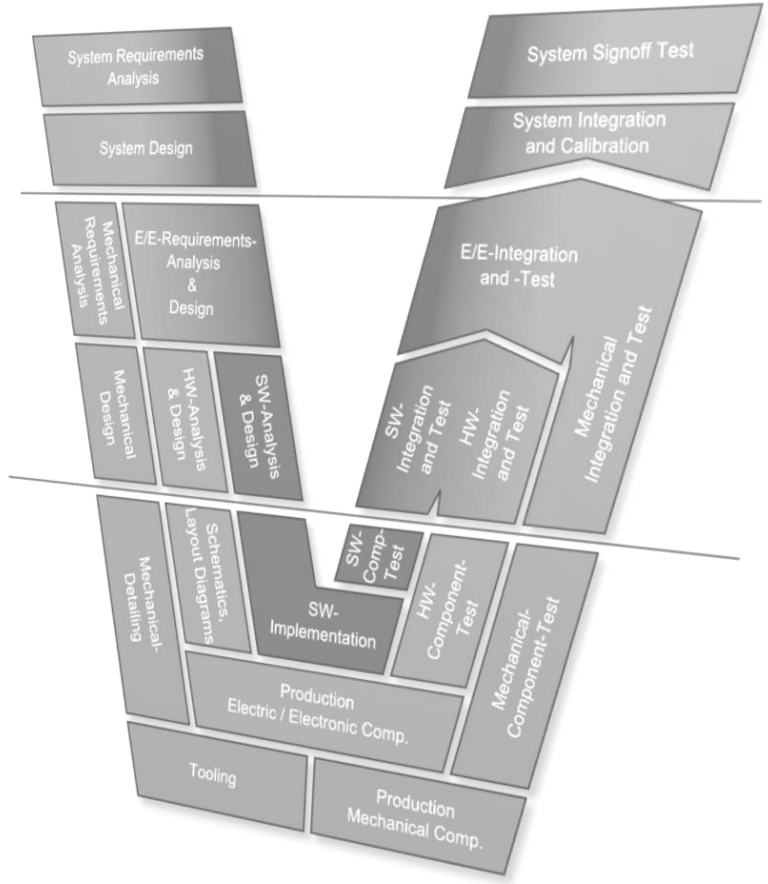
- For New PLM
  - Define what is needed to be operational in your new PLM system?
  - Is all the CAD history required or maybe just the top 20 programs CAD data?
  - Do you have an alternative archiving strategy for unused legacy data?



FOR WINDCHILL INTRODUCTION - PLAN ACCORDINGLY

- Dependency on the PLM Introduction
  - Moving target during the development
  - Bugs in the system result in bugs in the migration
  - Migration is incredibly performance intensive
  - Release schedules are inter-twined
  - New systems are not well understood by customers, they need to learn how to use it!
  - Any business case ROI from migration is in the new system

- How long does it take to steer the enterprise to the new PLM?
  - Is your business capable of handling a one time event to switch to a new PLM?
  - Is your ERP / MRP / 3rd party integration capable of a cut over?
  - Is the training and support for the new PLM in place and comprehensive?
  - Will the solution be comprehensive and bug free day one?
  - Have you done a good job with public relations and PLM change acceptance?



MIGRATION EVENT RISKS

- Migration Timing
  - Calculate expected downtime vs. migration performance
  - Weekends? Merry Christmas here's the new PLM?
  - Incremental migrations can take too long and enable bad behavior in the transition
- Data Disaster Risks
  - First migration to empty system shouldn't ever corrupt production data with proper testing
  - Adding a large volume of data to existing production PLM requires *practiced* disaster recovery plan.
- Typically CAD data needs to be able to open without errors in the CAD system to be processed correctly
- Different systems have different dependencies that can involve data loss without creative mapping
  - Your revision / version model may not match your legacy
  - Part BOM and CAD BOM could need to be merged! (or managed in another way)
- Migration is not a good time to correct those historical issues
  - Still, Garbage in = Garbage out
  - The preferable options are:
    - Cleanup data in the legacy system
    - Cleanup data in a intermediate staging DB
    - Cleanup data in the target system after migration

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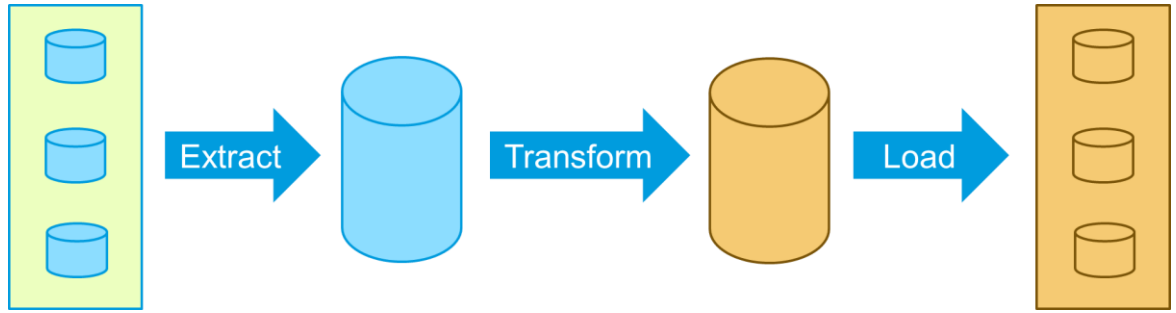
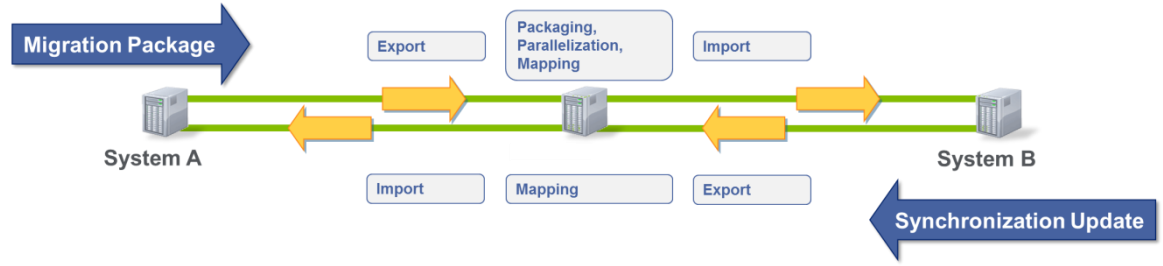
DATA MIGRATION METHODS

- ETL (Extract, Transform, Load)
  - Extract: Export the data from the source system to a staging database
  - Transform: Map data to the target system format & fix data issues
  - Load: Import complete staging database to the production system
  - Define initial load and delta update for extraction to staging database
  - Define initial load and delta update for import to new PLM
- Transactional
  - Define packages from dependencies to migrate
  - Export, map and import a small data package within a transaction
  - Define insert / update import strategy for new PLM

Extract, Transform, Load



Transactional Co-existence



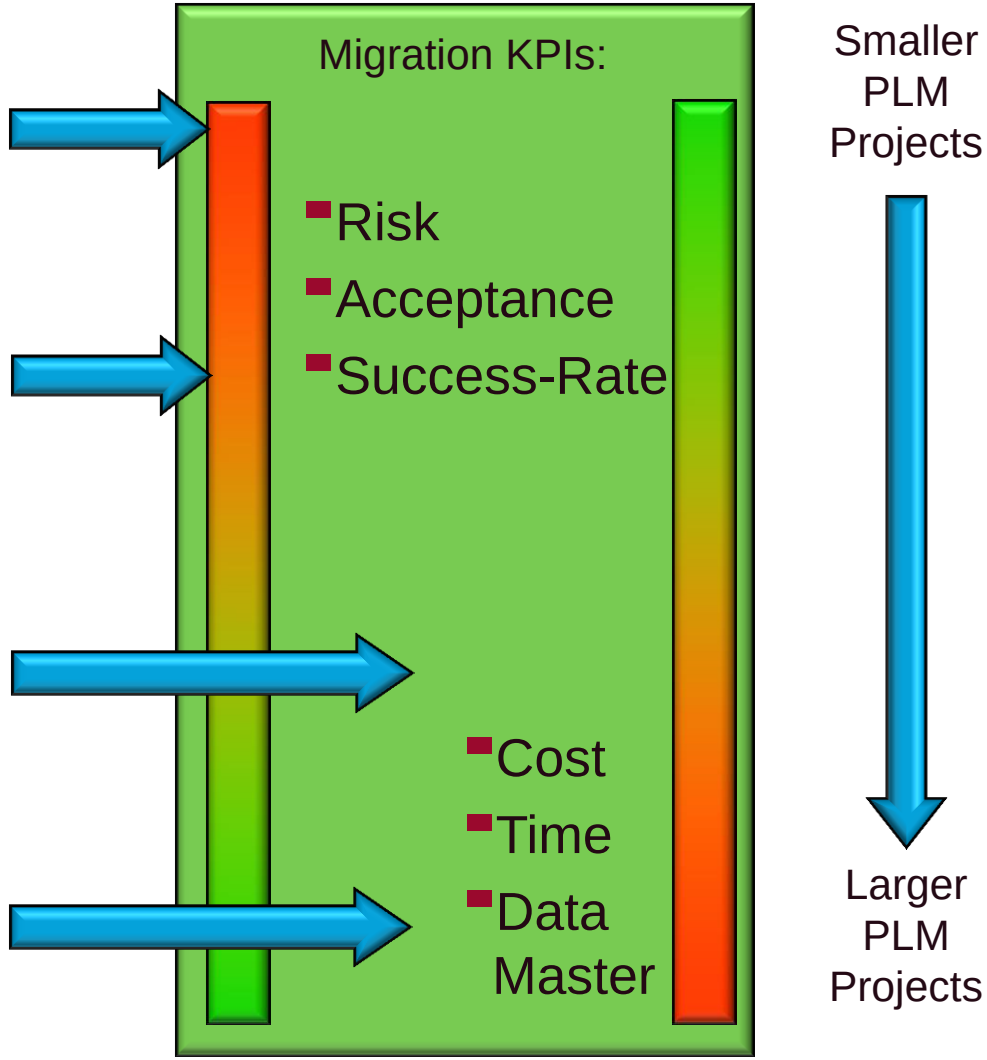
BENEFITS AND RISKS OF ETL VS TRANSACTIONAL

- ETL Method
- The Benefits
  - Ability to modify data and correct issues in the staging database
  - Good performance for large volume of data
  - Lends itself to good repeatable testing scenarios
  - High quality results for a one-time first go-live of new PLM
- The Risks
  - Staging database gets out of sync quickly
  - Intermediate database means export / import is done twice
  - Modification of data does not always sync up to legacy PLM or 3rd party integrations

- Transactional Method
- The Benefits
  - Enables staged migration of data
  - Errors are more easily controlled
  - Enables migration to move at the pace of business
- The Risks
  - Garbage in, Garbage out
  - Order of import operations is not always transparent
  - Performance is not as good
  - Testing can be cumbersome

MIGRATION STRATEGY PROJECT ALIGNMENT

- Big Bang or One Time Migration
  - Export and Import over a weekend
  - ETL or Transactional
- Update until Go-Live One Time Migration
  - One time, test & delta update production until go-live
  - ETL or Transactional
- Staged Migration
  - Move in Program by Program
  - Transactional
- Co-existence
  - Flexible to move in data
  - Transactional



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TECHNICAL INTERFACES FOR IMPORTING TO WINDCHILL

- PROSTEP has comprehensive connectors for interfacing with Windchill API's and tools

- Tools for interfacing with Windchill
  - RMI API for integration export / import
  - Windchill Bulk Migrator for Creo, Metadata & Document
  - Work Group Manager Batch Import for other CAD
  - Pro/Toolkit or Jlink for CREO Analysis

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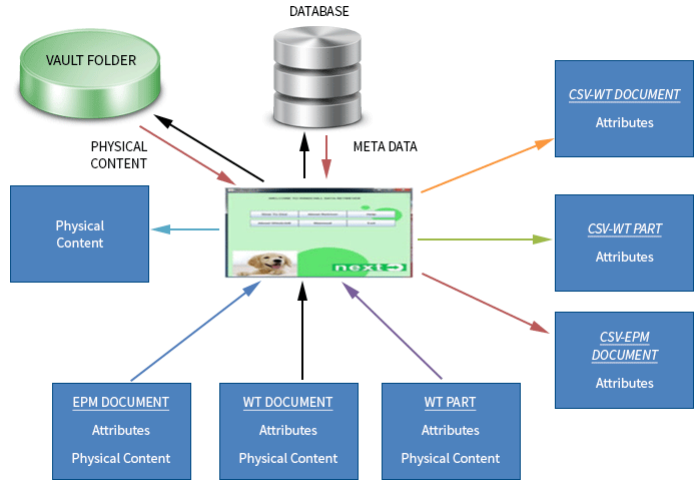

TECHNICAL CONSIDERATIONS FOR FILE BASED CAD IMPORT

- CAD Data does not have enough information to import on it's own. PLM data should be added to the process
- Unmanaged data is generally "dirtier" with considerably more issues than PLM managed data
- Recommended Process Steps –
  - Scan directories with CAD interrogation tool (Toolkit ,CAA, etc) and get all data attributes and dependencies
  - Move all data to staging database or Excel file(s) with attributes and:
    - Determine which file is the master between multiple instances
    - Add PLM metadata (owner, group, projects, status, etc)
  - Transform metadata into import packages
  - Execute bulk import with appropriate PLM interface tool

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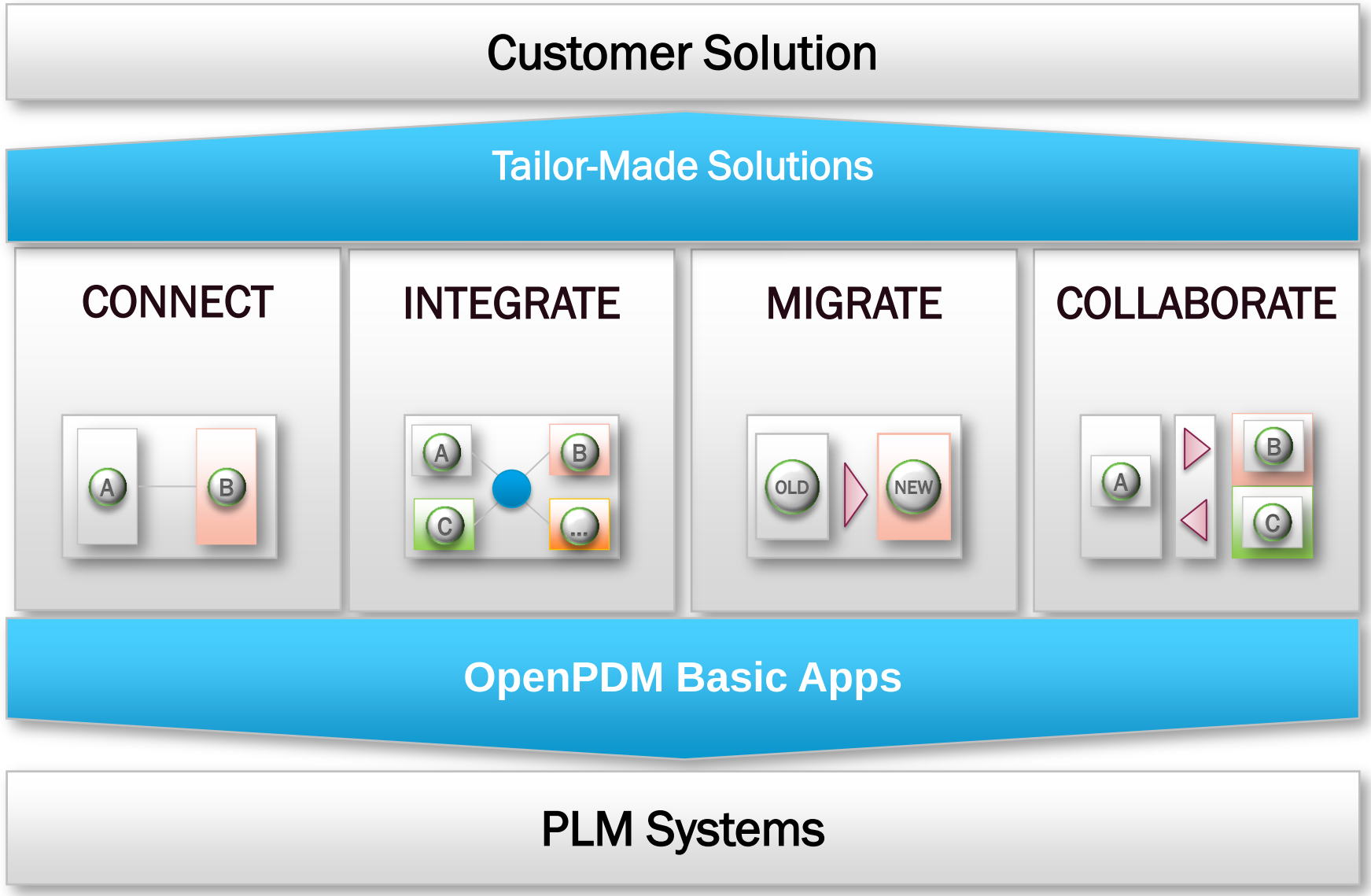
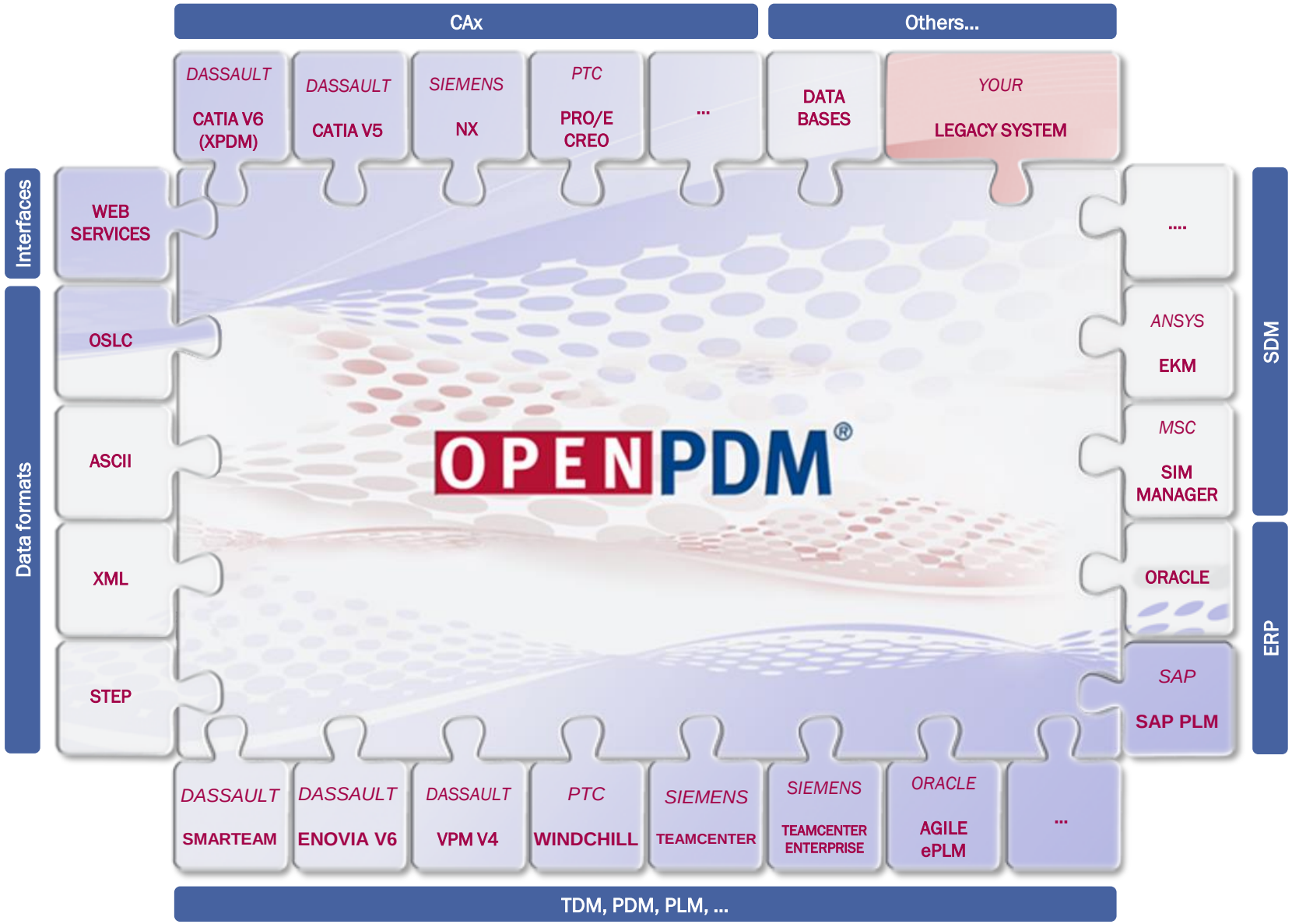


OPENPDM MIGRATION CONNECTORS



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