PTC® PRODUCT & SERVICE ADVANTAGE

PTC MDM: Commerical Management Approach

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Product Management Director

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Agenda

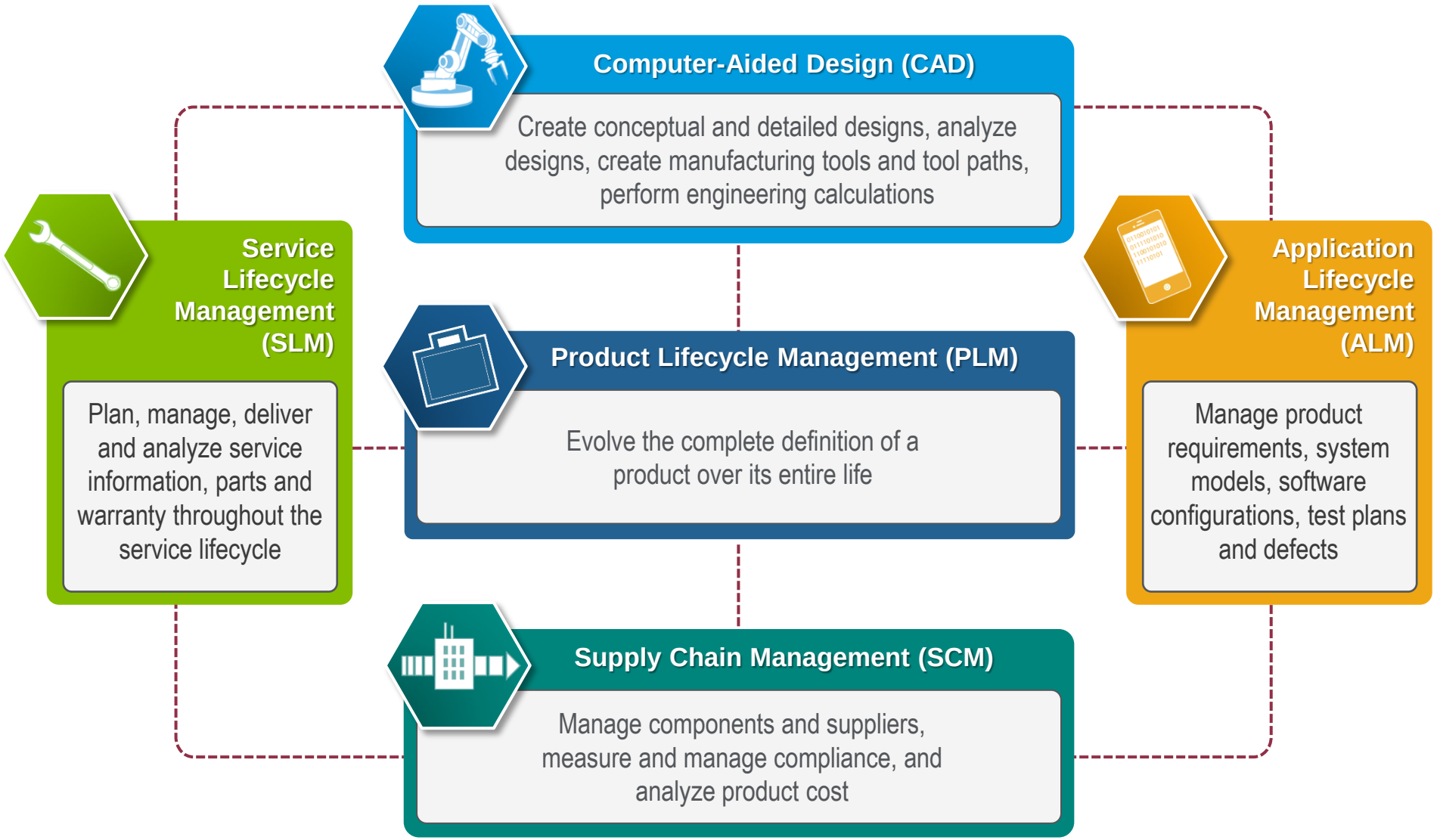
- PTC Introduction and Product Background
- Model Interaction Across the Product Lifecycle
- Current Model Management
- Future Direction

Technology solutions that transform the way you create and service products

A System of Market Leading Software Applications

PTC®

Enables a single source of rich, digital truth that represents a complete view of your product



A System of Market Leading Solutions

PTC

PTC Computer-Aided Design Solutions

- PTC 3D Design
- PTC Multi-CAD Design

PTC Service Lifecycle Management Solutions

- PTC Technical Information
- PTC Service Knowledge Management
- PTC Service Parts Information
- PTC Service Parts Management
- PTC Warranty & Contract Management
- PTC Field Service Management

PTC Product Lifecycle Management Solutions

- PTC Program & Portfolio Management
- PTC System Requirements & Validation
- PTC Global Platforms
- PTC Global Product Development
- PTC Global Quality
- PTC Project Management

PTC Application Lifecycle Management Solutions

- PTC Global Software Development

PTC Supply Chain Management Solutions

- PTC Component & Supplier Management
- PTC Product Analytics
- PTC Manufacturing Process Management

Products to Deliver Market Leading Solutions

PTC®

PTC Creo

Design Software. Learn More

PTC Windchill

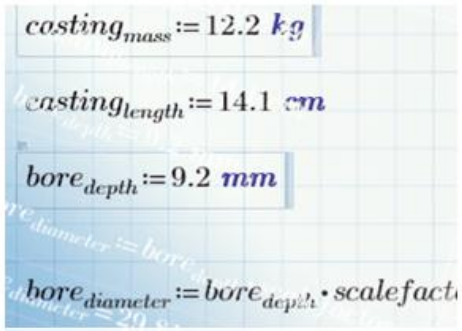
Content and Process Management Software. Learn More

PTC Arbortext

Dynamic Information Delivery Software. Learn More

PTC Mathcad

Engineering Calculation Software. Learn More



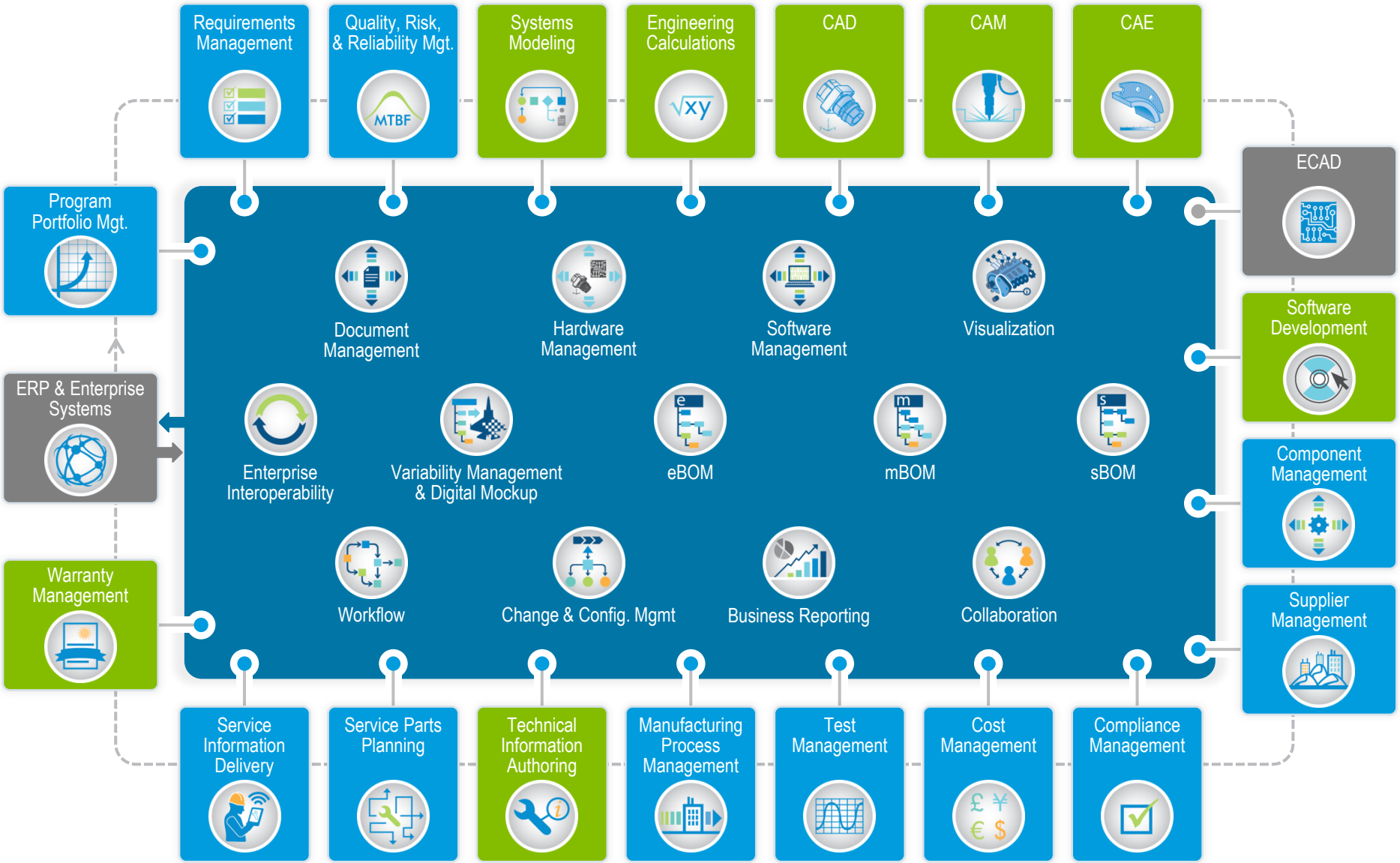
PTC Integrity

Global Software Development. Learn More

PTC Servigistics

Enterprise products for Service Lifecycle Management. Learn More

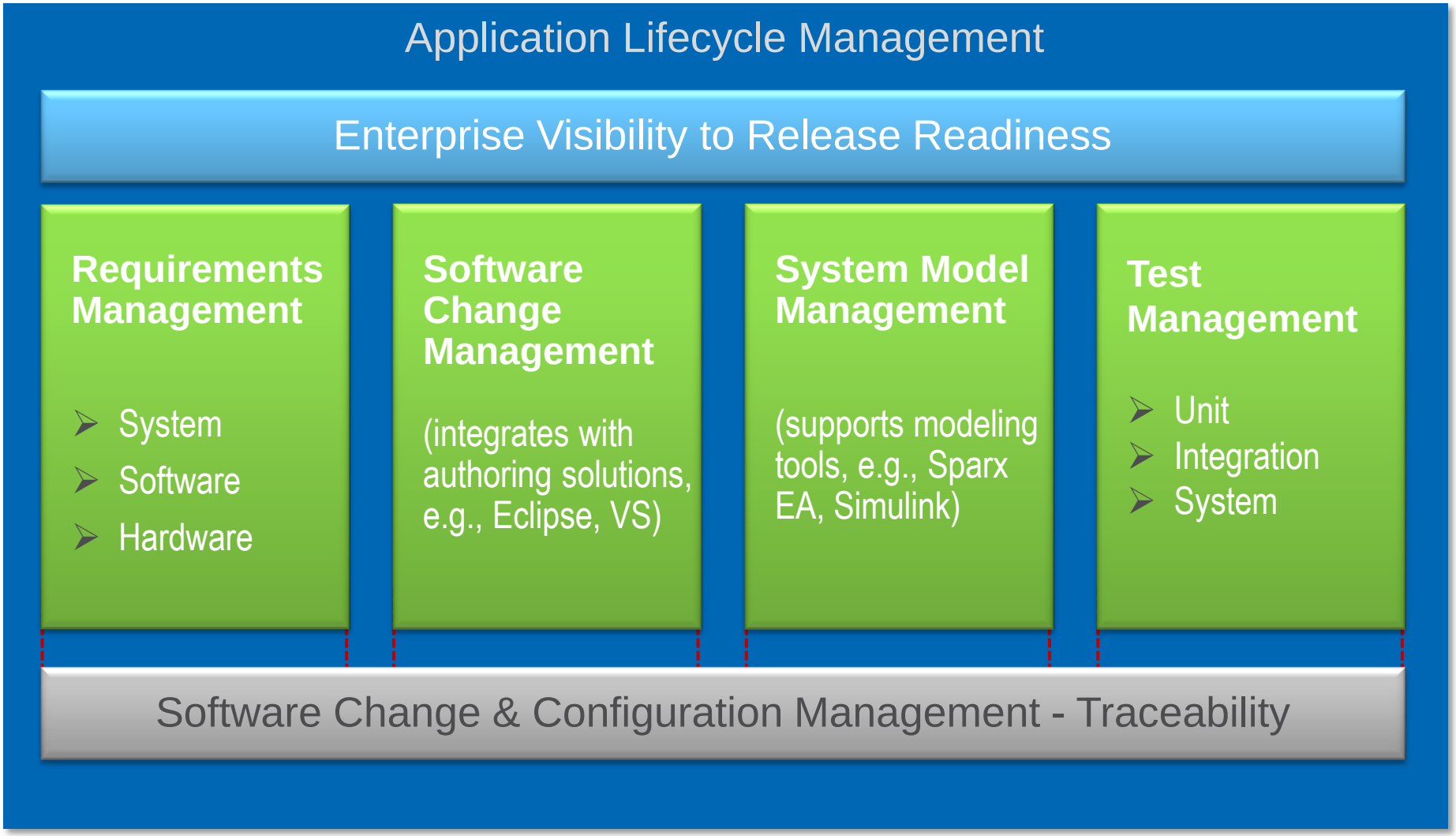
Technology for Product and Service Advantage



Integrity

PTC®

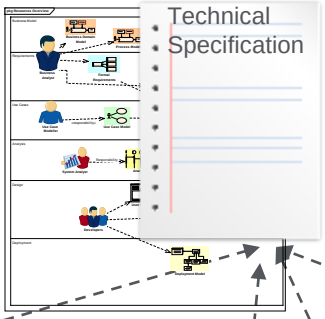
A single, integral solution managing all software development processes and connecting all engineering artifacts

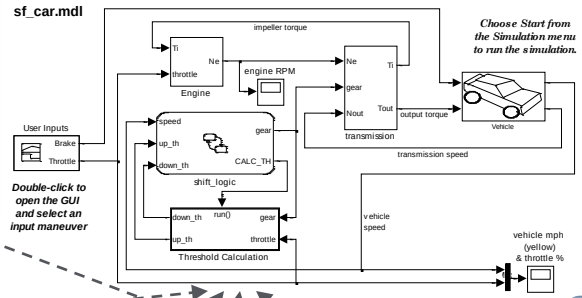


Product Engineering Landscape

Input

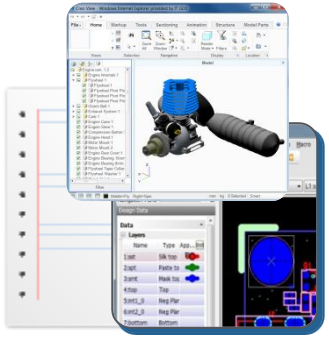
Requirements
1.2



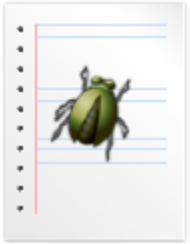


4.7

There is a growing desire to place modeling at the core of the engineering process to drive efficiency and quality



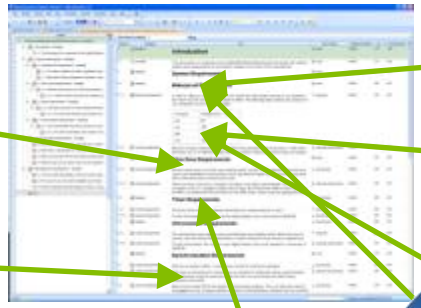
Design Artifacts
1.2.35

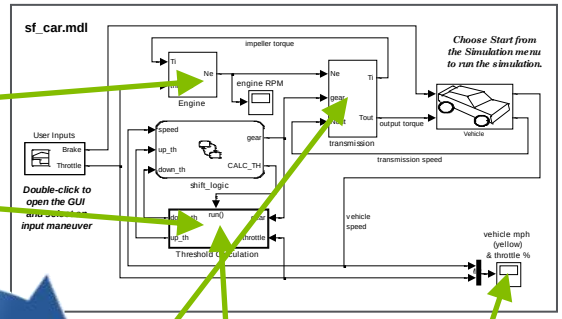


Defects

Test Cases
1.5

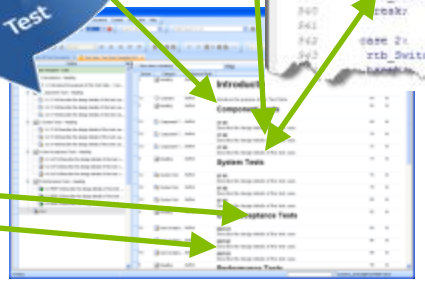
PTC's Goal: Remove the Disconnect

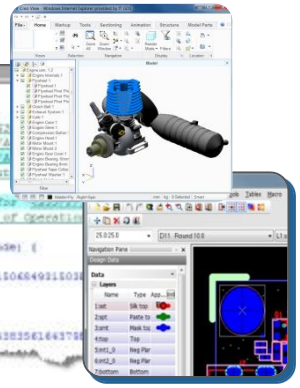




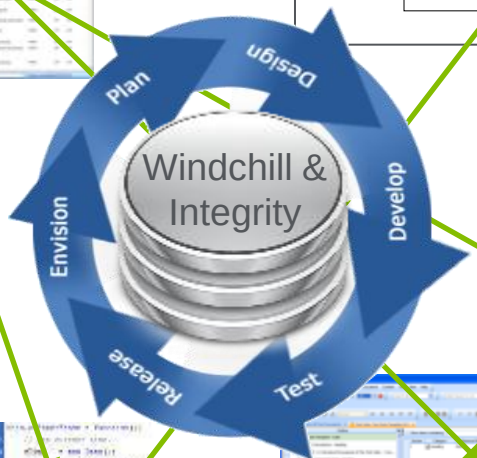
1.4.8.1

Release 2.1



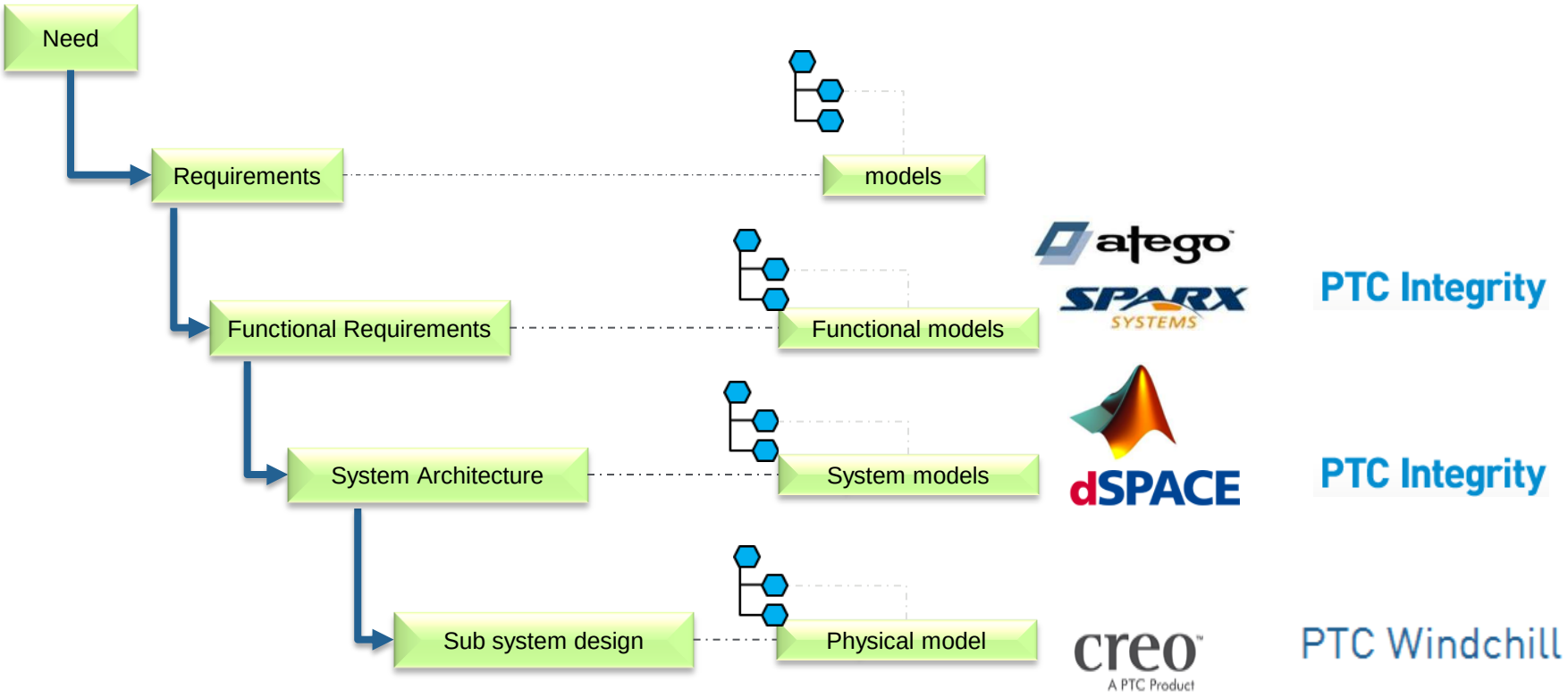


1.4



1.2

Current Model Management



xCAD Model Data Management

Multi-CAD WIP Content Management

- Windchill provides a single enterprise environment capable of effectively managing heterogeneous design data and processes, including:
  - Ability to manage multi-discipline design processes
  - Ability to manage multiple, disparate design data directories
  - Ability to structure products from parts defined in different CAD formats
  - Ability to visualize product structures of data defined in different CAD formats
  - Ability to manage parts defined by multiple CAD tools
  - Ability to manage lightweight visualization models
- Broad spectrum of support
  - Supporting 30+ applications
  - Over 80 different versions

Model Management and Traceability

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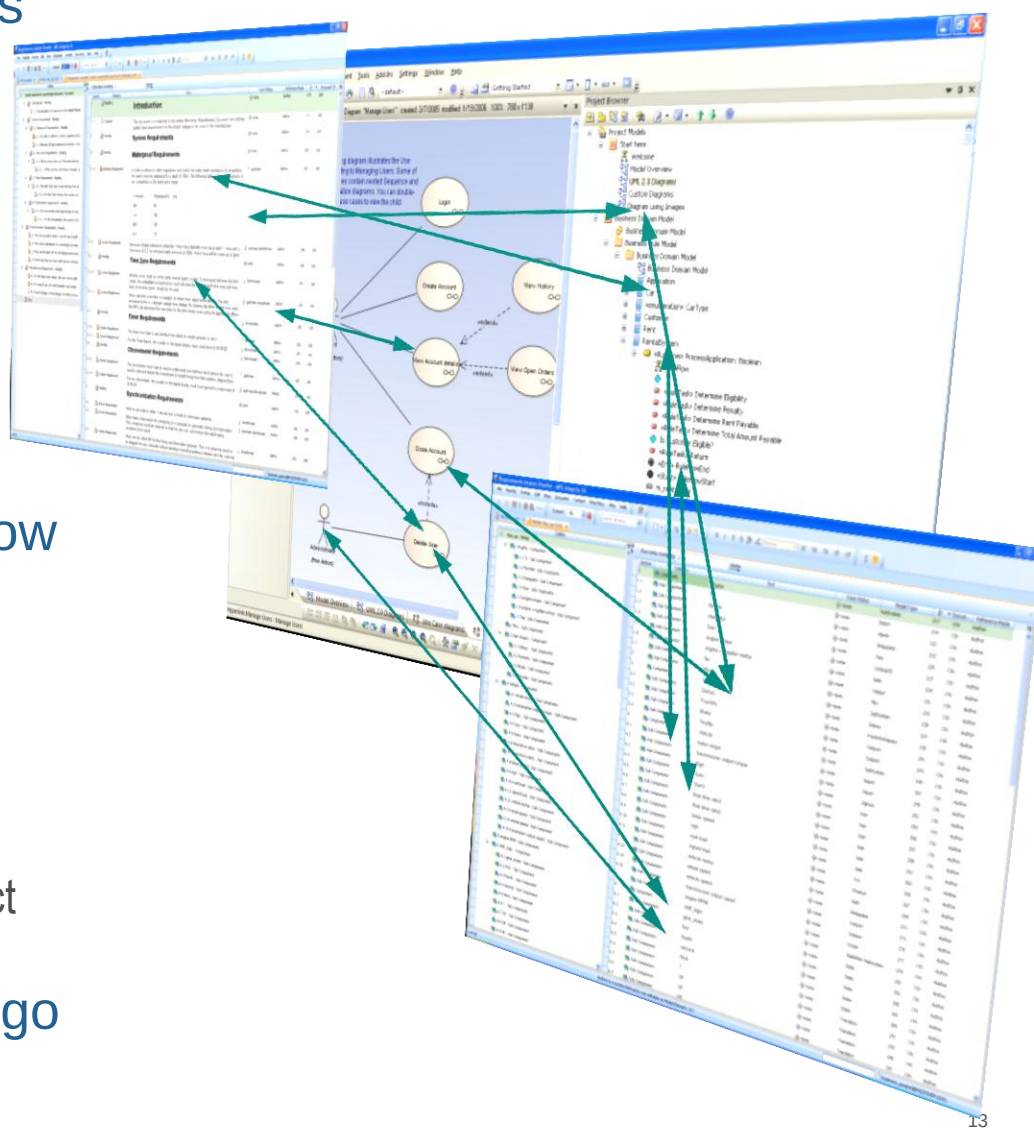
Integration to Integrity provides…

- Integrate to leading modeling tools
  - Sparx Enterprise Architect
- Capture Model artifacts as structures
- Trace Requirements and Test artifacts to Model artifacts
- Changes to Requirements will show suspect model elements in Model Design tool
- Changes to model elements synchronized in Integrity
  - Downstream artifacts marked as suspect
- Field developed integration to Atego Artisan Studio



Model Management and Traceability

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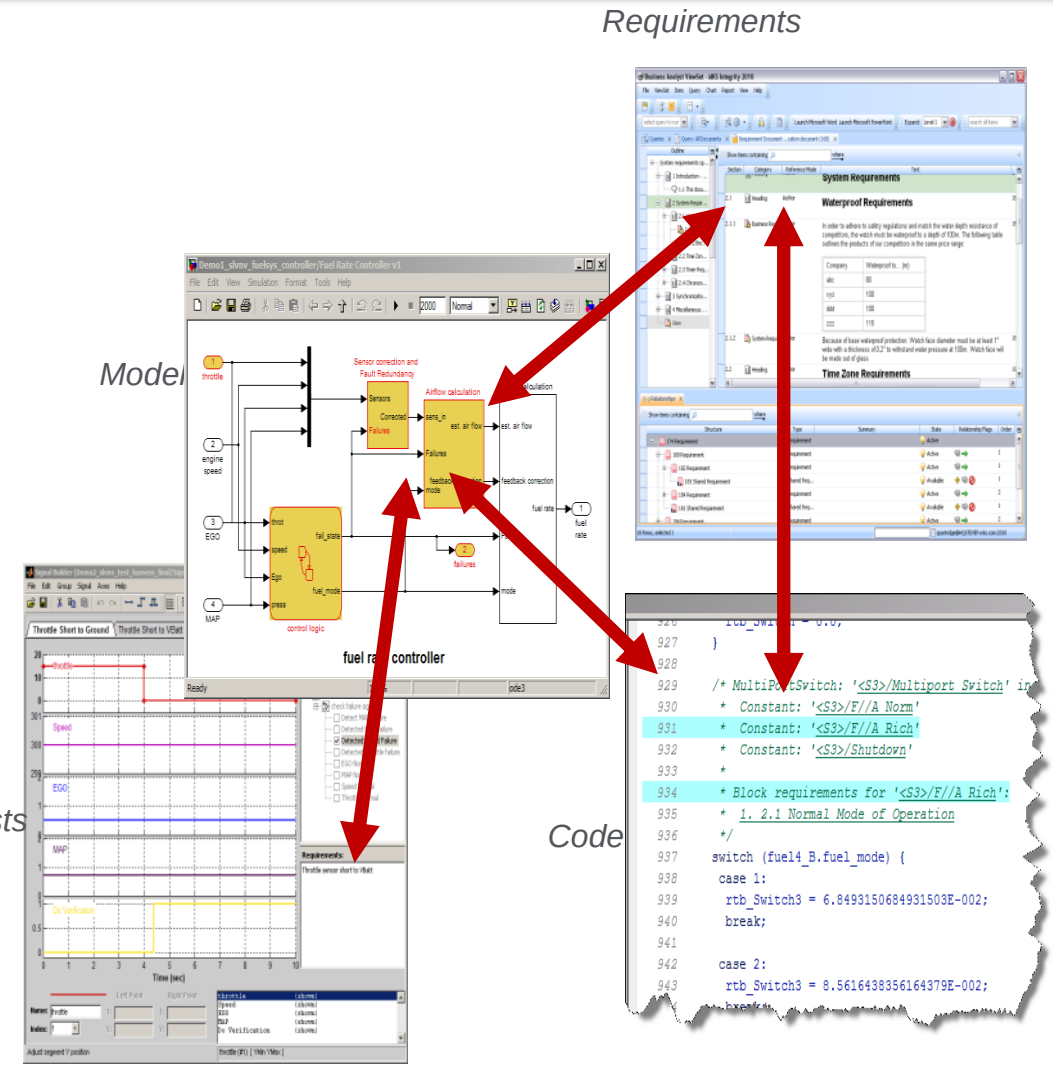
Integration to Integrity provides…

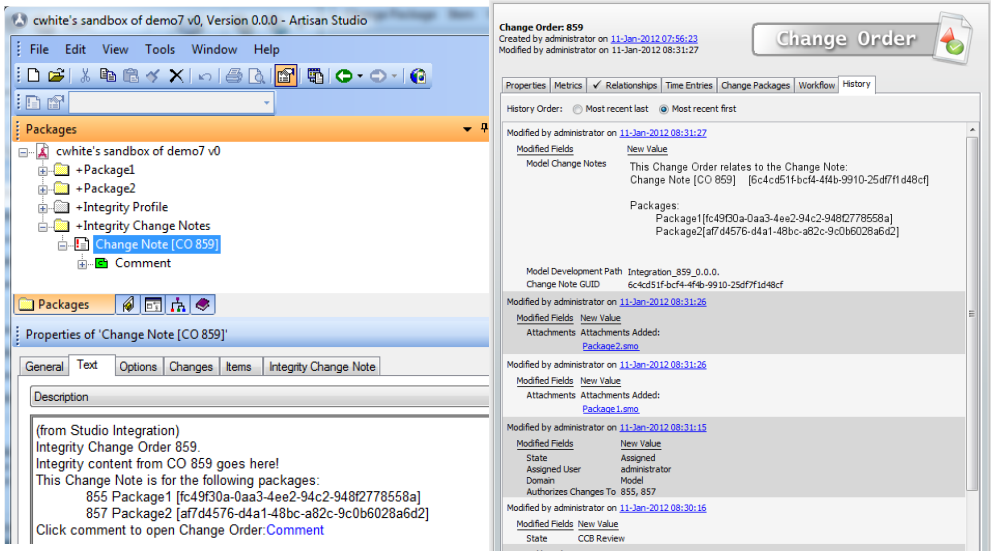
- Integration to Matlab Simulink
- Configuration management for Simulink models
- Change management across assets including models, requirements, and test cases
- Input/output of simulations is captured and managed
- Auto-generated code captured and linked to associated assets
- Repeatable, enforceable processes
- Full traceability among assets



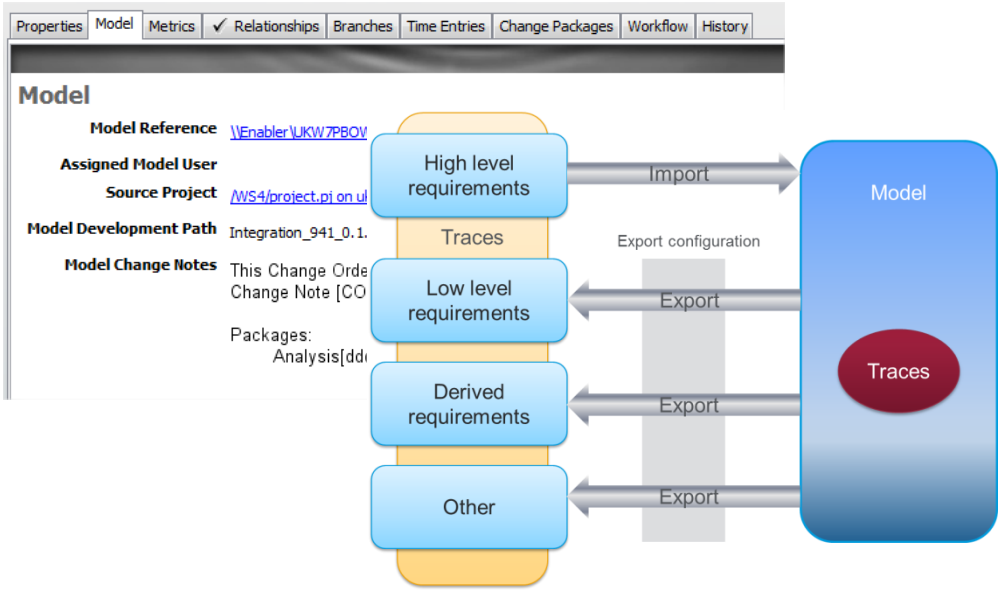
Model Management and Traceability

Integrity Integration to Atego Artisan Studio

- **Change Management**
  - Control the scope of change
  - Automatically creates Studio sandboxes
  - Change can be isolated until reviewed and approved
  - Automated collection of review artifacts
  - Modified packages versioned as the change is promoted



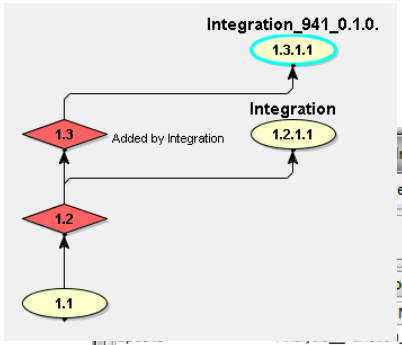
- **Traceability**
  - Manage requirements and specifications in Integrity
  - Manipulate / modify in Artisan
  - Convenient links between the two tools
  - Surrogate model structure captured

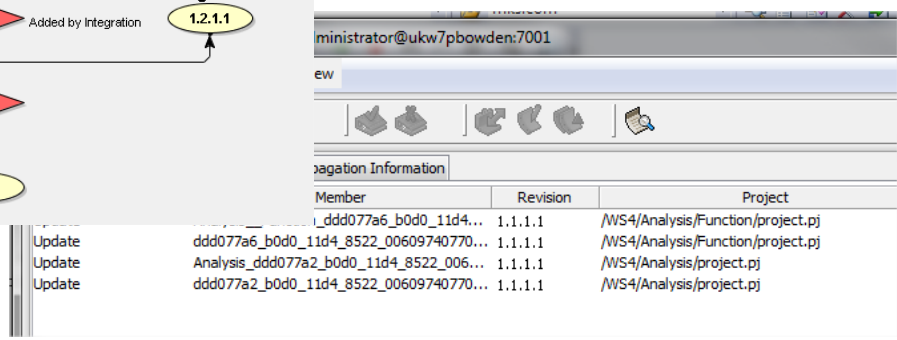


Model Management and Traceability

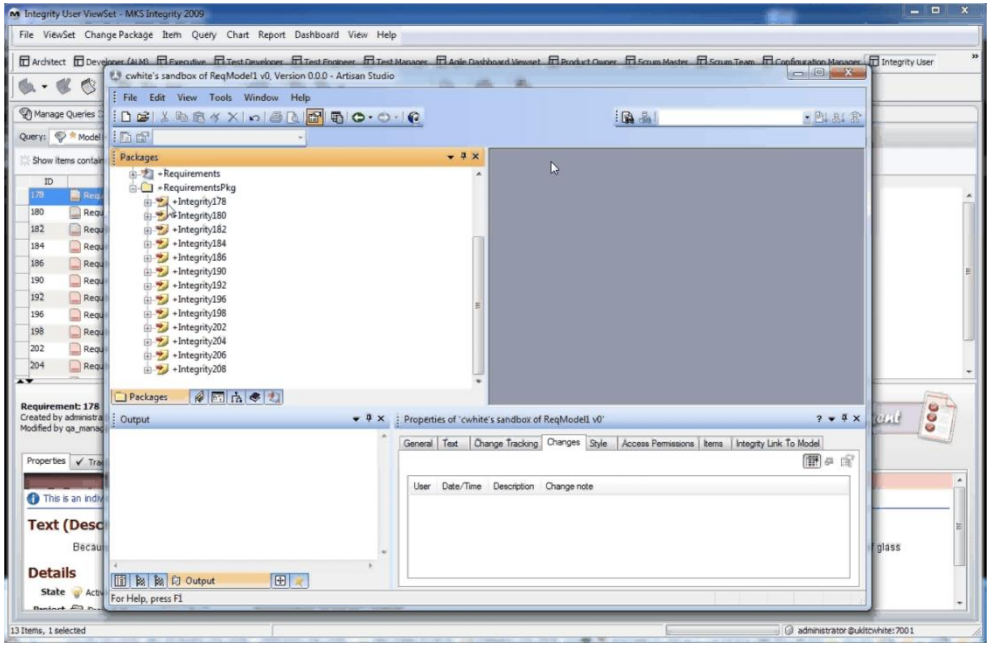
Integrity Integration to Atego Artisan Studio

- Versioning
  - Audit trail
  - Automatically handled by the integration
  - Differences captured for later analysis



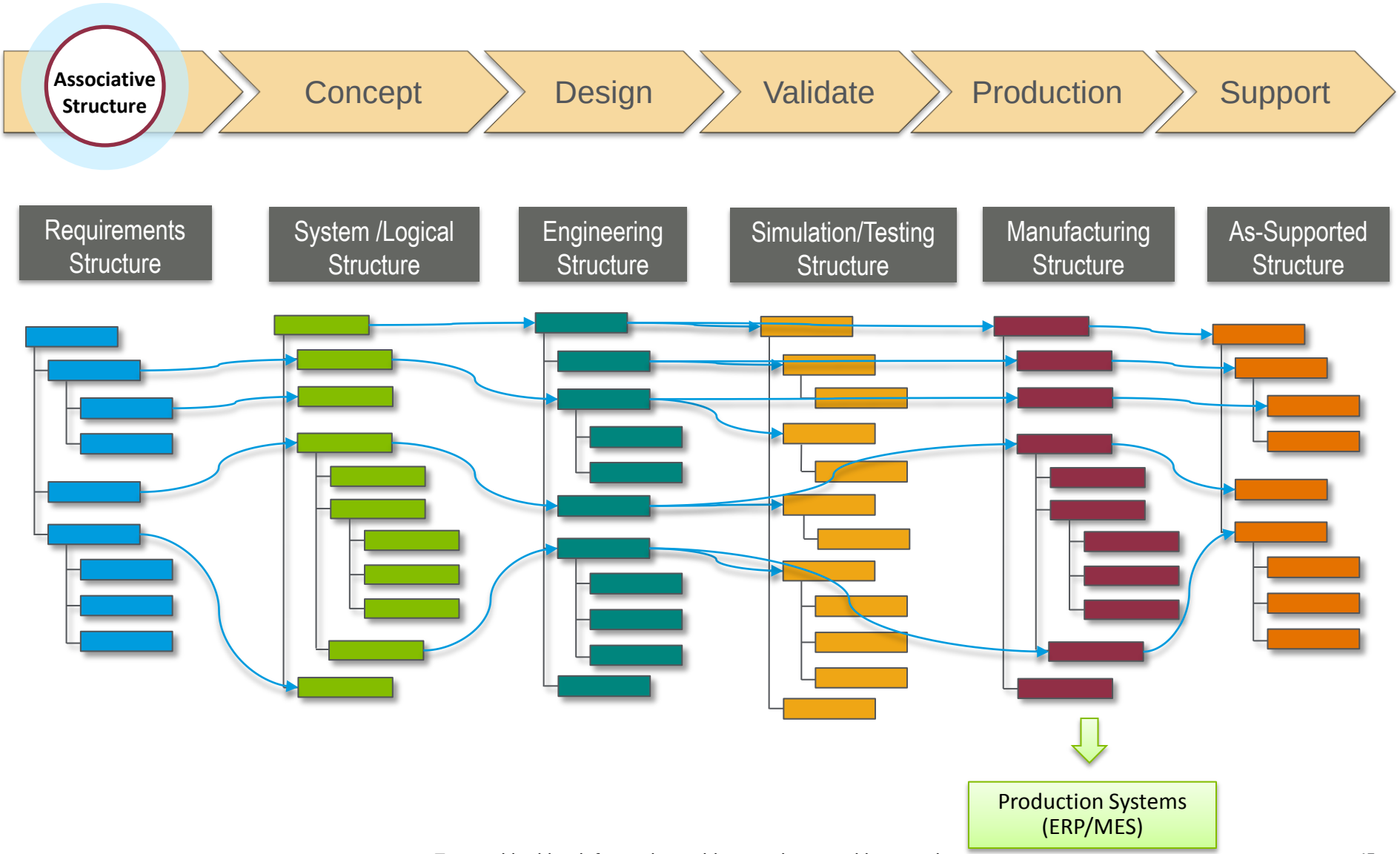


- Requirements
  - Import requirements into model



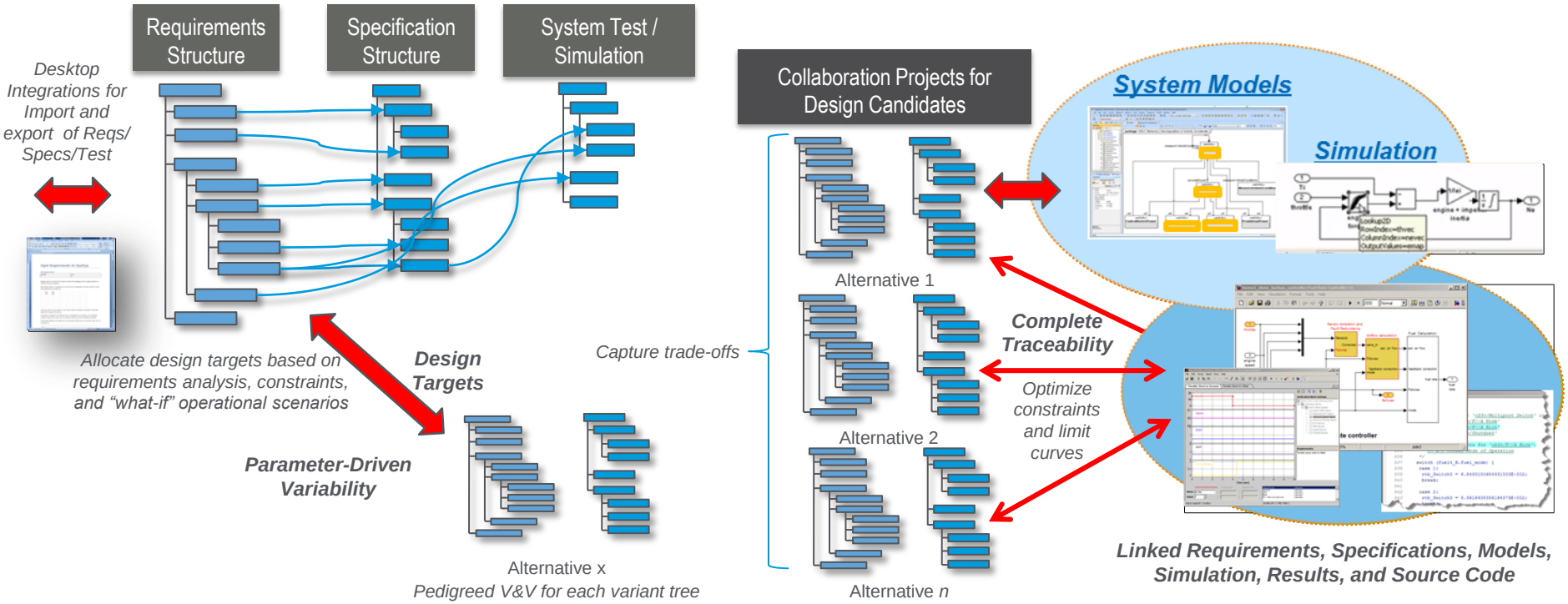
Key Concept: “Network of Information”

Common Foundation to Organize and Maintain Product Configurations and Related Data



Systems Design:
Reuse, Modularity and Concurrent Engineering

- Manage Systems and Software information
  - Parameterized Requirements, Specifications, and Test Cases maximize reuse
  - Closed-loop System Models, Simulation Models, Results for Trade-off studies
  - Simulation Inputs correlated to Test Results



PTC Plans / Roadmap

- Deliver a common interface for all modeling applications
  - Consistent functionality for all tools
  - Close integration with design tool
  - Support “most common” applications (Matlab/Simulink, Enterprise Architect, Artisan Studio, etc.)
  - Document API for other applications (PREEVision)
  - Integration with Integrity
    - Information available / synchronized within Windchill
- Support exchanging metadata across applications
  - Requirements, system models, CAD models, etc.
  - Integrity, Windchill, Creo, external, etc.
- Broaden visibility to architectural artifacts
  - Allow other users to visualize, interrogate, and annotate information
- Deliver “complete” definition of interconnected information

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