REQUIREMENTS MANAGEMENT FOR PTC WINDCHILL CUSTOMERS

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Product Management Director

June 8, 2016

AGENDA

- ❑ Challenges
- ❑ Connected Requirements
- ❑ Demonstration
- ❑ Summary

IOT'S IMPACT ON PRODUCT DEVELOPMENT

IoT is changing the way we do business and creating new business opportunities.

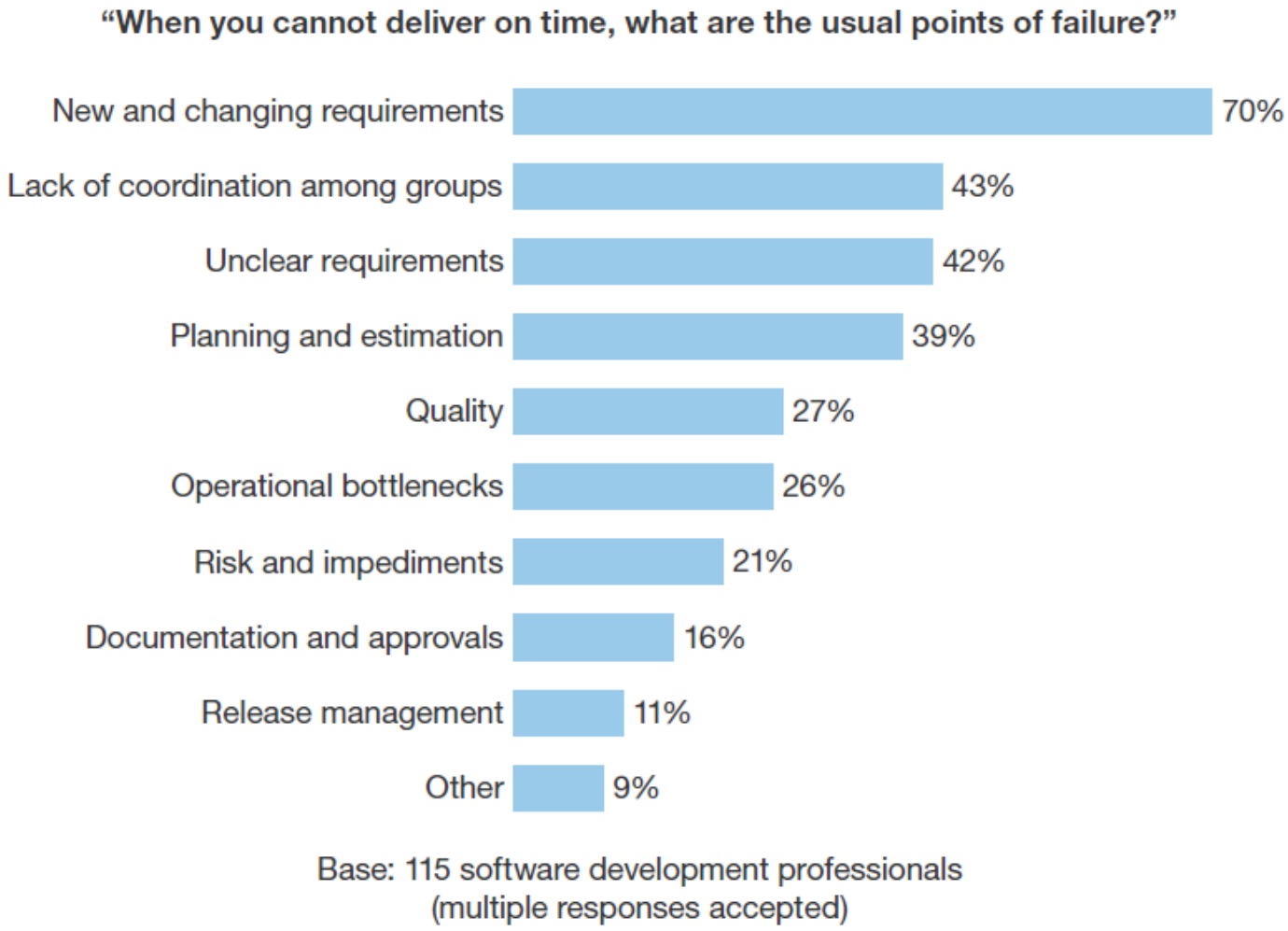
Product design has increasingly become much more complex and requires an agile, multi-disciplined approach.

Today's systems demands an integrated, collaborative approach within engineering, as well as with our customers, suppliers, and users.

Julie DeMeester, Engineering Fellow Raytheon Integrated Defense Systems

WHY REQUIREMENTS MATTER

Figure 1 Requirements Are A Consistent Source Of Delivery Problems



Forrester Research, "Brief: Software Requirements Practices Are Ripe For Disruption," April 25, 2014

6 REASONS PROJECTS FAIL

- Requirements are not well defined
- Poor change management for requirements
- Lack of a single source of truth for requirements
- No link between requirements and test
- Inability to trace requirements throughout the development lifecycle
- Lack of traceability for functional safety or standard

Tech-Clarity blog "http://www.ptc.com/integrity-blog/6-reasons-your-projects-fail" March, 2016

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Breakthrough Product Engineering

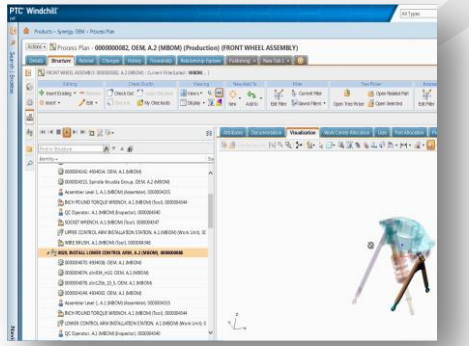
- **UNIFY** the cross-discipline team
- **SAFEGUARD** quality and safety
- **ORGANIZE** for product variants
- **CONNECT** to real-world insight

UNIFY

THE CROSS-DISCIPLINE TEAM

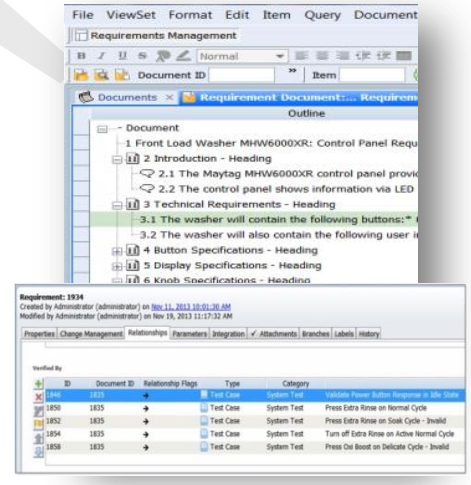
- Organizational transparency
- Access to systems of record
- Collaborate across disciplines

windchill®



Product Structures

integrity™

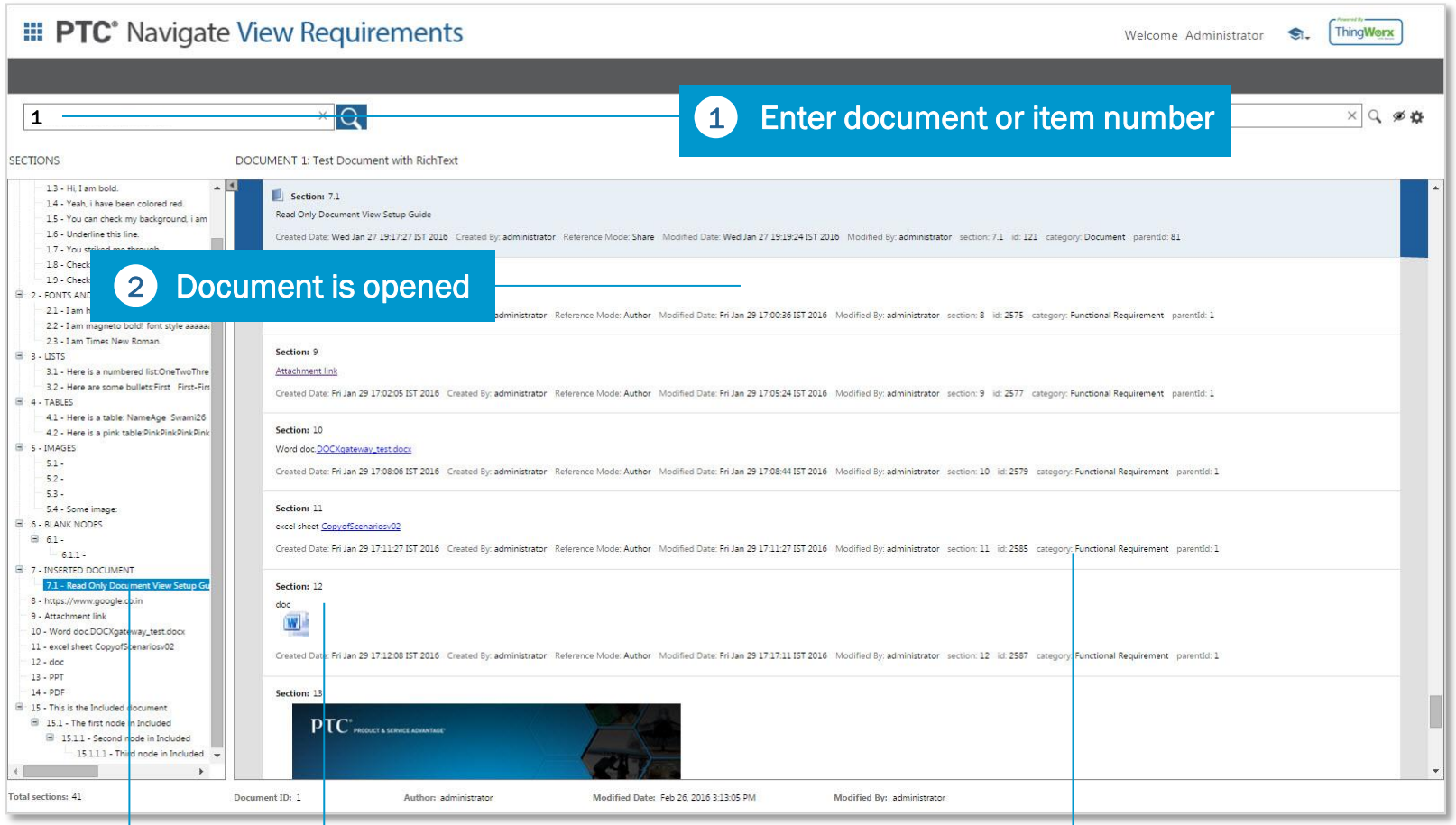


Requirements

ptc navigate™ view requirements

Capabilities

- View all Integrity Lifecycle Manager requirement or structured documents
- Displays all captured rich text information
- Fonts, tables, bullets, colors, subscript, superscript, etc.
- Embedded images and attachments
- Easily search and filter text
- Quickly open other inserted documents



Document structure with Row highlighted

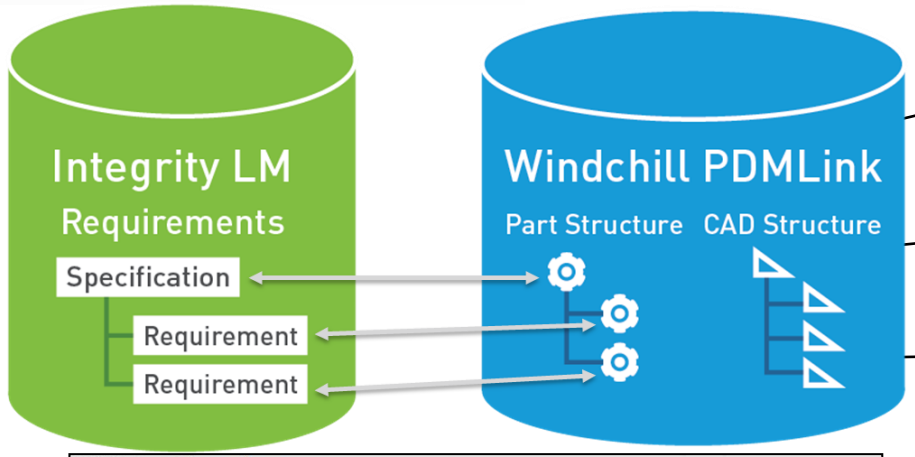
Inserted documents and objects accessible

Rich text information and properties displayed

REQUIREMENTS TRACEABILITY TO PRODUCT INFORMATION

Capabilities

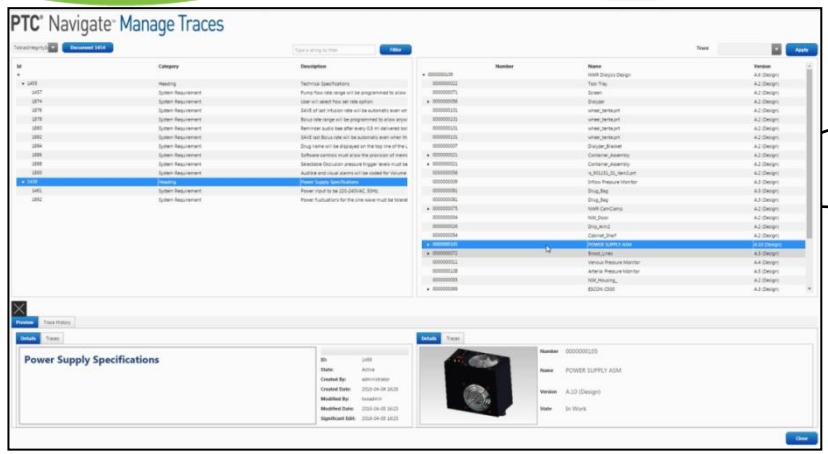
- Create traces without having to replicate data across systems
- Easily view Windchill information from Integrity Lifecycle Manager or Integrity Lifecycle Manager information from Windchill
- Task-based app to trace Integrity Lifecycle Manager Requirements to Windchill product information
- Leverage standards based infrastructure



Create Traces from Requirements to Parts without requiring Replication of data

View Related Parts from PTC Integrity Lifecycle Manager

View Related Requirements from PTC Windchill



Quickly construct Allocate and Satisfy Traces

Easy to use App Leverages PTC Navigate Framework

PTC® Navigate™ Manage Traces

BENEFITS

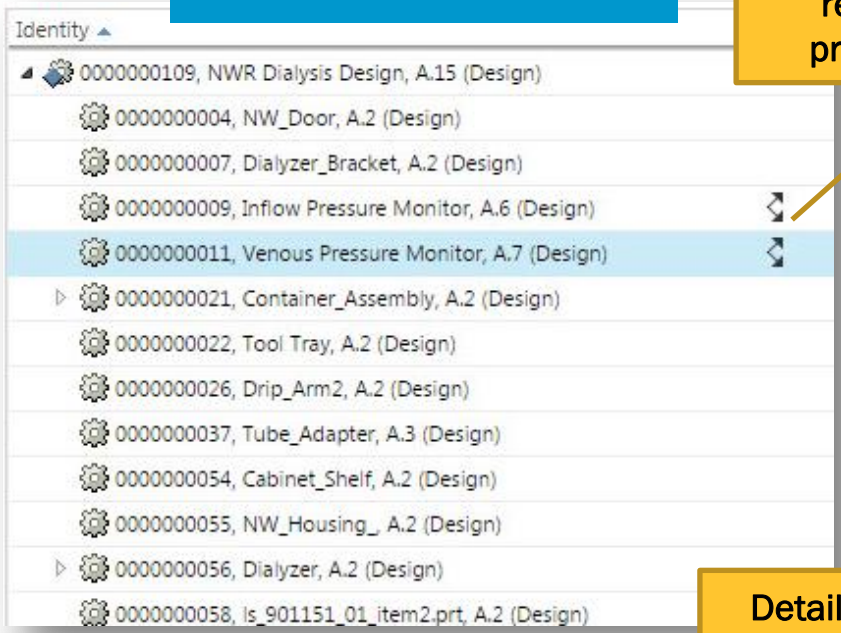
- Respond quickly to market & customer needs
- Ensure alignment of Requirements through the whole Product definition
- Reduce rework costs related to meeting Requirements
- Improve Verification by clear understanding of needs

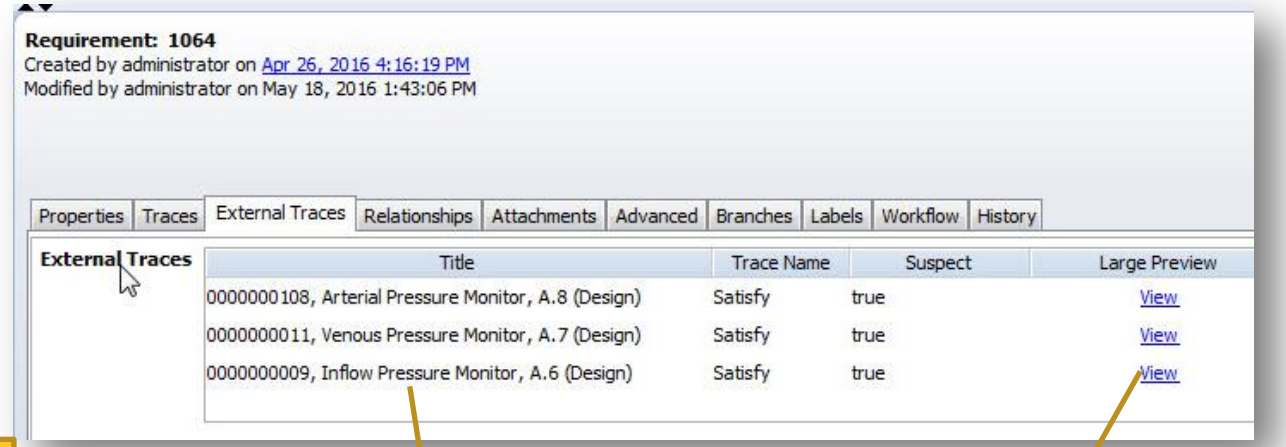
VISIBILITY AND TRANSPARENCY OF INFORMATION

Windchill

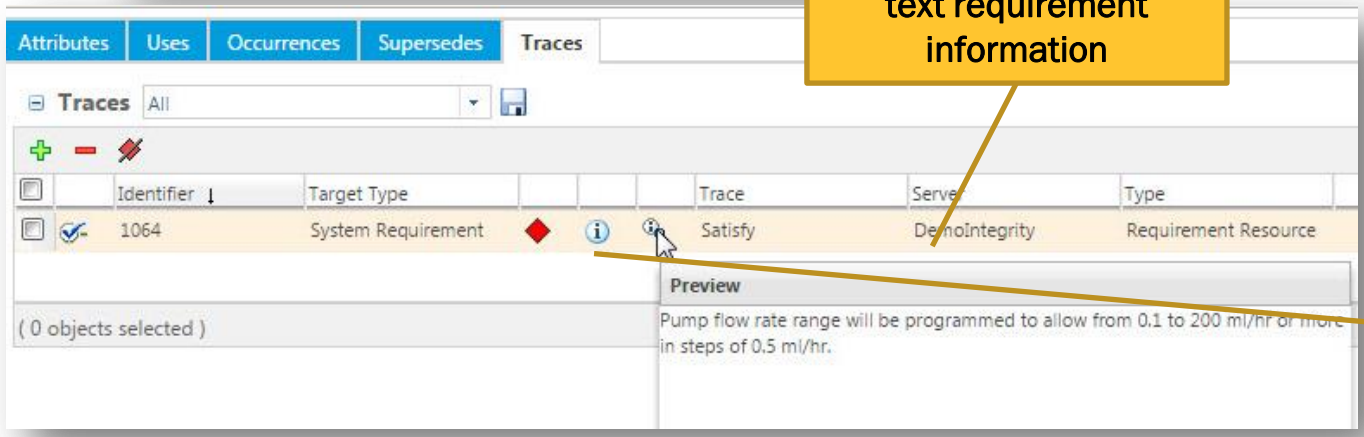
Integrity Lifecycle Manager

Quickly view related requirements in product structure





Detailed view of rich text requirement information



Easily view part details from related requirements

Direct access to native environment

SAFEGUARD

PRODUCT QUALITY AND COMPLIANCE

- Connected and traceable information
- Impact analysis
- Coverage analysis

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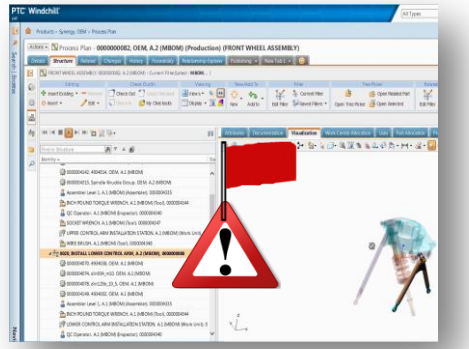
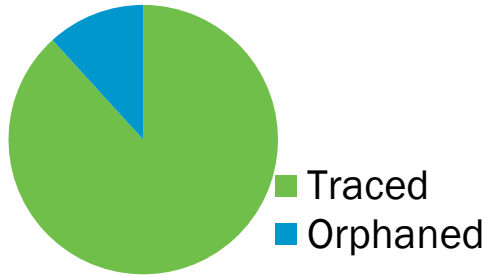
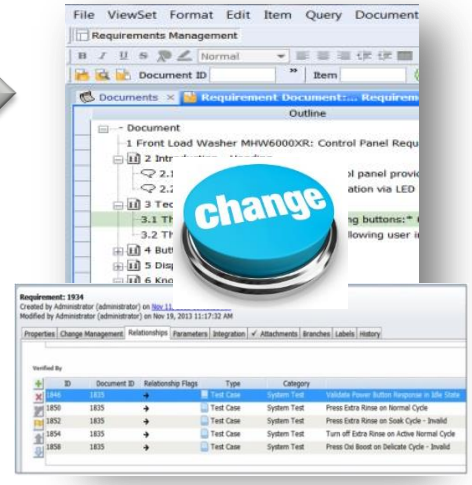


Product Structures

Compliance Report



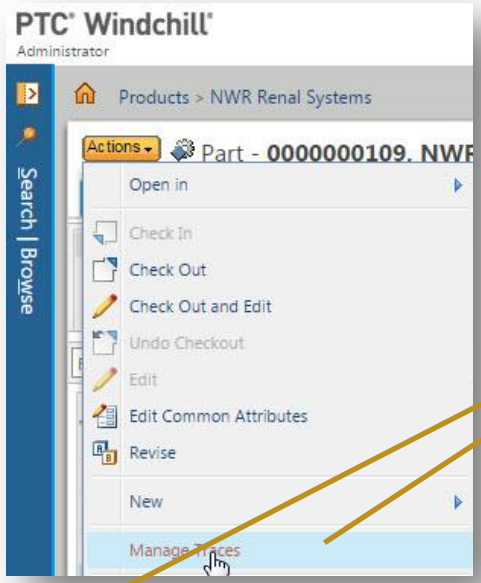


Requirements

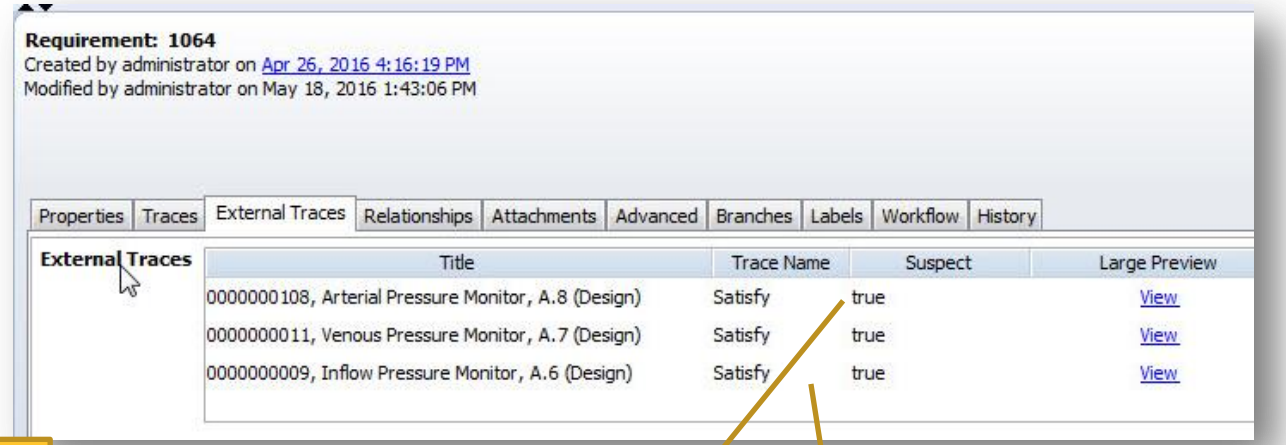
TRACEABILITY BETWEEN REQUIREMENTS AND PARTS

Windchill

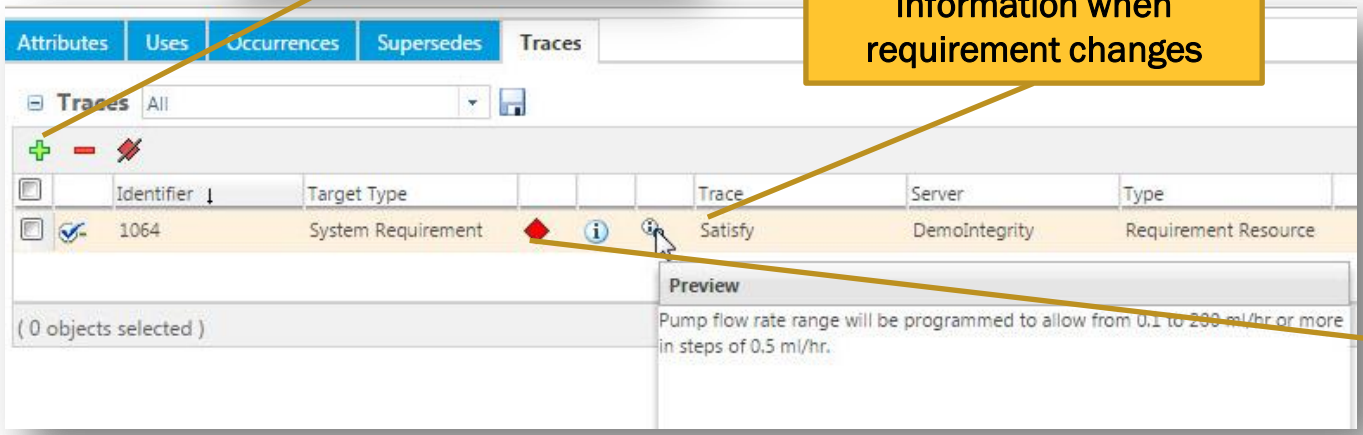
Integrity Lifecycle Manager



Launch Manage Trace application in context of product structure



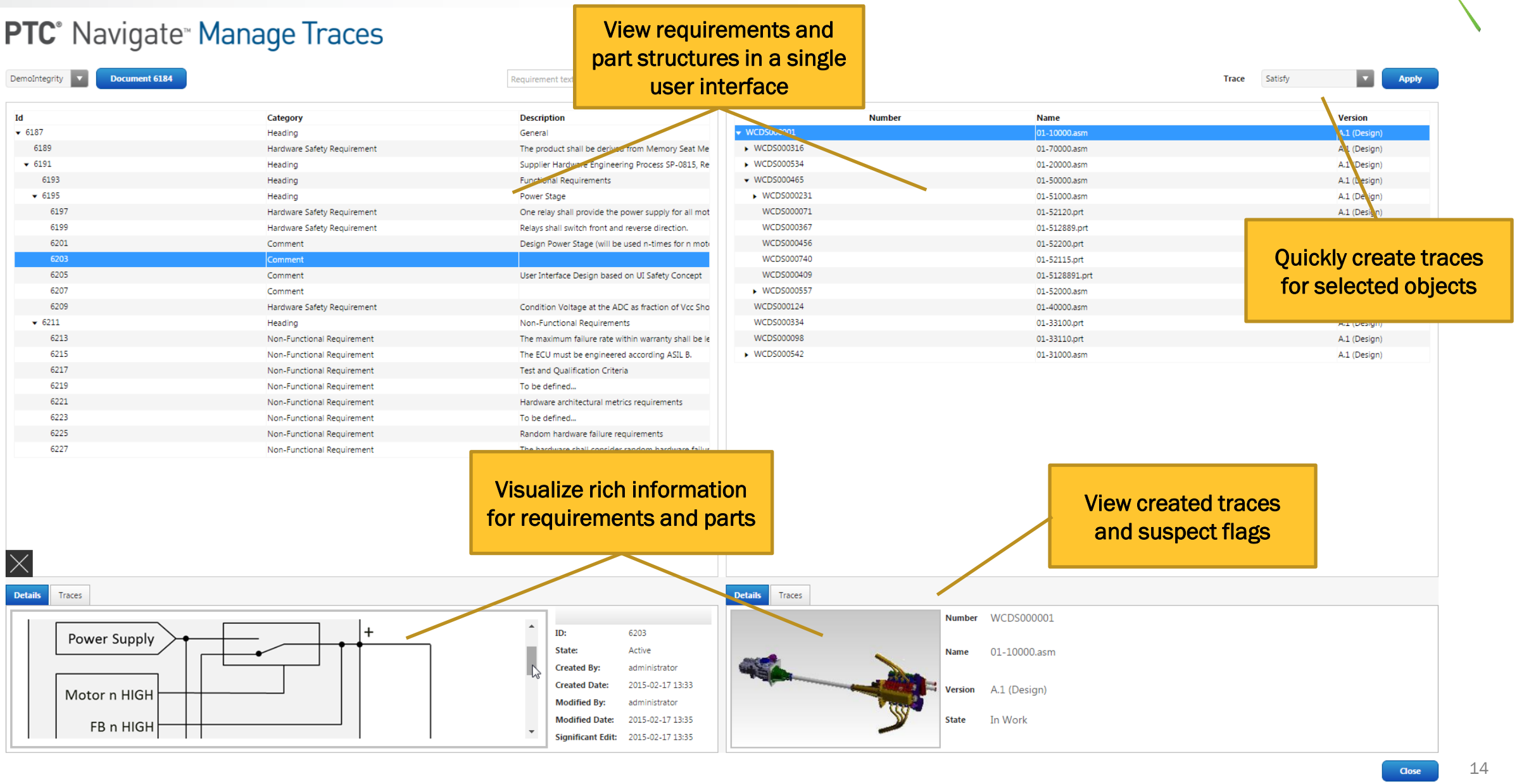
View trace and suspect information when requirement changes



Understand trace and suspect information to product structure

Suspect flag is a “live” update in both systems during change

TRACEABILITY BETWEEN REQUIREMENTS AND PARTS



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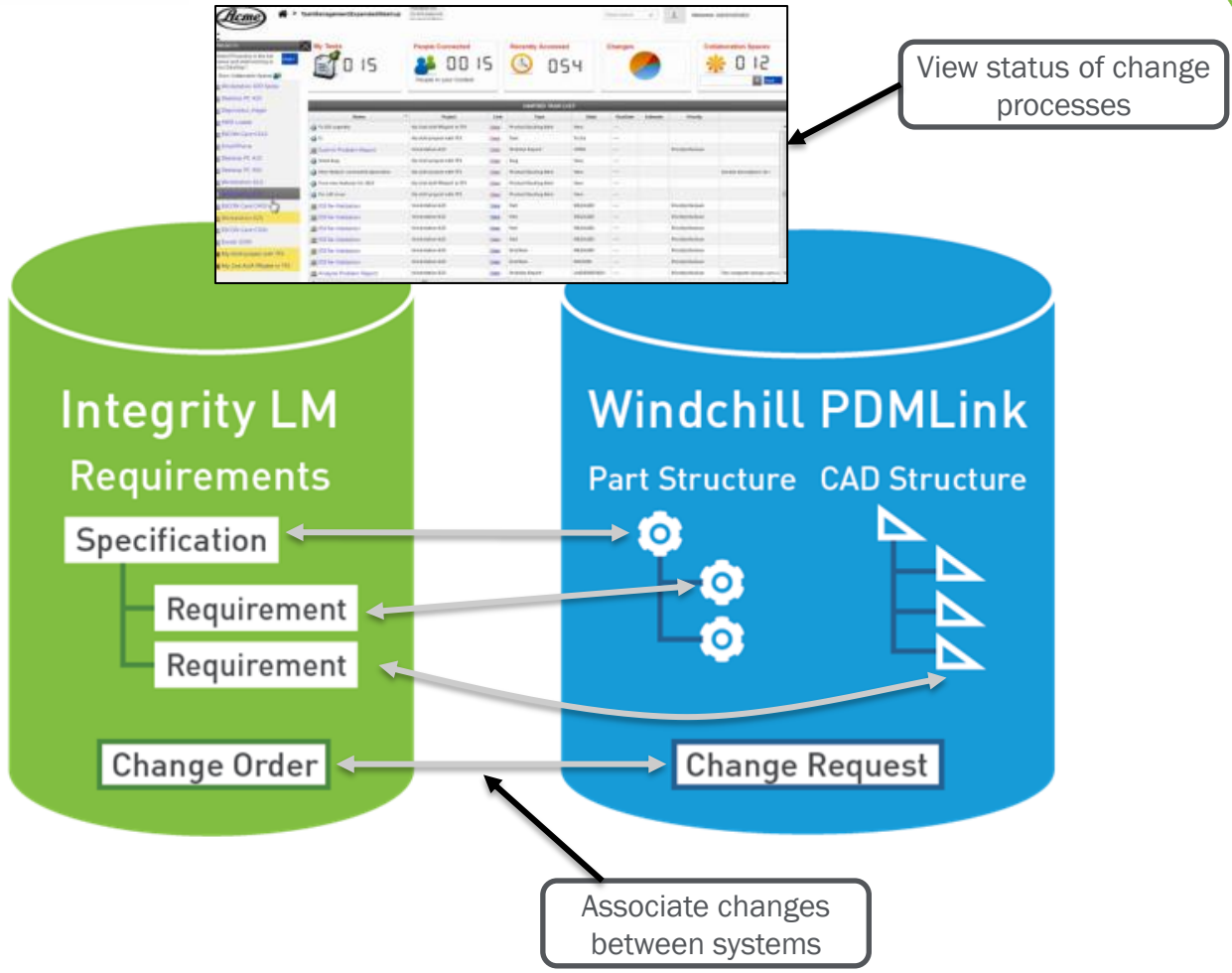
LIVE DEMONSTRATION

COORDINATED CHANGE MANAGEMENT PROCESS

CAPABILITIES

- Associate change processes and objects between Integrity LM and Windchill PDMLink
  - Provide process visibility & execution
- Visualize information about Integrity LM changes within a Windchill PDMLink change process
  - Streamlined view of linked information
  - Invoke application for more detailed access
- Common Change Reporting and Metrics across systems



BENEFITS

- Improve visibility into product releases
- Streamline activities across organization
- Improve compliance
- Reduce rework costs

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SUMMARY

- **Easily trace** Integrity LM requirements to Windchill parts
  - Quickly identify impact analysis of a requirement change
- **Simple user adoption** and training
  - User does not need to learn the other system
- **Linked data** across Windchill and Integrity LM
  - Data remains in system of record (*no replication or duplication*)
- Anecdotal integration pre-release customer feedback:
  - "Seems simple and easy to use"
  - "Very intuitive"
  - "Really like the approach of a focused app for the task"
  - "Can you make this app work for creating other relationships?"
  - "Investment is well spent on this effort"
- Available with Windchill 11.0 M010, Integrity 10.9, and ThingWorx 7.1
  - Similar installation and configuration to PTC Navigate
- Leverage same approach to trace Integrity Modeler elements to Windchill product structures

QUESTIONS?

liveworx.com