

# PTC® Live Global

## Protecting Your Intellectual Property with PTC Windchill

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Boston  
June 2014



Trends in Global Product Development

How PTC GPD Solution can address IP concerns

What's New

A Look into the Future

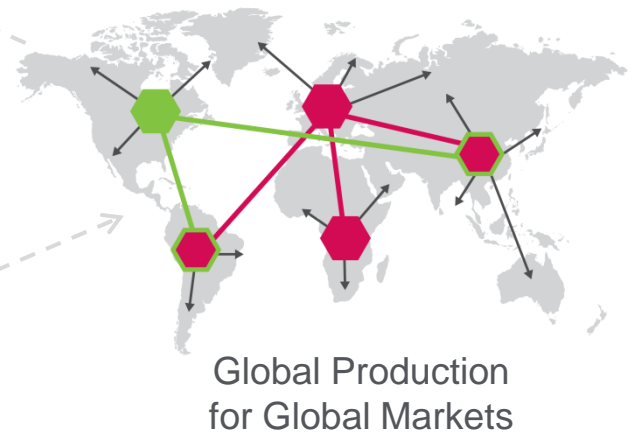
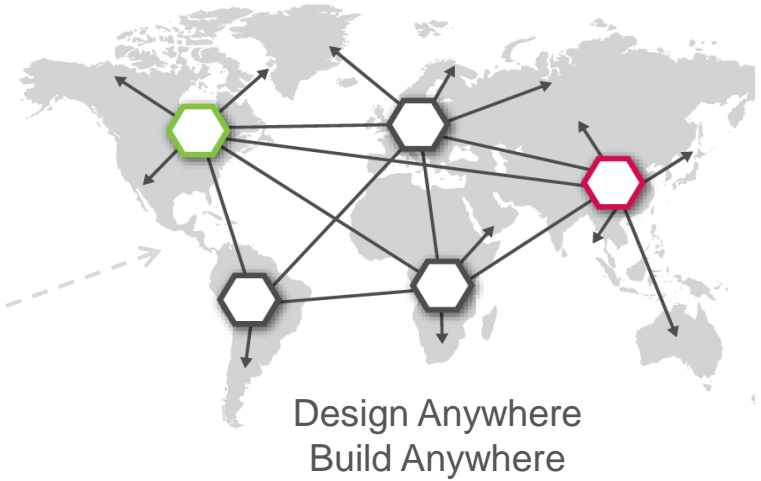




## Think globally, develop locally.

**Collaboration is not just about reducing costs: it's about driving business growth.**

Product development has become increasingly globalized in recent decades, generally evolving as follows:



“In a recent article from McKinsey & Company, it is anticipated that by 2025, annual consumption in emerging markets will reach \$30 trillion—the biggest growth opportunity in the history of capitalism.”

**Winning the \$30 trillion decathlon: Going for gold in emerging markets**  
Yuval Atsmon, Peter Child, Richard Dobbs, and Laxman Narasimhan

# How PTC GPD Solution can address IP concerns

### GLOBAL PRODUCT DEVELOPMENT

#### DOCUMENT MANAGEMENT

- Document Management
- Engineering Calculation Management

#### MECHANICAL CAD DATA MANAGEMENT

- MCAD Data Management
- MCAD Library Management
- Large MCAD Assembly Management

#### ELECTRONIC CAD DATA MANAGEMENT

- PCB Design Data Management
- ECAD Library Management

#### CHANGE MANAGEMENT

- Standardized, automated change mgt.
- Integrated, x-discipline change mgt
- Integrated product issue mgt
- Deviation / Waiver Management

#### CONFIGURATION MANAGEMENT

- Product config lifecycle mgt
- Integrated, cross-discipline BOM
- Product config sharing to enterprise
- Basic BOM Creation

#### Practice Groups

(Set of Best Practices recommended to be deployed together)

- Best Practice 2
- Best Practice 3

#### DESIGN COLLABORATION

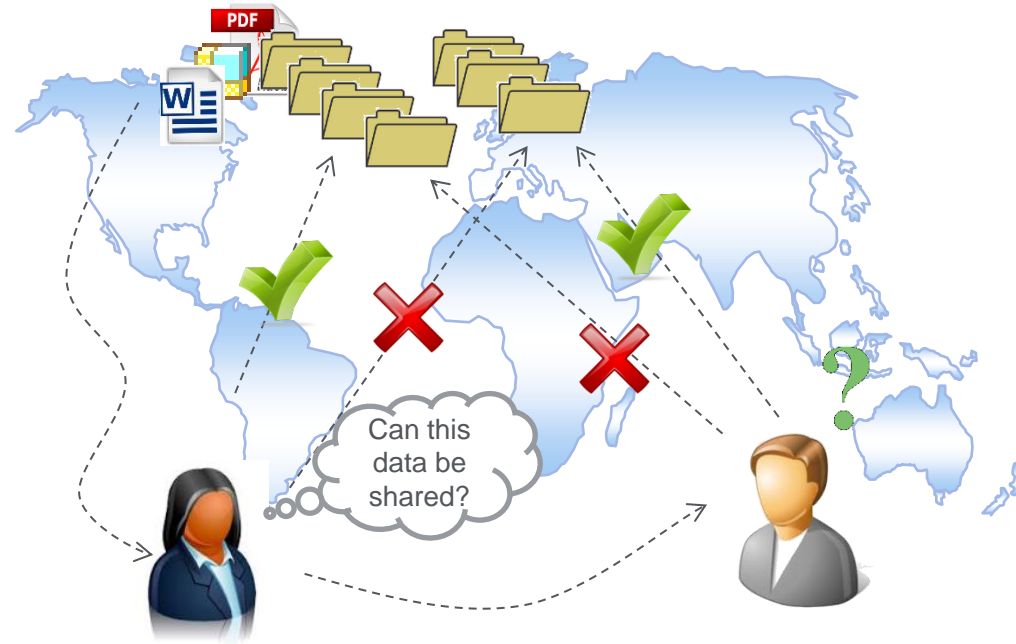
- ECAD/MCAD Collaboration
- Top Down Design
- Efficient Multi-MCAD Co-Design
- Context Based Large Assembly Design

#### SECURED DIGITAL COLLABORATION

- Advanced IP protection
- Content Protection

#### EXTERNAL COLLABORATION

- Distributed Collaboration
- Traceable product data sharing
- Partner Change Management



## Challenges

.....  
Difficulty balancing the protection of IP versus global development needs

Limited visibility of sensitive IP or data with security concerns

Data is overly locked down in fear of sharing sensitive IP

## Negative Consequences

.....  
Limited ability to find existing parts

Difficulty identifying what data can and cannot be shared

Less than optimal collaboration between distributed teams and partners

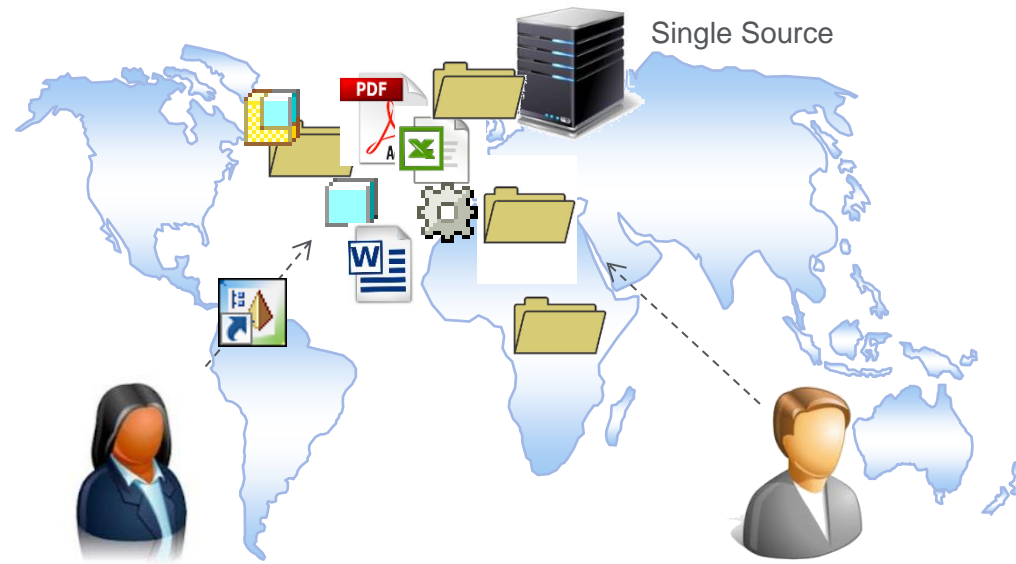
## Metrics

.....  
Limited design reuse

Inefficient collaboration

Higher risk of improper sharing of sensitive IP and exposure to legal action





## After Scenario

IP and sensitive data ID'd and protected

Restricting access to authorized users only

Improved global collaboration

Expanded reuse while protecting sensitive data

Controlled sharing of sensitive IP

Manage and track when sensitive information is being shared

## Positive Outcomes

Improved part and design reuse across the enterprise while protecting sensitive IP

Easily tag and identify IP and sensitive information

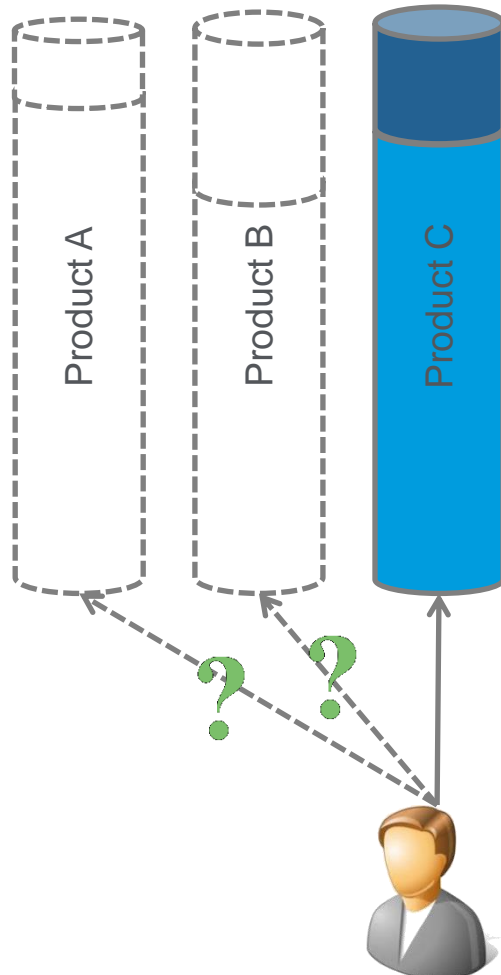
Ability to share sensitive data in a controlled and auditable manner

## Justification

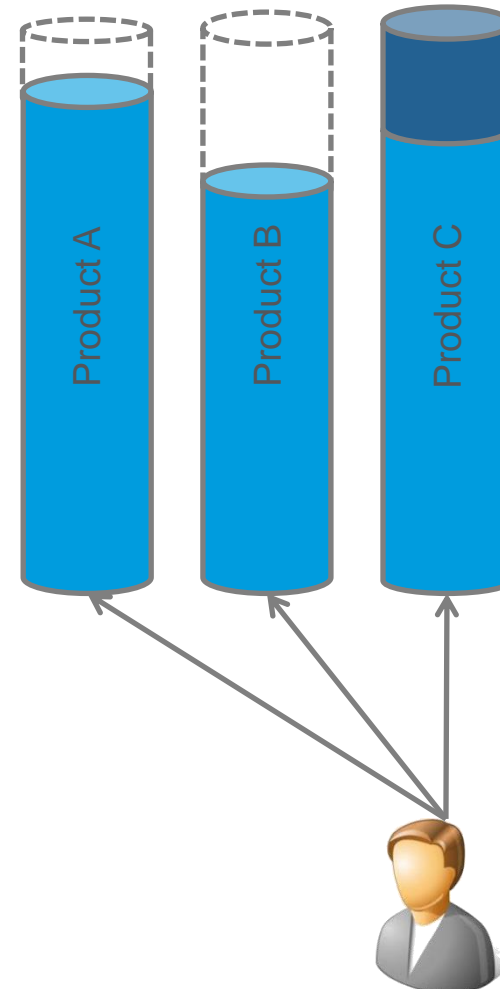
Typically a small percentage (<20%) of data is deemed sensitive in nature. Providing broader access to the 80% non-sensitive product information improves reuse and collaboration.

## Increase Collaboration and Reuse by managing risk to critical assets

Today's GPD Environment



Future State



- - Low IP
- - High IP

- “Classifying” sensitive information

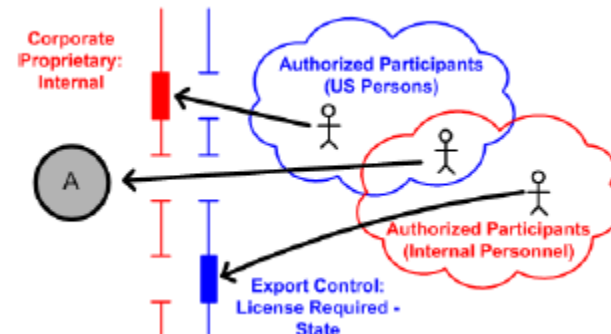
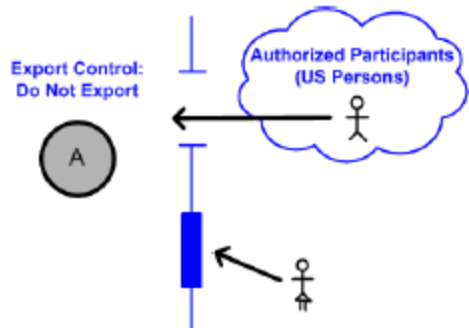
## Export Control

Values	Authorized Participants
No License Required (null value)	-
License Required - State	US Persons
License Required - Commercial	US Persons
Do Not Export	US Persons
Unknown	US Persons

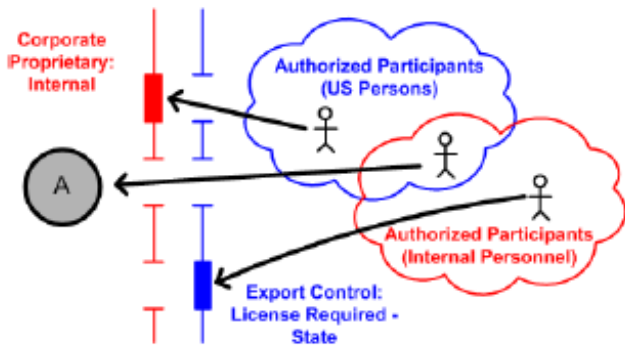
## Corporate Proprietary

Values	Authorized Participants
Public (null value)	-
Private	Employees
Internal	Internal Personnel
Company Most Private	Highly Trusted Employees

- Ability to restrict access to authorized users



## Manage accessibility by pairing Groups with Security Label values



File Name	Version	Corporate IP Level	Export Control
powertrain.asm	1.2	Low	Null
cl6_catback_exhaust_anc	A.1	Low	Null
2009_c6_exhaust_lite	A.1	Low	Null
cl6_catback_exhaust	A.1	Low	Null
cl6_supercharger_on_c6	A.1	High	Restricted
c6_base_engine_assy	A.1	High	Null
c6_radiator_and_shro	A.1	Low	Null
driveline.asm	A.1	Low	Null

Full Access

File Name	Version	Corporate IP Level	Export Control
powertrain.asm	1.2	Low	Null
cl6_catback_exhaust_and_oe.asm	A.1	Low	Null
2009_c6_exhaust_lite.asm	A.1	Low	Null
cl6_catback_exhaust_and_oe	A.1	Low	Null
cl6_supercharger_on_c6_engine	A.1	High	Restricted
driveline.asm	A.1	Low	Null
c6_bellhousing.prt	A.1	Low	Null
c6_manual_transaxle_001.prt	A.1	Low	Null
c6_manual_transaxle_002.prt	A.1	Low	Null
c6_manual_transaxle_003.prt	A.1	Low	Null
c6_manual_transaxle_004.prt	A.1	Low	Null
c6_manual_transaxle_005.prt	A.1	Low	Null
c6_manual_transaxle_006.prt	A.1	Low	Null
c6_manual_transaxle_007.prt	A.1	Low	Null

Restricted Access

Users with authorized groups have access

Deny access to users outside of authorized groups

# Secure Digital Collaboration Demonstration

CAD Part - 15868815\_10.prt x

tentwo.ptcnet.ptc.com/Windchill/app/#ptc1/tcomp/infoPage?oid=VR%3Awt.epm.EPMDocument%3A448779&ContainerOid=OR%3Awt.pdmlink.PDMLinkProduct%3A208027&u8=1

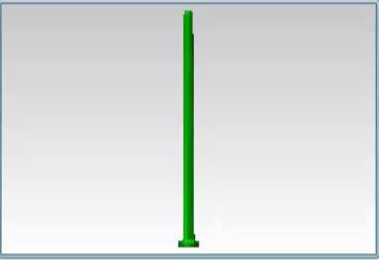
PTC Windchill demo

Products > CAL > Folders > Powertrain

Actions CAD Part - 15868815\_10.prt, A.2

Details Content Related Objects Changes History Traceability Relationship Explorer

Visualization and Attributes | More Attributes



**Visualization and Attributes**

- File Name: 15868815\_10.prt
- Number: 15868815\_10.PRT
- Name: 15868815\_10.prt
- Status: Checked in
- Modified By: Demo, User
- Last Modified: 2014-03-04 15:04 EST

**General**

Version:	A.2	Generic:	No
Authoring Application:	Creo	Instance:	No
Type:	CAD Document	Missing Dependents:	No
Document Category:	CAD Part	Incomplete Object:	No
Document Subcategory:		Description:	
Checkin Comments:			

**Security Labels**

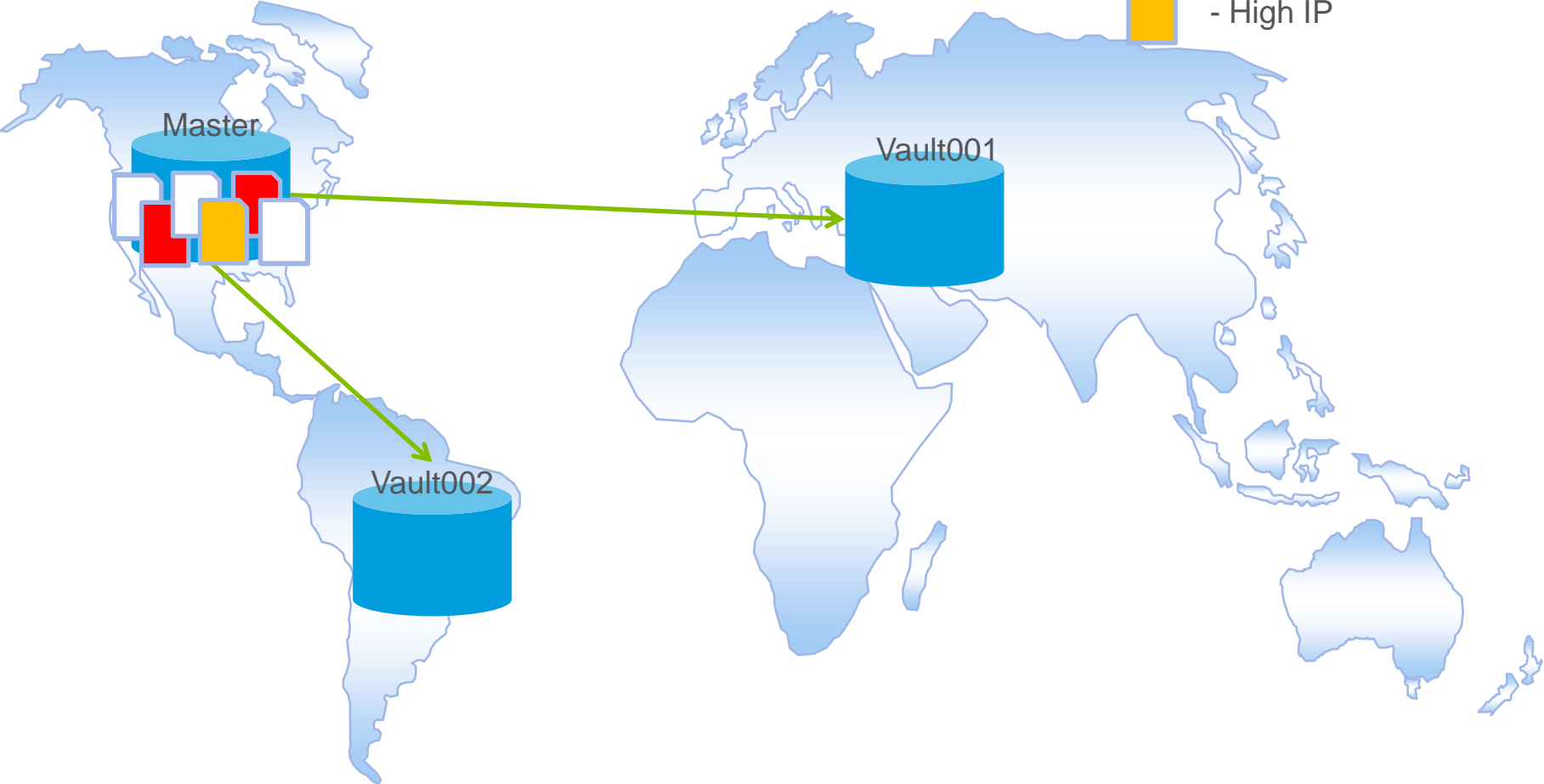
- Corporate IP Level: High
- Export Control: Null

**System**

Context:	CAL	Location:	/CAL/Powertrain
Created By:	Demo, User	State:	In Work - Released - Canceled
Created On:	2014-02-25 14:44 EST	Life Cycle Template:	Basic

## Content Replication

- Low IP
- Export Controlled
- High IP



## Content Replication

- By Setting Up Individual Replication Rules you can control what data is replicated
- The Principal specified conforms to Security Label access

The screenshot shows a 'New Site' dialog box with the following fields and controls:

- Site Name:** Vault0001
- URL:** (empty)
- Site Type:**  Master  File Server
- Context:** Site
- Description:** Site for replicating data to Vault0001 where data marked with security label Export Control is True should be excluded.
- Principal:** (empty)  (This field is highlighted with a red rectangle)
- Site Proximity:** master
- Buttons:**



Balancing globalization and maintaining a competitive advantage protection of corporate IP can be challenging. Although IP laws exist enforcement is inconsistent and REACTIONARY. Not PREVENTITIVE. PTC's Secure Digital Collaboration tools provide the necessary preventative measures to protect your IP before it is too late.

## Problem

- In effort to protect IP, restrictive data access between product groups
- Resulting in duplicate parts and design efforts
- Uncertainty of what can be shared with groups and partners

## Solution

- Expand read access across product areas
- Deploy security labels to identify and protect sensitive information
- Manage exceptions with Agreements
- Leverage modeling simplification to protect IP

## Results

- Improved Part reuse  
→ (*Improved costs & 'economies of scale'*)
- Standardized processes for identifying and managing IP across the enterprise
- Frictionless internal and external collaboration
- *Further protection of sensitive IP and export controlled data*



# What's New

- When a customer configures and enables security labels in their Windchill system they may have hundreds of thousands or even millions of existing objects that they need to affix security label values before opening up the system to broader access.
- While security labels can be set through the Manage Security UI, that has to be done one object at a time or by selecting a small number of objects and setting them to the same security label/value. Highly impractical, cumbersome and slow.
- In addition, different product owners in the system may be the ones who know what the security classification of their objects should be, making it difficult for an administrator to simply take large numbers of objects and set their security label values.

## New Security Label batch update utility available with 10.2 M020

### Key Capabilities

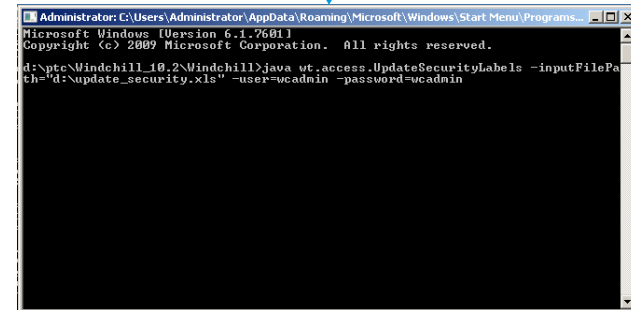
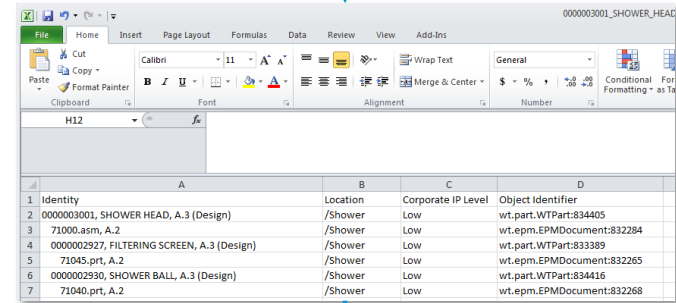
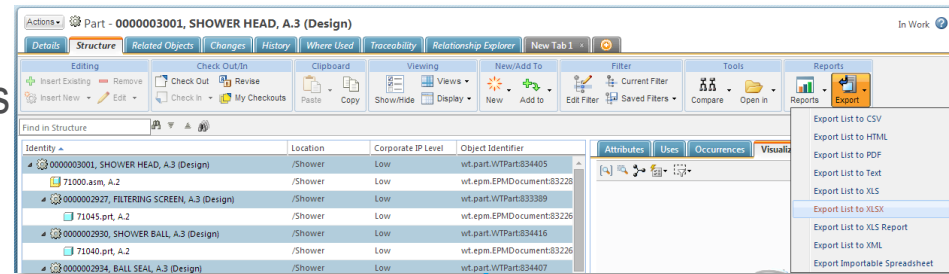
- Support setting SL values for existing data
- Set individual versions or set for all versions
- Log support for troubleshooting purposes

### Process

1. Export reports from system using existing tools/capabilities
2. Assign SL labels (spreadsheet support)
3. Batch load updates to set SL

### • For More Details

- Fully documented in Windchill Help Center
- Search Help Center for “UpdateSecurityLabels”
- Includes information on configuration, options, execution and output logs



## Difficulty for CAD user to work with Security Labels

- Can't view security label information without leaving the context of the workspace
- Limited capabilities for setting security labels during the creation process
  - Need to set them as designated parameters in the CAD files, or
  - Utilize the File > New CAD Document wizard

# The Solution

## Security Labels in the Workspace in 10.2 M020

- Add Security Labels to Workspace table views

Setup table views to include Security Labels

Workspace: Workspace on Shower - Pick an Action -

Object List As a list All plus Security Label Info (10 objects)

File Name	Actions	Version	Corporate IP Level	Export Control	State
54167.prt		A.2	High	Null	In Work
54258.prt		A.2	High	Null	In Work
54379.prt		A.2	High	Null	In Work
54692-00.prt		A.2	High	Null	In Work
72230.asm		A.2	High	Restricted	In Work
72235.prt		A.2	High	Null	In Work
72245.prt		A.2	High	Null	In Work
72250.prt		A.2	High	Null	In Work
72265.prt		A.2	High	Null	In Work
test_sl.prt		A.1	Low	Null	In Work

(0 objects selected)

- Set Security Label values during Check In process

When Security Labels included in check-in table view...

Select Security values from drop-downs in Check-in UI

Check In

1 Collect Objects 2 Set Options

Current Settings: All dependents

Object List As a List Modified and New with SL (1 of 1 objects)

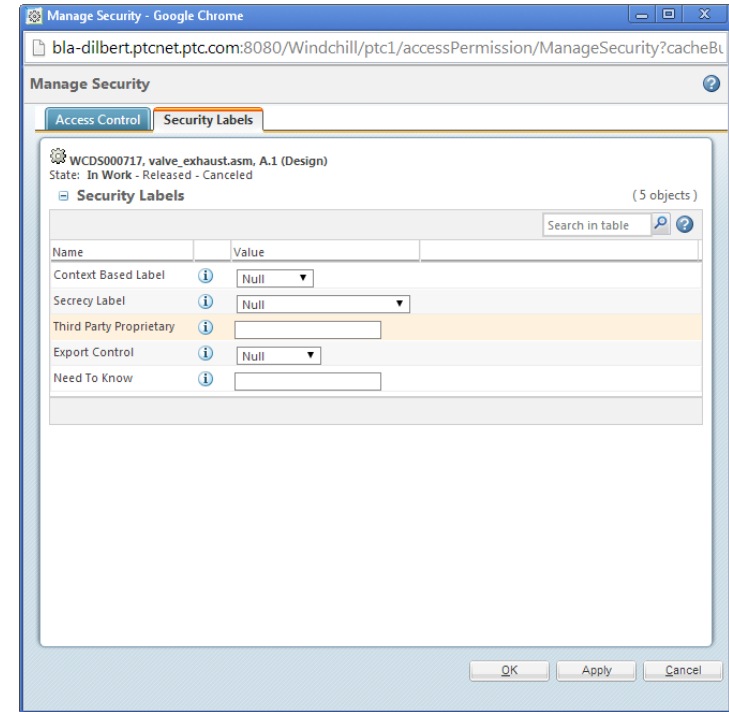
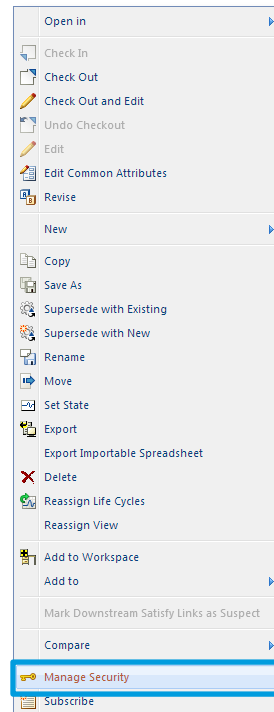
Number	Name ↑	File Name	Version	Collection Rule	Location	Corporate IP Level	Export Control
TEST_SL.PRT	test_sl.prt	test_sl.prt	A.1	Initially Selected	/Shower	Low	Null

(0 objects selected)

Set `com.ptc.windchill.uwgm.cadx.checkin.SecurityLabelEditing=true` in `wt.properties` to enable

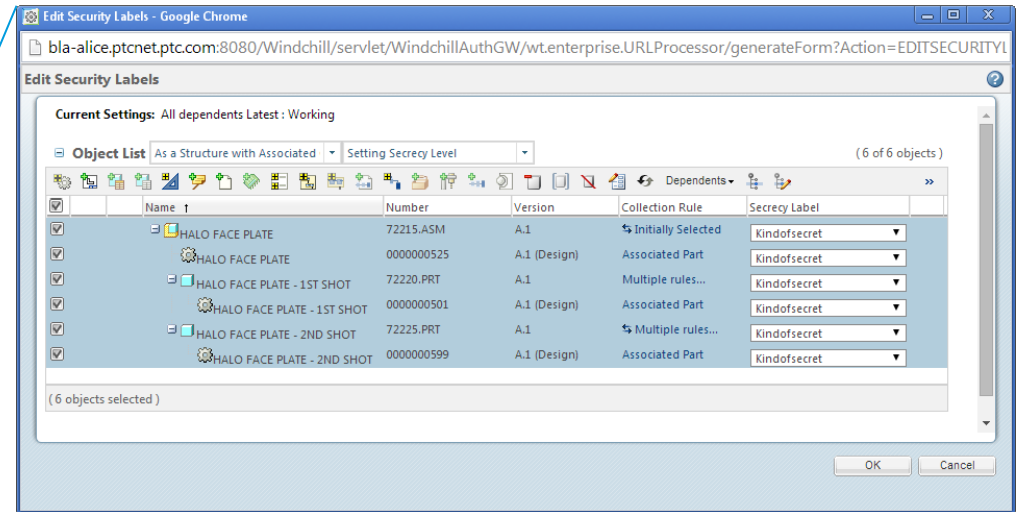
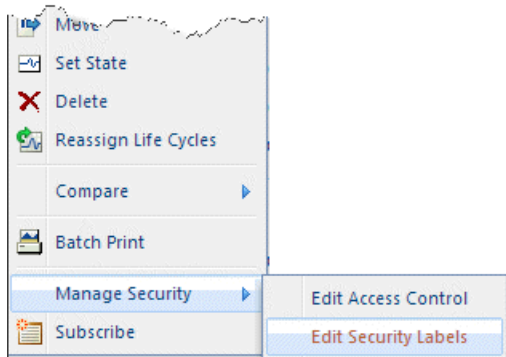
## Setting and managing Security Labels can be a challenge

- Security label changes are only allowed on objects one at a time or using multi-select from a folder view or search results
- Changing of security labels only applies to the version selected and not all versions of a given object



## Introduce Collection Capabilities for Editing Security Labels

- Collector component integrated into the Edit Security Labels UI
- Access Control and Edit Security labels split into separate menu items



- Coming in **10.2 M030**

## Introduce Collection Capabilities for Editing Security Labels

- **New property setting to allow setting label values for All Versions**

wt.properties:

```
com.ptc.core.security.editSecurityLabels.allVersions
```

Add the following to site.xconf and then propagate changes using xconfmanager


```
<Property name="com.ptc.core.security.editSecurityLabels.allVersions" overridable="true"  
    targetFile="codebase/wt.properties"  
    value="true"/>
```

- **Default value = false**

- Security labels only updated on the versions of objects that are displayed in the collector

- **When value=true**

- Security labels set for versions displayed as well as for all versions
- It does not trace dependencies for versions not displayed
- Following message displayed in the Edit Security Labels UI when enabled

 The security label updates made in this table will be applied to all versions of the objects in the table rather than only the listed version.

- **Coming in 10.2 M030**



# The Solution

All with Security Labels

Actions

	Number	Name	Version	State	Last Modified	Security Label
	54194-053.PRT	WASHER_THK062	A.1	In Work	2014-05-19 15:33 CDT	Null
	54194-061.PRT	WASHER_THK031	A.1	In Work	2014-05-19 15:33 CDT	Null
	72215.ASM	PLATE	A.1	In Work	2014-05-19 15:33 CDT	Null
	74010.PRT	DL VALVE	A.1	In Work	2014-05-19 15:33 CDT	Null
	54692-03-1.PRT		A.1	In Work	2014-05-19 15:33 CDT	Null
	54194-032.PRT	45	A.1	In Work	2014-05-19 15:33 CDT	Null
	72250.PRT	EYE	A.1	In Work	2014-05-19 15:33 CDT	Null
	54194-021.PRT	31	A.1	In Work	2014-05-19 15:33 CDT	Null
	54194-103.PRT	62	A.1	In Work	2014-05-19 15:33 CDT	Null
	54194-090.PRT	20	A.1	In Work	2014-05-19 15:33 CDT	Null
	54692-01-3.PRT		A.1	In Work	2014-05-19 15:33 CDT	Null
	54147.PRT		A.1	In Work	2014-05-19 15:33 CDT	Null
	71000.ASM	0	A.1	In Work	2014-05-19 15:33 CDT	Null
	54194-012.PRT	45	A.1	In Work	2014-05-19 15:33 CDT	Null
	71005.PRT	NG	A.1	In Work	2014-05-19 15:33 CDT	Null
	54692-02-3.PRT	2	A.1	In Work	2014-05-19 15:33 CDT	Null
	54194-051.PRT	31	A.1	In Work	2014-05-19 15:33 CDT	Null
	54194-033.PRT	62	A.1	In Work	2014-05-19 15:33 CDT	Null
	71050.PRT	WASHER	A.1	In Work	2014-05-19 15:33 CDT	Null
	54194-030.PRT	20	A.1	In Work	2014-05-19 15:33 CDT	Null
	54194-072.PRT	45	A.1	In Work	2014-05-19 15:33 CDT	Null
	73010-01.PRT	0 - 2ND SHOT	A.1	In Work	2014-05-19 15:33 CDT	Null
	72245.PRT	PLATE	A.1	In Work	2014-05-19 15:33 CDT	Null
	54243.PRT		A.1	In Work	2014-05-19 15:33 CDT	Null
	73000_INTERCHA	0 INTERCHANGE	A.1	In Work	2014-05-19 15:33 CDT	Null
	54194-023.PRT		A.1	In Work	2014-05-19 15:33 CDT	Null
	54194-040.PRT		A.1	In Work	2014-05-19 15:33 CDT	Null
	54167.PRT	O-RING	A.1	In Work	2014-05-19 15:33 CDT	Null
	74000.ASM	SHOWER FLOW CONTROL	A.1	In Work	2014-05-19 15:33 CDT	Null

View Information

Open In

Add to Workspace

Add To

Check Out

Edit Attributes

Revise

Edit Associations

Build Associated Part

New

Copy

Save As

Rename

Move

Set State

Delete

Reassign Life Cycles

Compare

Batch Print

Manage Security

Subscribe

Edit Access Control

Edit Security Labels

## Navigating Agreements

- Agreements are a powerful tool for granting temporary access to protected data
- Difficult to navigate and find items that are affected by an Agreement
  - Need to be an Agreement manager
  - Navigate through list of agreements one-by-one

Standard Agreement - 000000282 (Project X Agreement), A.1 Pending Approval

Authorized Objects (6 objects)

Name	Number	Authorized Revisions	Context	Authorization Status
SPRAY HEAD	72140.ASM	B	Shower	Active
HEAD	000003015	C	Shower	Active
TUBE	72150.PRT	A	Shower	Active
TUBE	000002970	A	Shower	Active
HEAD	72145.PRT	C	Shower	Active
SPRAY HEAD	000002953	B	Shower	Active

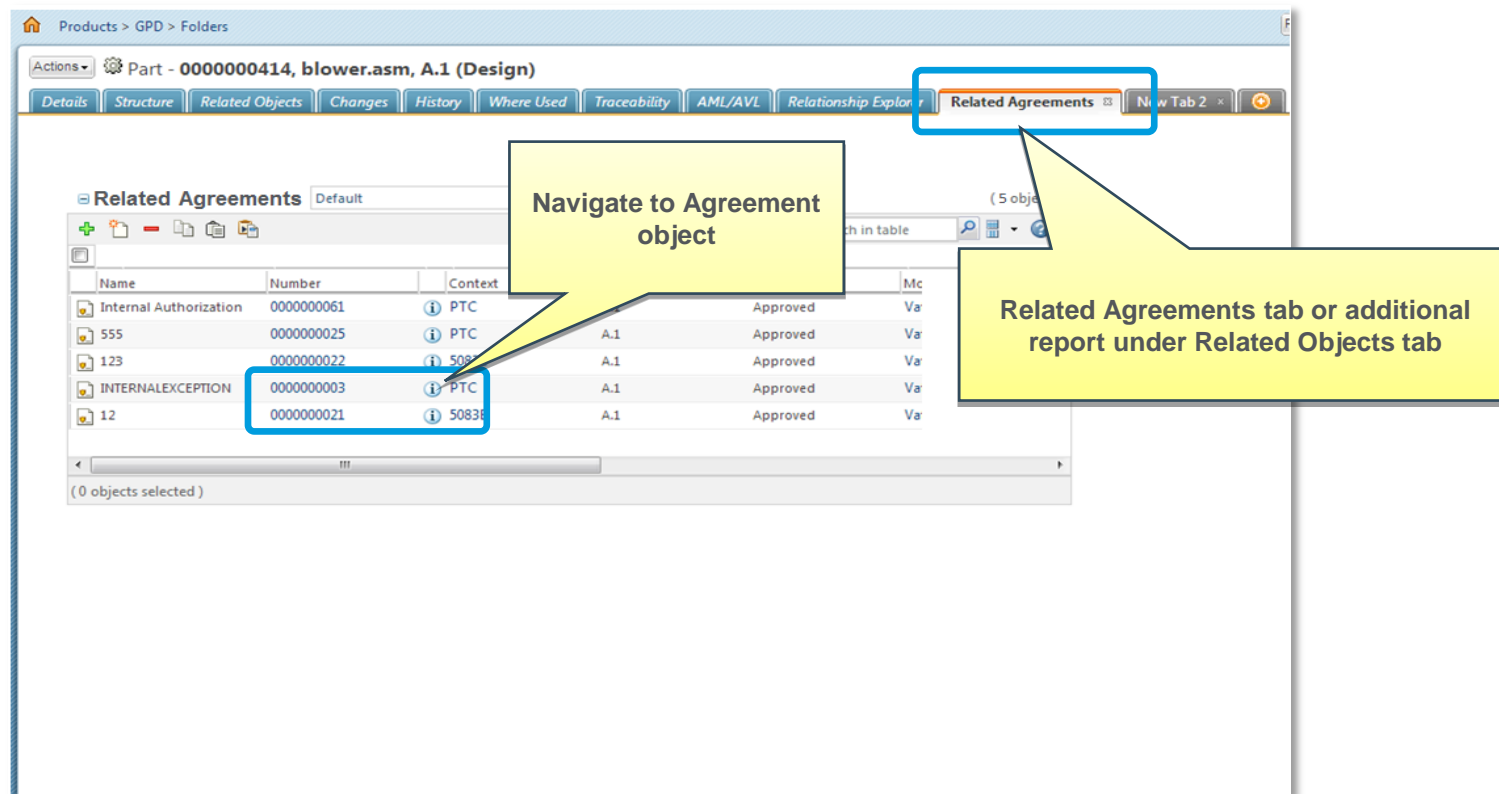
Agreement Folder Contents Agreements and Folders (3 objects)

Name	Number	Version	Type	Agreement Status
Temporary access grant	000000283	B.2	Context Level Agreement	Pending
Temporary Access Agreement	000000281	A.2	Context Level Agreement	Pending
Project X Agreement	000000282	A.1	Standard Agreement	Inactive

(0 objects selected)

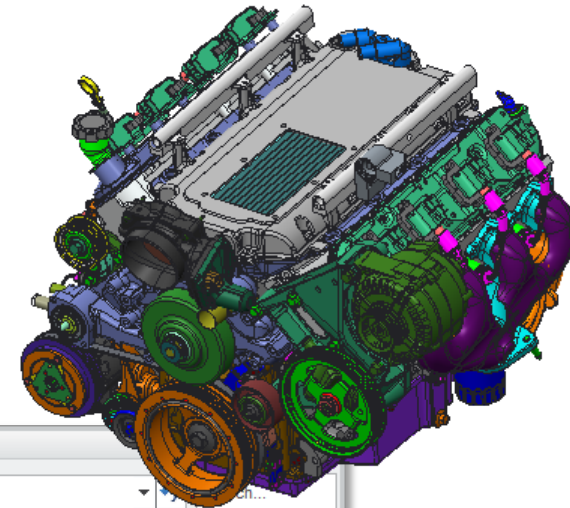
Related Agreements Report planned for **10.2 M030**

- New Report Available from Object Information Pages
- Providing list of Agreement participation
- Authorized users able to navigate to Agreement details

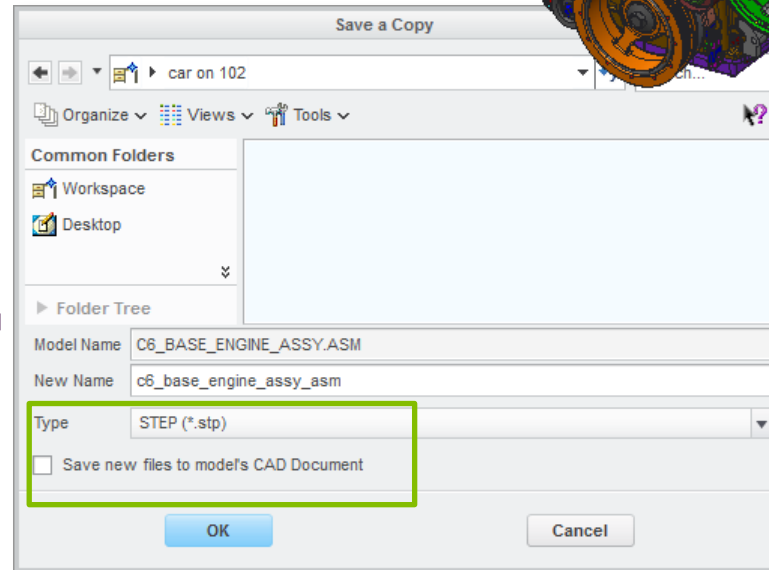
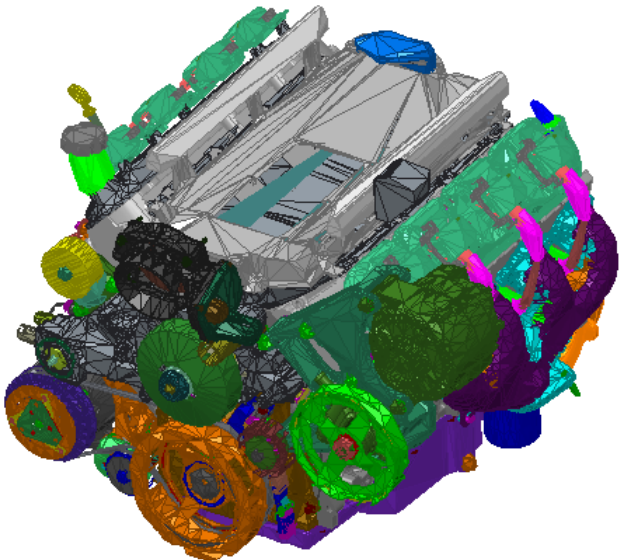


- Protect full fidelity design information containing sensitive IP
  - Create and manage simplified derivatives
  - Enable broader access to simplified models protecting competitive and IP assets

Native Model and Design containing Sensitive IP



Simplified version for broader audience



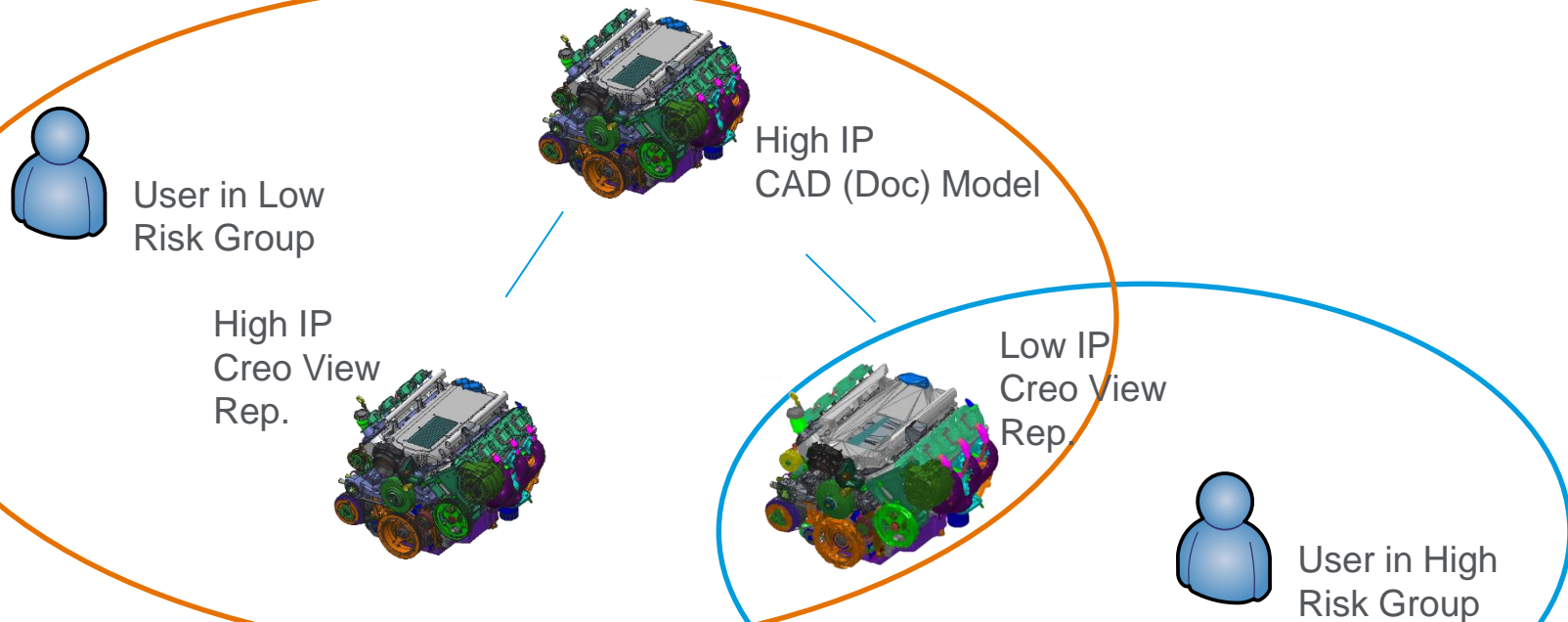
## Under Consideration for Future Releases

- **Multiple Fidelity Support**

- Create Creo View representations with varying degree of details to fit needs and rolls of different users
- More granular access levels

- **IP Aware Retrieval**

- Leverage multi-fidelity
- User with limited access automatically streamed content format which they have authorization



- GPD trends clearly resulting in growing concerns for IP
- Uptick in customer interest in PTC GPD Solution Secure Digital Collaboration capabilities
- PTC Security Labels evolving from original A&D origins to address the needs across multiple verticals
- Strong future roadmap supporting Secure Digital Collaboration



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