

PTC® Live Global

PTC114: Part Types In PTC Windchill



Graham Birch

Director of PLM solutions - PTC

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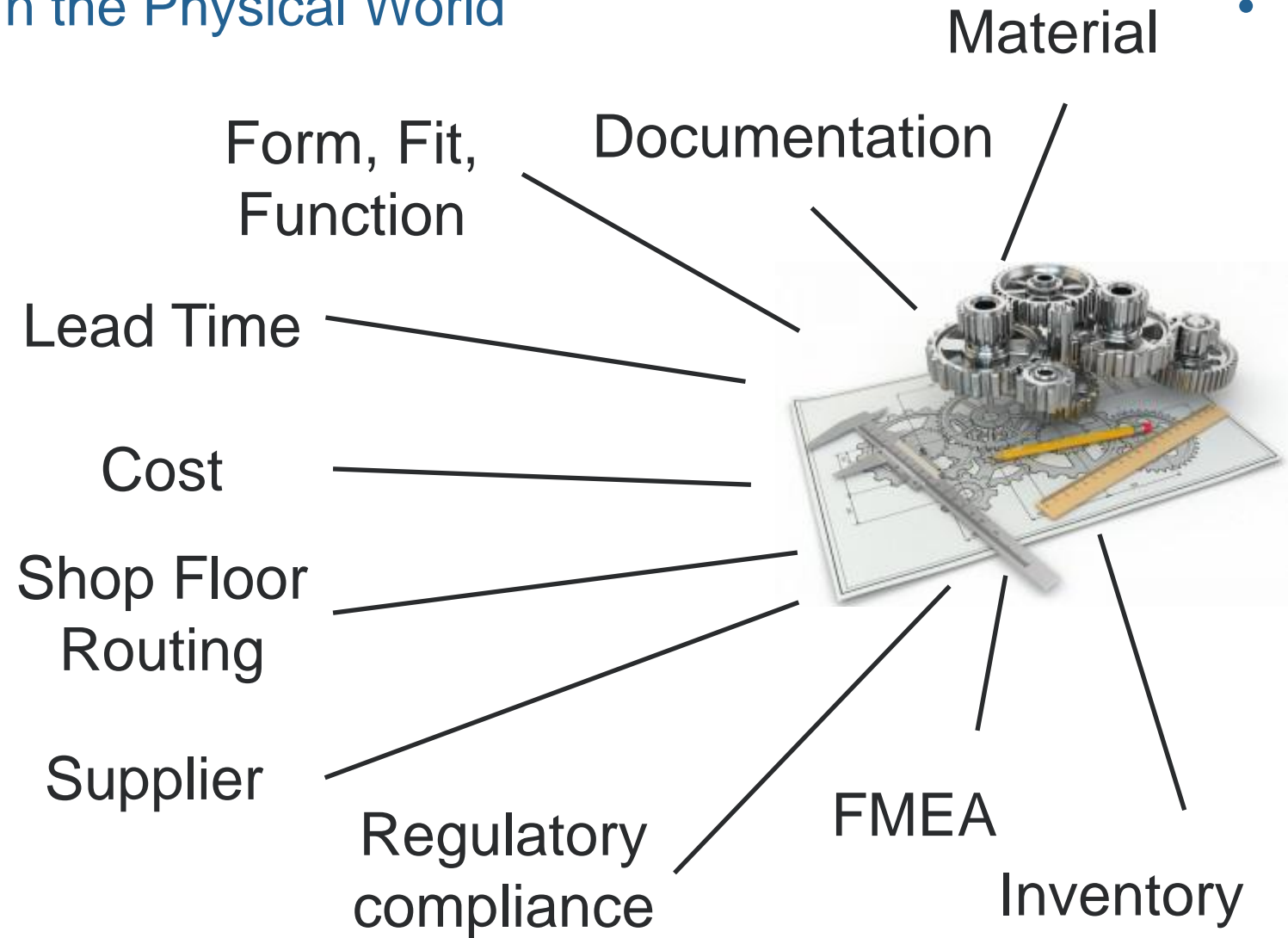


What is a Part?



Trivia Question: What is the first known recorded use of interchangeable parts?

- In the Physical World

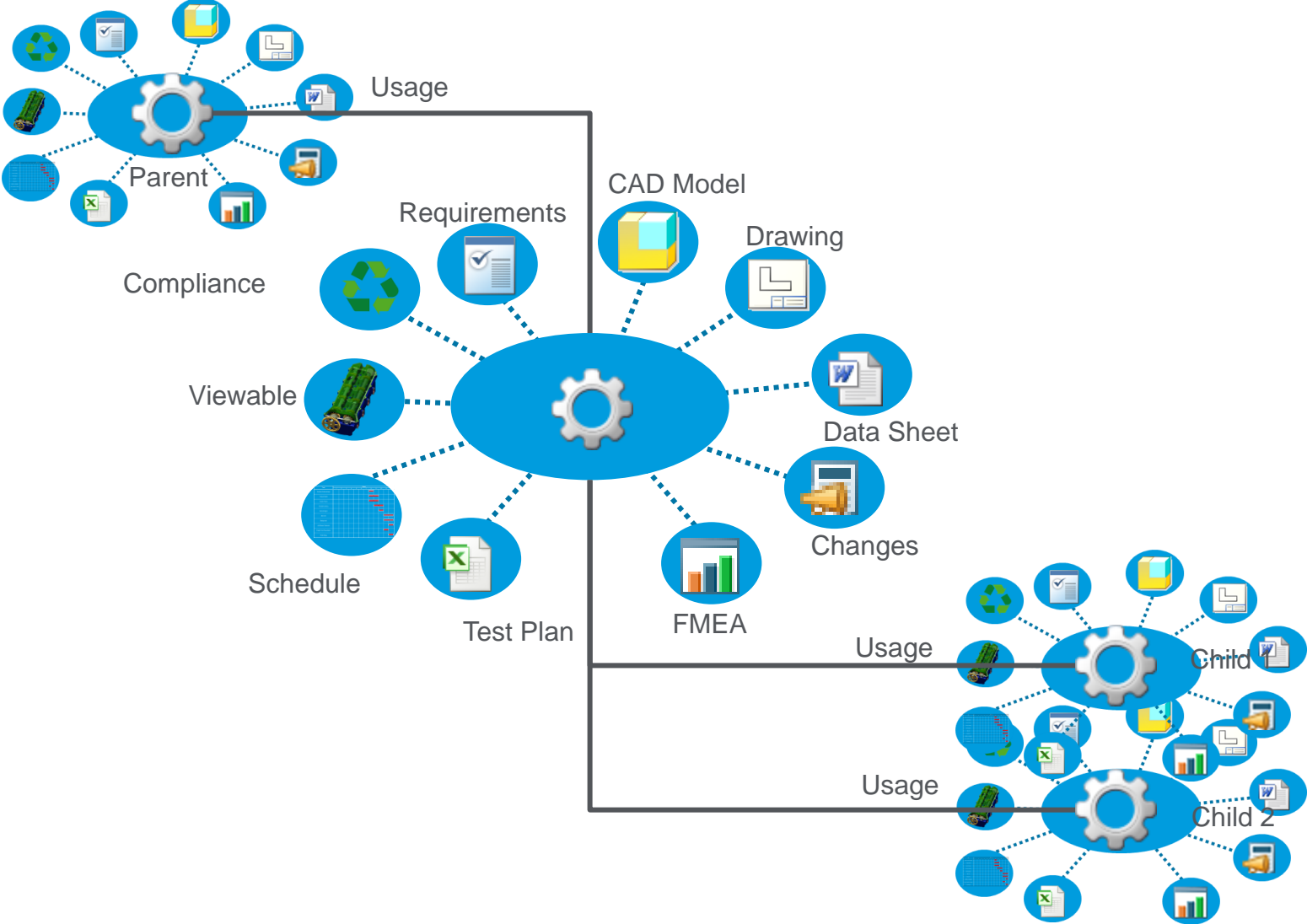


- In The Digital World

- A PTC Windchill Part object represents a physical part
- A Part can be either a component or an assembly
- A Part is described by:
 - Part Number and Name
 - Lifecycle state
 - Additional Attributes
 - Relationships to other parts, documents & objects

Folder Contents All

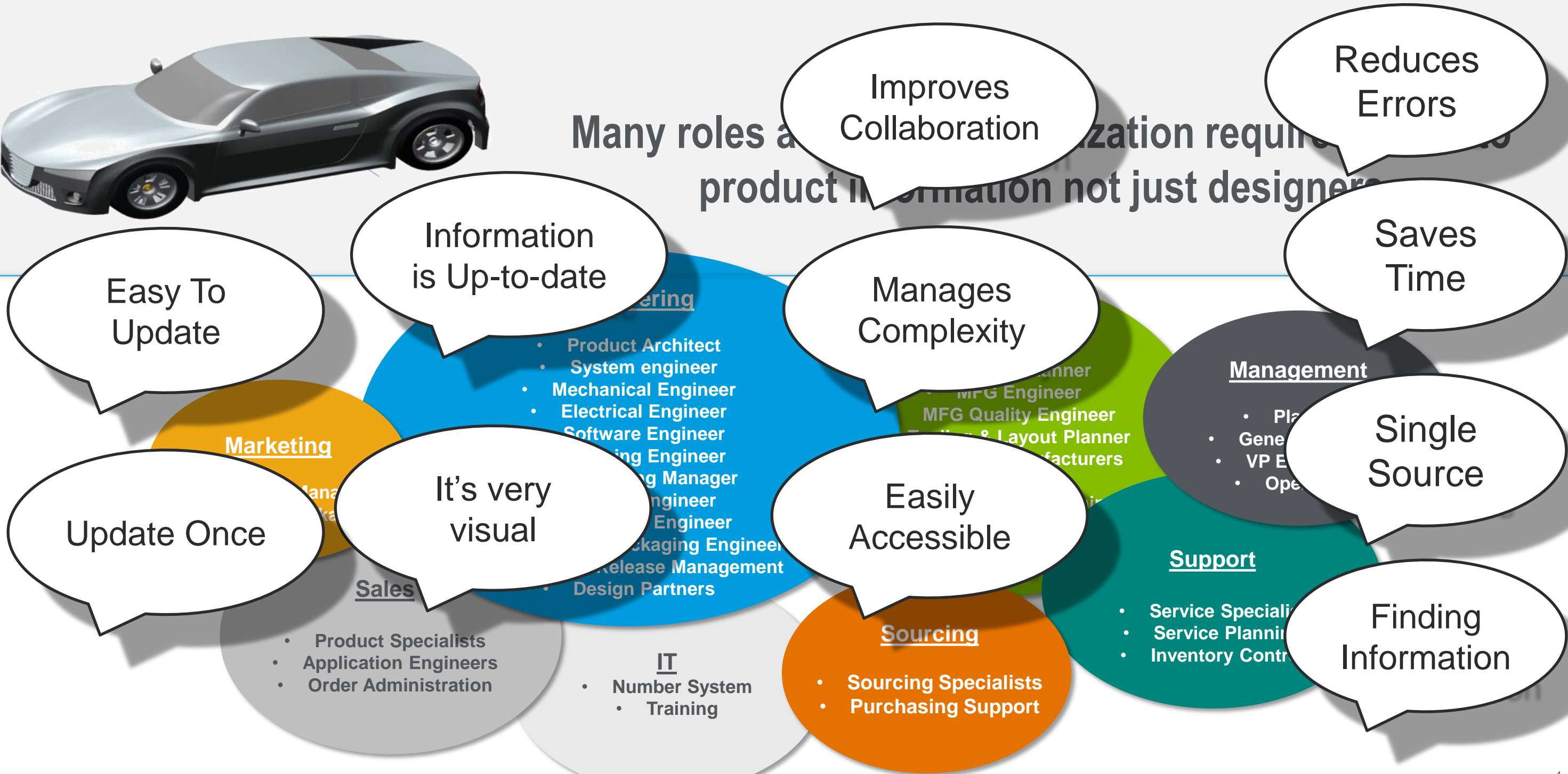
	Number	Name	Version	State	Last Modified
	070153	CAPACITOR, 390 nF	A.1 (Design)	Released	2012-04-20 13:19 CDT
	070067	CAPACITOR, 390nF, 50V, 10%,...	A.1 (Design)	Released	2012-04-20 13:19 CDT
	070073	CAPACITOR, 47µF, 50V, 5%, S...	A.1 (Design)	Released	2012-04-20 13:19 CDT
	070150	CAPACITOR, 470 pF	A.1 (Design)	Released	2012-04-20 13:19 CDT
	070149	CAPACITOR, 5.6 pF	A.1 (Design)	Released	2012-04-20 13:19 CDT
	070141	CAPACITOR, 56 nF	C.1 (Design)	Released	2012-04-20 13:19 CDT
	070152	CAPACITOR, 56 nF	A.1 (Design)	Released	2012-04-20 13:19 CDT
	070143	CAPACITOR, 68 pF, 1%	A.1 (Design)	Released	2012-04-20 13:19 CDT
	070146	CAPACITOR, 82 pF, 1%	A.1 (Design)	Released	2012-04-20 13:19 CDT
	070130	CAPACITOR, 1000 pF, 50V, 5%	A.1 (Design)	Released	2012-04-20 13:19 CDT



Part Attributes (metadata)	
Number	051000
Name	BRAKE CALIPER
Version	B.2
State	RELEASED
Weight	8.7 kg
Material	Nodular Cast Iron



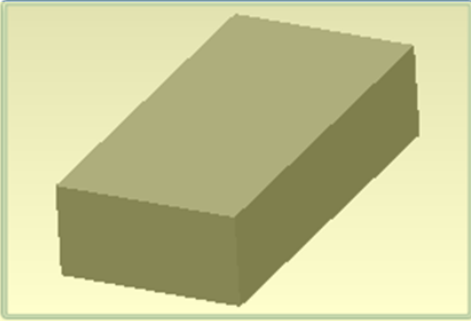
Many roles and specialization require product information not just designers



Actions Part - **070140, CAPACITOR, 10µF, 6.3V, B.2 (Design)** Released

Details | Structure | Related Objects | Changes | History | Where Used | Traceability | AML/AVL | New Tab 1

Visualization and Attributes | More Attributes



Visualization and Attributes

Name: CAPACITOR, 10µF, 6.3V
Status: Checked in
Modified By: Jeffrey Zemsky
Last Modified: 2012-05-15 23:13 EDT
Classification: Electronic Parts \ CAPACITOR \ FIXED \ FILM

General

Assembly Mode:	Component	End Item:	No
Source:	Buy	Default Unit:	each
Gathering Part:	No	Default Trace Code:	Untraced
Phantom Manufacturing Part:	No		

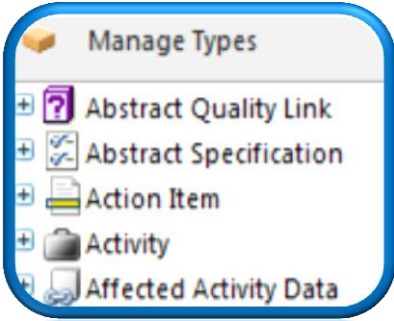
System

State:	In Work - Released - Canceled		
Context:	HPSDR	Location:	HPSDR / Design
Life Cycle Template:	Basic	Team Template:	
Created By:	Demo, User	Modified By:	Jeffrey Zemsky
Created On:	2012-02-22 14:40 EST	Last Modified:	2012-05-15 23:13 EDT

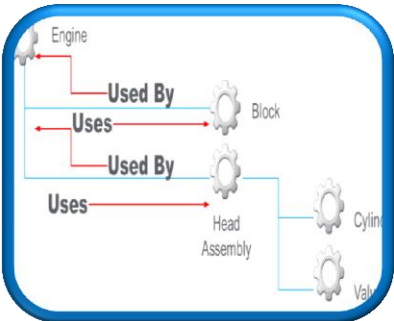
Classification Attributes (33 objects)

Search in table

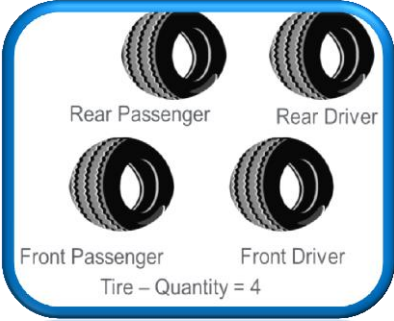
Name ↑	Value
Category Temperature Max	250 degC
Category Temperature Min	-40 degC
Category Voltage	500 V
Di-electric Material	Polypropylene
Electrode Technology	MFL
General Description	
Height	0.2 cm



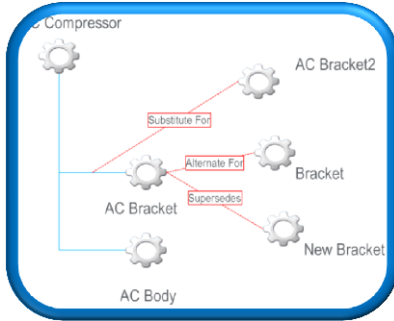
Part Types



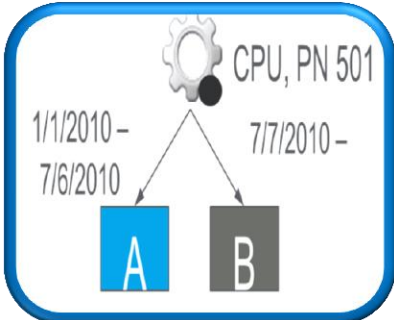
Part Relationships



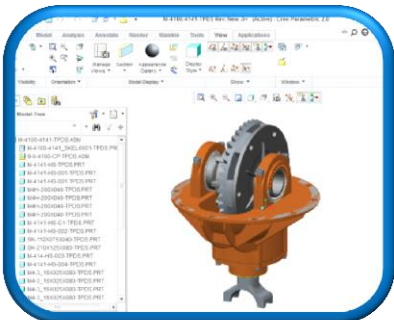
Occurrences



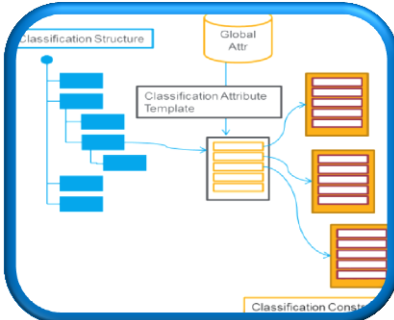
Alternates & Substitutes



Effectivity

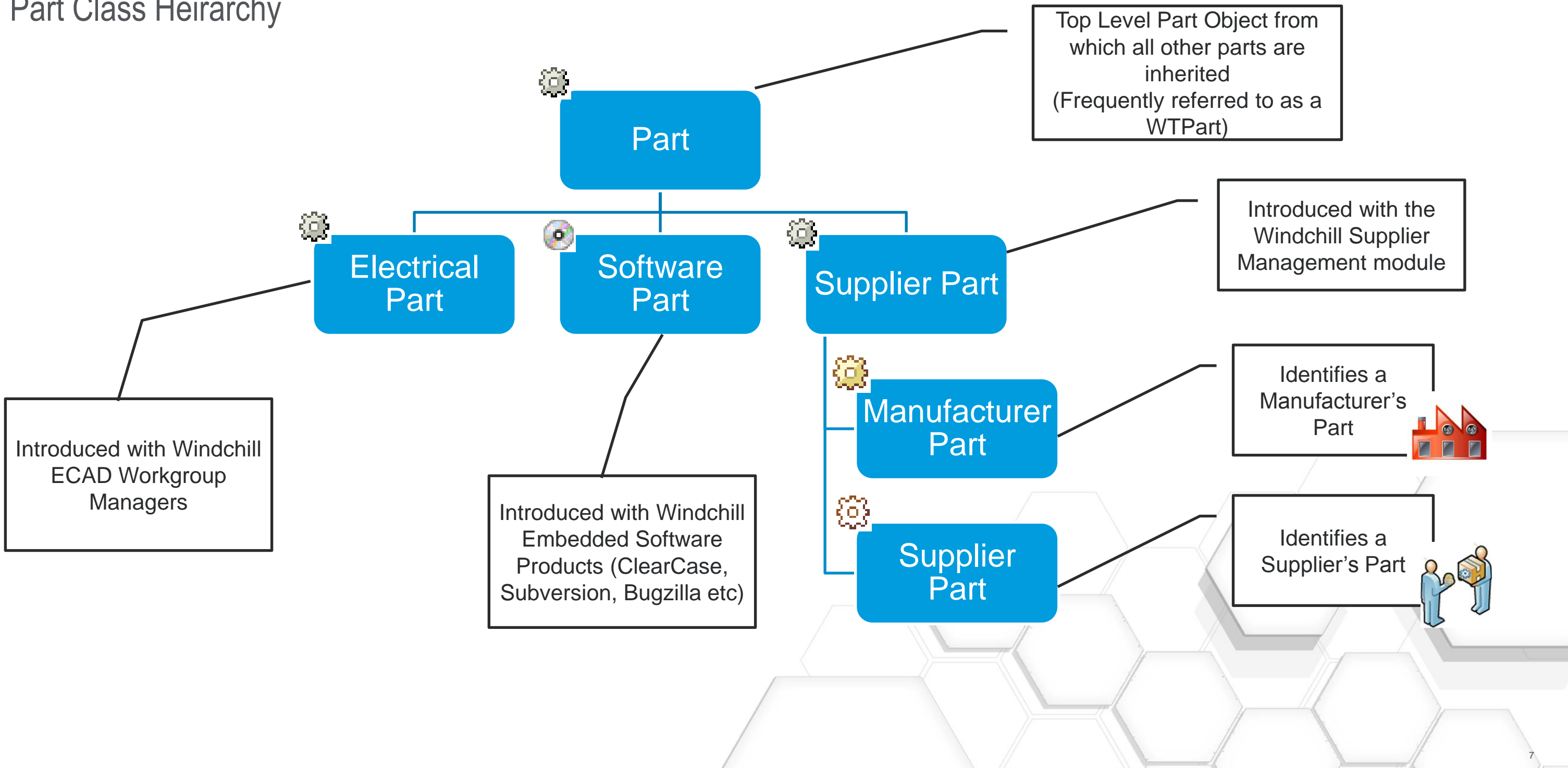


Creating From CAD



Part Classification

Part Class Hierarchy



Part Types: Out of the Box Parts Can Be Extended By Customers

- How?

- Type Master

List of all Type-able Objects in the Windchill System

- Why?

- Different types of part may have different:

- Attributes
- Different Lifecycles
- Different Access Controls
- Different Business Rules
- Different Association Constraints



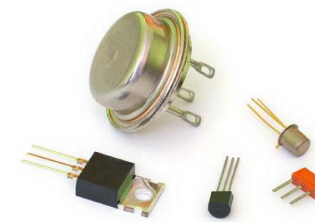
The screenshot shows the 'Part' type configuration in the Windchill Administrator. The 'Attributes' tab is active, displaying a table of type-able objects. A blue callout box points to the table, and another blue callout box points to the 'Part' type configuration fields.

Name	Internal Name	Filterable
ALL_SOFT_CLASSIFICATION_ATTRIBUTES	ALL_SOFT_CLASSIFICATION_ATTRIBUTES	No
ALL_SOFT_SCHEMA_ATTRIBUTES	ALL_SOFT_SCHEMA_ATTRIBUTES	No
allNonSchemaNonClassificationMinusClassificationRefbas	allNonSchemaNonClassificationMinusClassificationRefbas	No
allPartMasterAttributes	allPartMasterAttributes	No
Alternate Number	variation2	No
Assembly Mode	partType	Yes
Assigned Choices	optionsForChoiceMappables	No
Awaiting Promotion	state.atGate	No
BOM Type	variation1	No
Checked Out By	lock.locker	No
Checked out PDM Version	pdmCheckoutVersion	No
Checkin Comments	iterationInfo.note	No
Collapsible	collapsible	No
Configurable Module	genericType	No
Context	containerReference	Yes
Contract Number	contractNumber	No
Creation Date	iterationInfo.creator	Yes
Created	templateOfGeneric	No
Created	thePersistInfo.createStamp	Yes

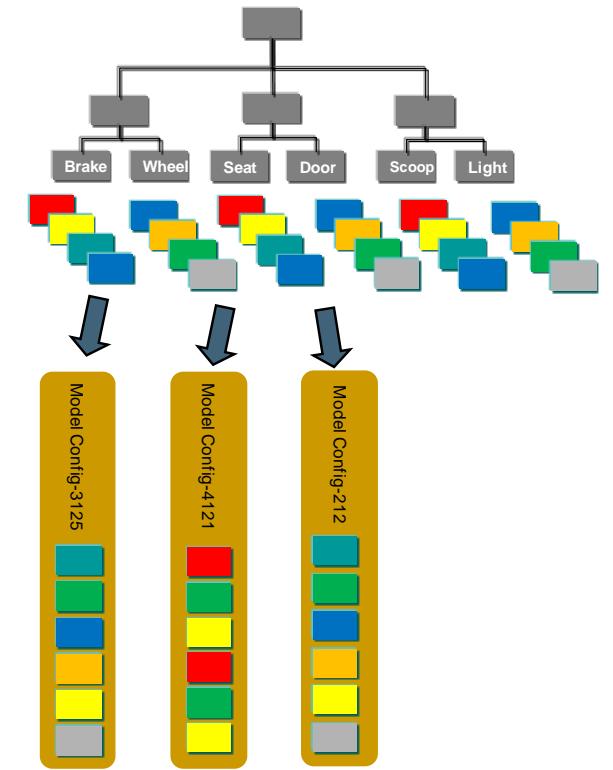
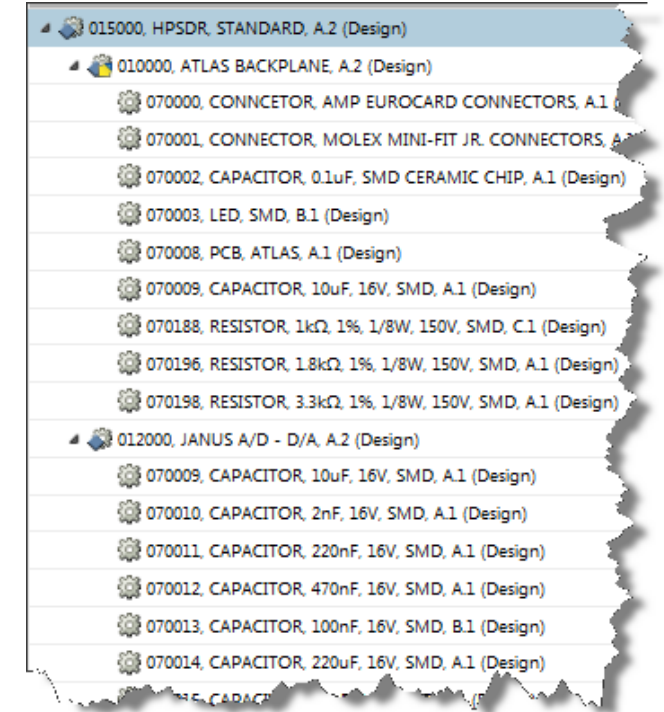
Parts

Examples

- Make vs. Buy
- Electrical vs Mechanical
- Forging vs. Casting vs. Machined



- are a dynamic representation of a bill of material (BOM) that captures the content of a product as it evolves.
- can also represent an entire family of product variants made from configurable modules.
- are created by relating an assembly part to child parts using the “usage” relationship.



The screenshot displays the PTC CAD software interface for a part structure. The main window shows a 3D model of a mechanical assembly with callouts for 'Parts', 'Documents', 'CAD', 'Replacements', 'Child Parts', and 'Viewables'. The interface includes a top navigation bar, a toolbar with various actions, and a bottom table for 'Uses' and 'Occurrences'.

Parts: A callout pointing to the 'Identity' pane on the left, which lists the assembly's components.

Documents: A callout pointing to the top toolbar, specifically the 'Check Out/In' and 'Clipboard' sections.

CAD: A callout pointing to the 'Identity' pane, highlighting the CAD files in the structure.

Replacements: A callout pointing to the 'Identity' pane, highlighting the replacement parts in the structure.

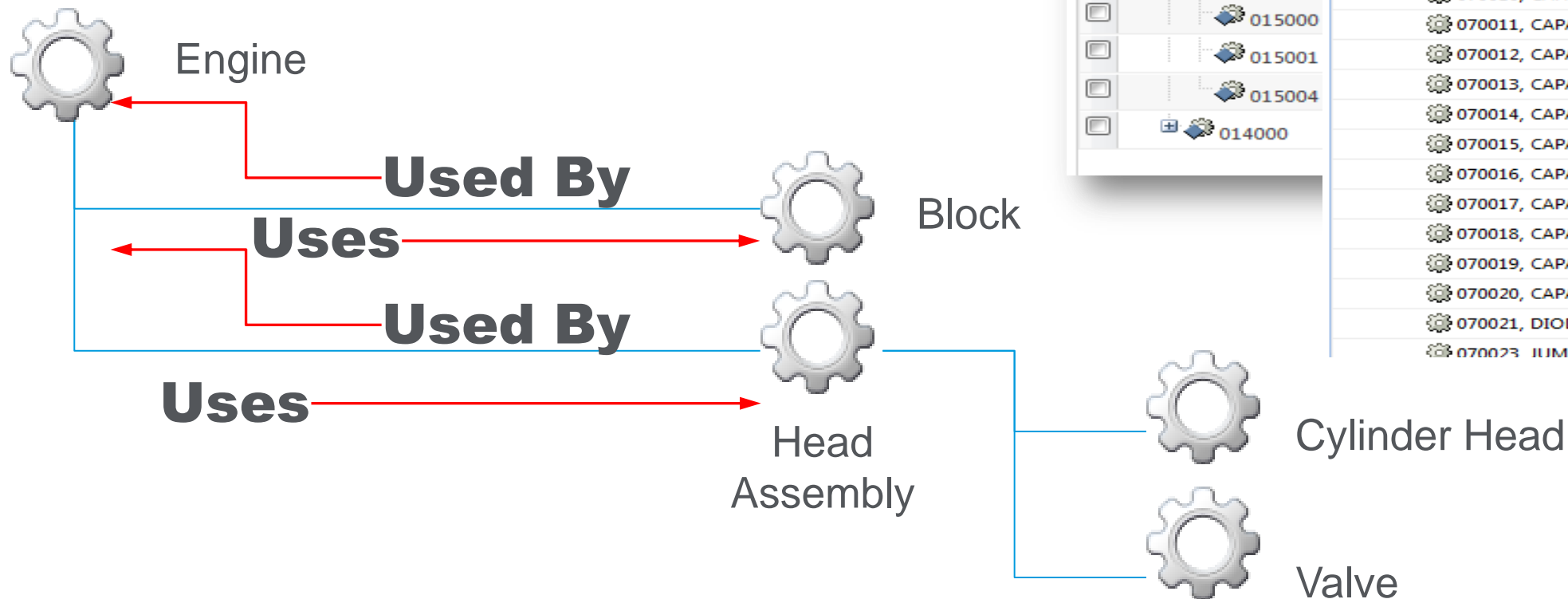
Child Parts: A callout pointing to the 'Identity' pane, highlighting the child parts in the structure.

Viewables: A callout pointing to the 3D model in the main window.

Uses and **Occurrences** table:

Number	Name	Version	End Item	Line Number	Quantity	Unit	Trace Code	Reference Designator	Find Number
WCDS0000000003	01-2_cam_intake...	A.1 (Design)	No		1	each	Untraced	1	
WCDS0000000027	01-2_inner_spro...	A.1 (Design)	No		1	each	Untraced	2	
WCDS0000000067	timing_pulley_ca...	A.1 (Design)	No		1	each	Untraced	3	
+	Enter Number	Enter Name							

- “Uses” are the glue that tie together the product structure
- Relate parts to each other
- Defines Parents and Children
 - Uses – what are the children of the part
 - Used By – defines Where Used

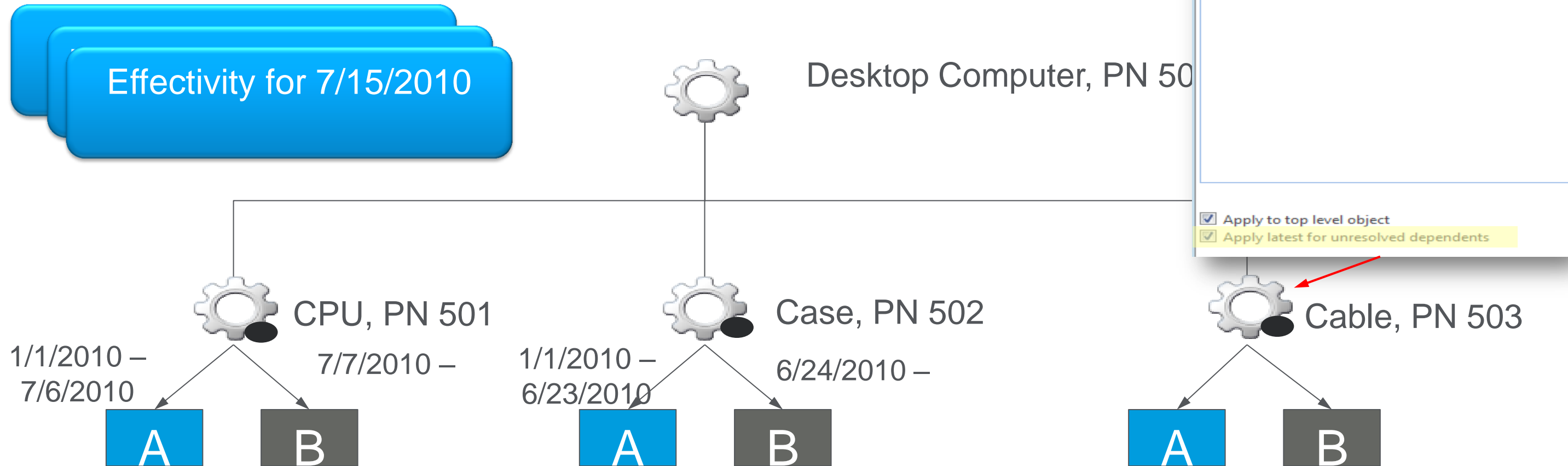


Where Used Latest

Number	Version	Name	Context
070021		DIODE, SCHOTTKY, 30V, 200mA	HPSDR
012000	(Design) A.4	JANUS A/D - D/A	HPSDR
015002	(Design) A.5	HPSDR, LOW COST	HPSDR

Identity	Quantity	Unit	Reference Desig
015002, HPSDR, LOW COST, A.5 (Design)			
010000, ATLAS BACKPLANE, A.5 (Design)	1	each	PCB1
012000, JANUS A/D - D/A, A.4 (Design)	1	each	PCB2
070009, CAPACITOR, 10uF, 16V, SMD, A.1 (Design)	24	each	C1,C3-C4,C6,C10
070010, CAPACITOR, 2nF, 16V, SMD, A.1 (Design)	2	each	C2,C22
070011, CAPACITOR, 220nF, 16V, SMD, A.1 (Design)	6	each	C5,C11,C29-C32
070012, CAPACITOR, 470nF, 16V, SMD, A.1 (Design)	5	each	C7,C16,C25,C37,
070013, CAPACITOR, 100nF, 16V, SMD, B.1 (Design)	22	each	C8-C9,C13,C17,C
070014, CAPACITOR, 220uF, 16V, SMD, A.1 (Design)	4	each	C18-C21
070015, CAPACITOR, 47uF, 16V, SMD, A.1 (Design)	3	each	C33,C56,C66
070016, CAPACITOR, 1F, 16V, SMD, A.1 (Design)	3	each	C36,C49,C60
070017, CAPACITOR, 1uF, 25V, SMD, A.1 (Design)	9	each	C44,C46,C48,C62
070018, CAPACITOR, 1uF, 16V, SMD, A.1 (Design)	1	each	C47
070019, CAPACITOR, 10uF, 6.3V, SMD, A.1 (Design)	1	each	C51
070020, CAPACITOR, 2200pF, 50V, SMD, A.1 (Design)	2	each	C71,C79
070021, DIODE, SCHOTTKY, 30V, 200mA, A.1 (Design)	1	each	D1
070023, PLUMPER CONN HEADER 2POS .100 VERT TIN 9	9	each	IP1-IP6 IP10-IP1

- Relate Part (version) to a child Part Master – the Configuration Specification is used to resolve the Version to show
 - Use a Latest, Baseline, Effectivity or some combination



- Have Attributes
 - Line Number
 - Find Number
 - Quantity
 - Unit of Measure
- Support Soft attributes

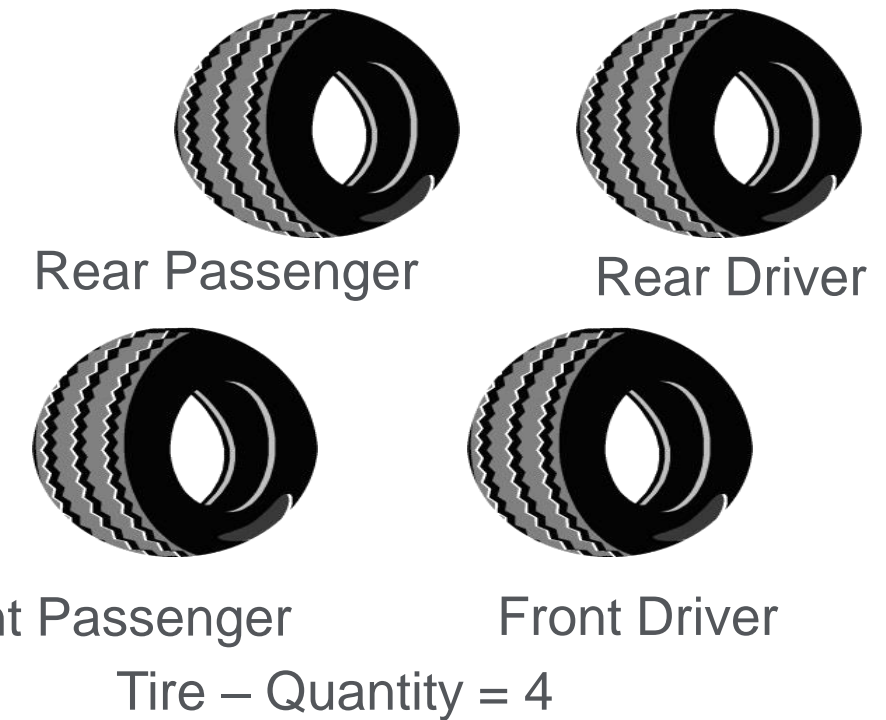
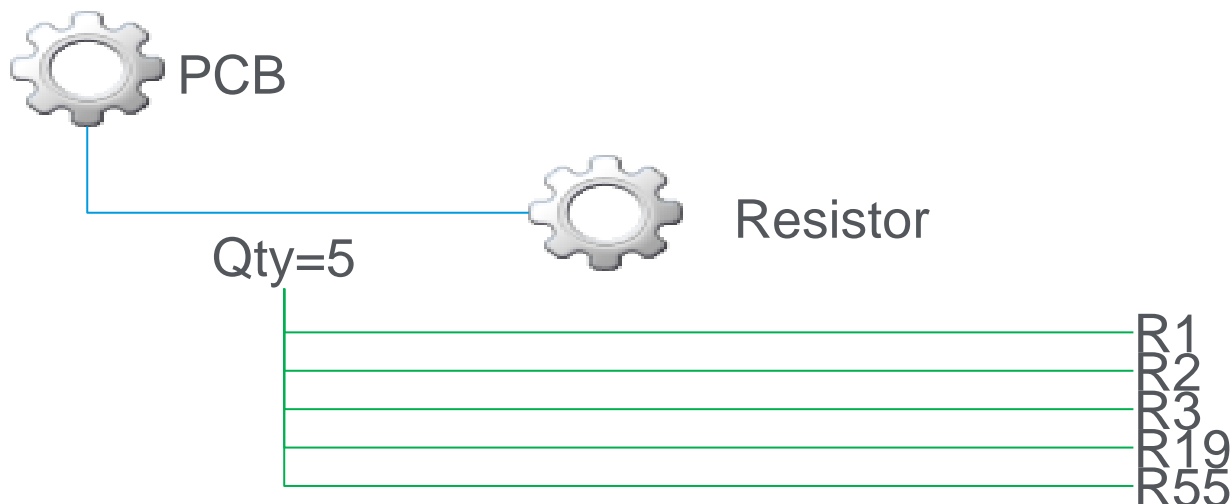
Line Number – is a unique index that aligns to ERP Line Number. Typically an integer field

Find Number – is an alphanumeric field that aligns to the Index on a Drawing BOM list

Trace code – defines traceability type (eg Serial, Lot, MSN) used by Effectivity and Part Instances

	Number	Name	Version	End Item	Line Number	Quantity	Unit	Trace Code	Reference Designator	Find Number
⚙	070009	CAPACITOR, 10uF, 16V, SMD	A.1 (Design)	No	10	1	each	Untraced	C4	30
⚙	070021	DIODE, SCHOTTKY, 30V, 200mA	A.1 (Design)	No	20	4	each	Untraced	D1-D4	190
⚙	070023	JUMPER, CONN HEADER, 2POS,	A.1 (Design)	No	30	7	each	Untraced	JP1,JP7,JP10-JP12,TP1-TP2	210
⚙	070024	JUMPER, CONN HEADER, 3POS,	A.1 (Design)	No	40	7	each	Untraced	JP2-JP6,JP8-JP9	220
⚙	070028	LED, RED, CLEAR, SMD	A.1 (Design)	No	50	7	each	Untraced	LED1-LED7	290
⚙	070036	RESISTOR NETWORK, COMMON ...	A.1 (Design)	No	60	6	each	Untraced	RP3-RP8	390
⚙	070066	CAPACITOR, 100nF, 50V, 10%, SMD	A.1 (Design)	No	70	40	each	Untraced	C1-C3,C5-C6,C9,C11,C13...	20
⚙	070087	JUMPER, CONN HEADER, 5POS,	A.1 (Design)	No	80	1	each	Untraced	J1	230
⚙	070088	CONNECTOR, JACK, BNC, R/A, 50...	A.1 (Design)	No	90	1	each	Untraced	J5	270
⚙	070090	CONNECTOR, HEADER, DUAL 10P...	A.1 (Design)	No	100	2	each	Untraced	P2	340

- Related to Usage relationship
 - Describes unique “instance” of a usage in a BOM
- Each occurrence stores unique information
- Commonly used to describe Reference Designators
 - Heavily used in PCB design
- The number of occurrences can be equal to or less than the quantity



Reference Designators – can be entered one at a time or as a range – eg

R1, R2, R3 or R1, R3

070023	JUMPER, CONN ...	A.1 (Design)	JP1,JP7,JP10-JP12,TP1-TP2
070024	JUMPER, CONN ...	A.1 (Design)	JP2-JP6,JP8-JP9
070028	LED, RED, CLEAR...	A.1 (Design)	LED1-LED7
070036	RESISTOR NETW...	A.1 (Design)	RP3-RP8
070066	CAPACITOR, 100...	A.1 (Design)	C1-C3,C5-C6,C9,C11,C13-C14,C18,C20-C21,C23
070087	JUMPER, CONN ...	A.1 (Design)	J1

- Attributes
 - Reference Designator
 - Location
 - Build Status
- Supports Soft Attributes

Location is the another common use – used to denote where the Occurrence (and its Representation) are located. Typically driven from MCAD, but can be manually entered/altered.

Number	Name	Reference Designator	Location
070009	CAPACITOR, 10uF, 16V, SMD	C4	Point (m) X: <input type="text"/> Y: <input type="text"/> Z: <input type="text"/>
070021	DIODE, SCHOTTKY, 30V, 200...	D1	Angle (r) X: <input type="text"/> Y: <input type="text"/> Z: <input type="text"/>
070021	DIODE, SCHOTTKY, 30V, 200...	D2	
070021	DIODE, SCHOTTKY, 30V, 200...	D3	
070021	DIODE, SCHOTTKY, 30V, 200...	D4	
070023	JUMPER, CONN HEADER, 2P...	JP1	
070023	JUMPER, CONN HEADER, 2P...	JP7	
070023	JUMPER, CONN HEADER, 2P...	JP10	
070023	JUMPER, CONN HEADER, 2P...	JP11	

- In PSB one can work in BOM mode (by Usage links) or by Occurrence Mode

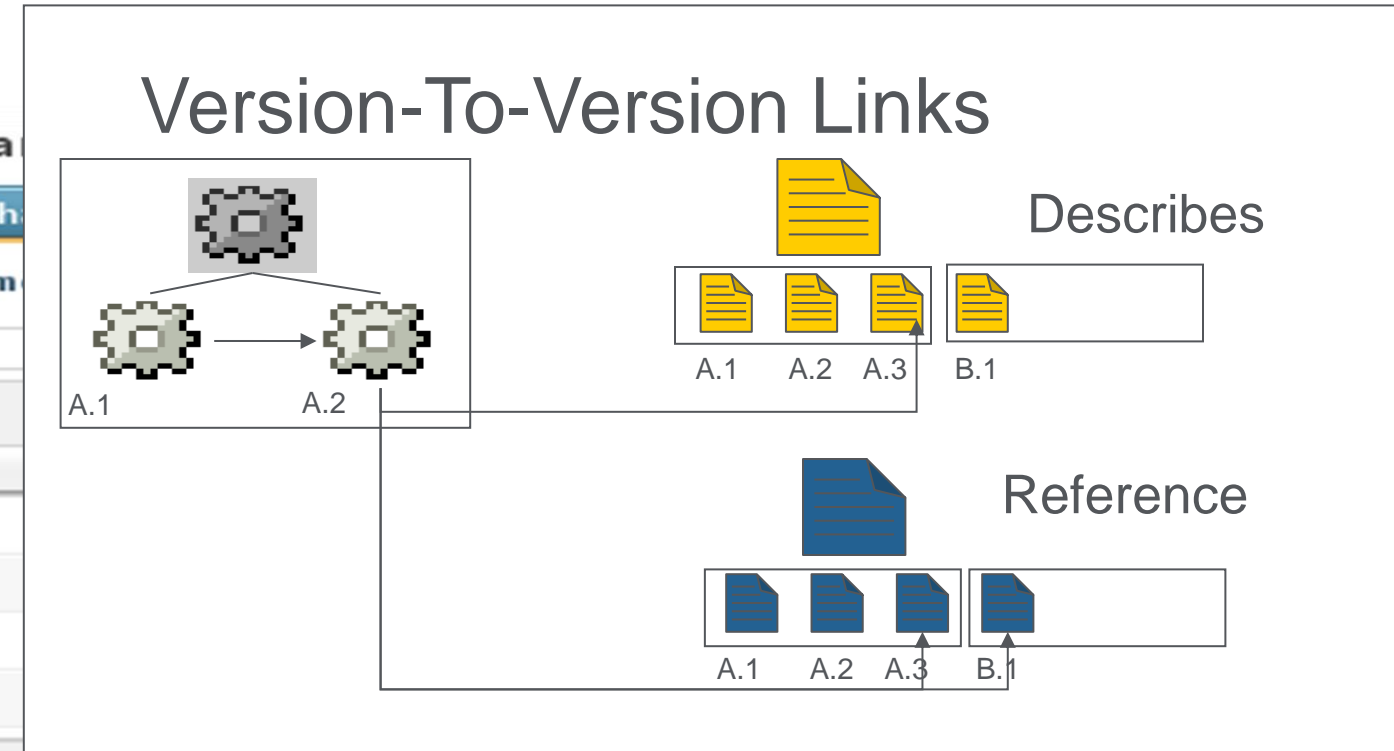
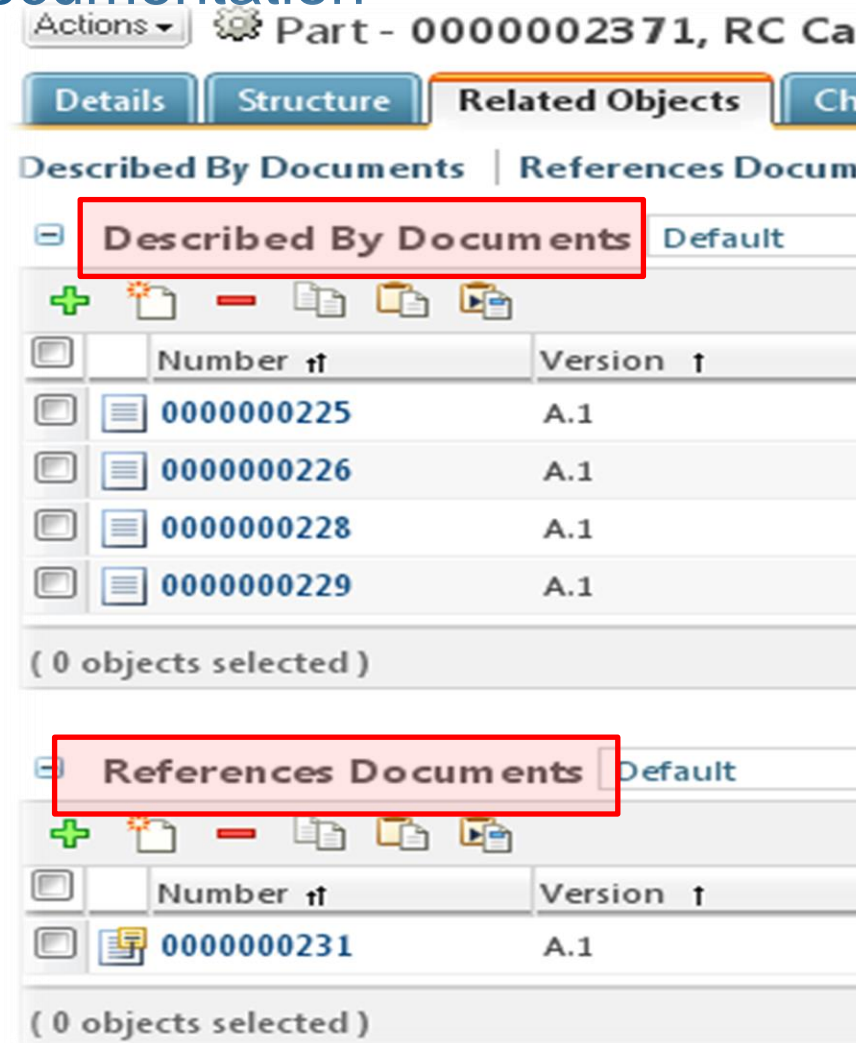
The screenshot displays the PTC PSB software interface. The top navigation bar includes tabs for Details, Structure, Related Objects, Changes, History, Where Used, Traceability, and Relationships. Below this are toolbars for Editing, Check Out/In, Clipboard, and Viewing. The main workspace is divided into two panes. The left pane shows a hierarchical tree view of the BOM for 'Part - 013000, PENELOPE TRANSMITTER, A.7 (Design)'. The right pane shows a table view of the BOM in Occurrence Mode. A red box highlights the 'Show Occurrences' button in the top right menu.

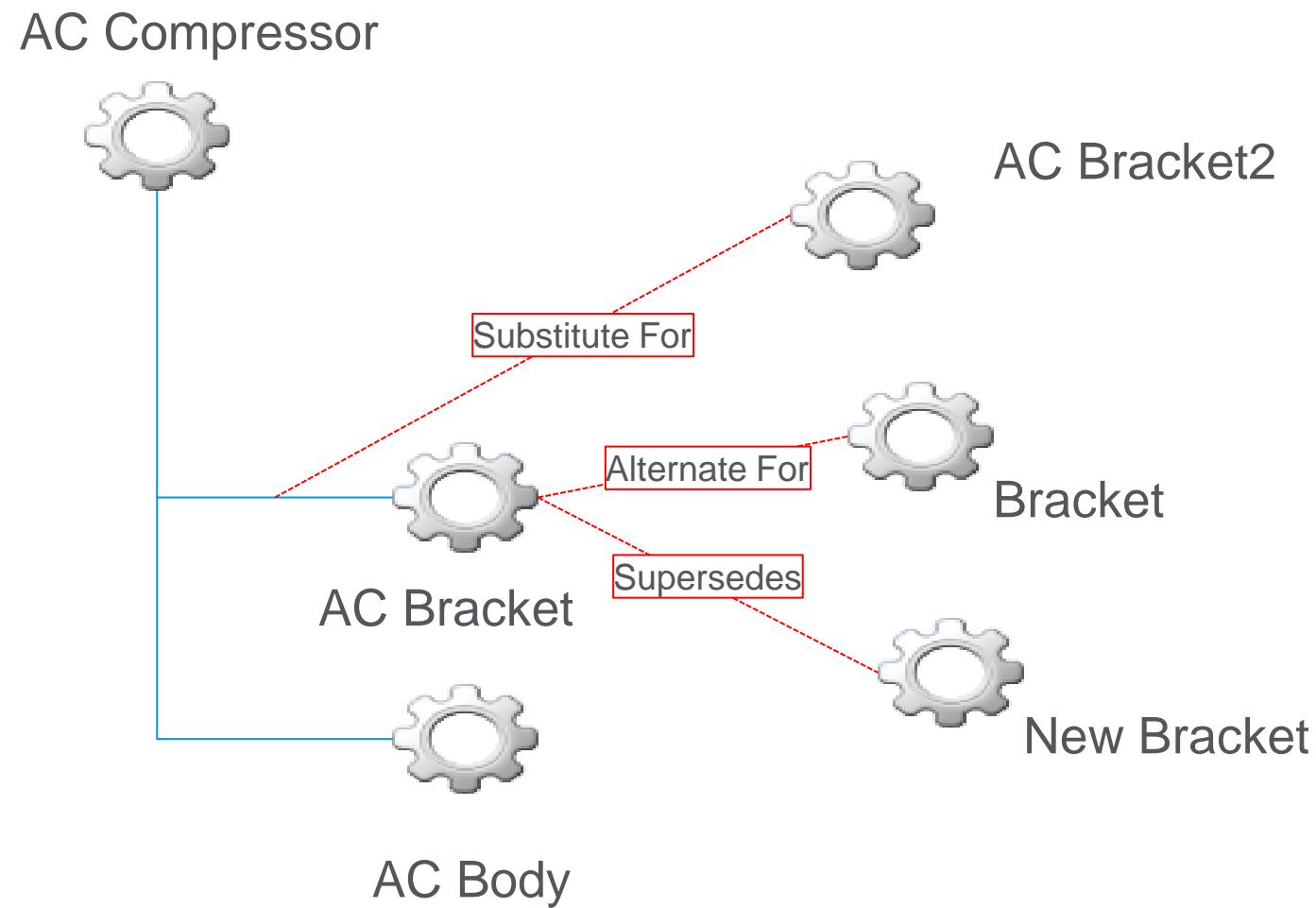
Identity	Quantity	Unit	Reference Designator	Build
013000, PENELOPE TRANSMITTER, A.7 (Design)				
070090, CONNECTOR, HEADER, DUAL 10POS, .100 SRT, T	2	each		Excluded
070219, PCB, PENELOPE, A.1 (Design)	1	each		Excluded
070021, DIODE, SCHOTTKY, 30V, 200mA, A.1 (Design)	1	each	D4	Excluded
070021, DIODE, SCHOTTKY, 30V, 200mA, A.1 (Design)	1	each	D3	Excluded
070021, DIODE, SCHOTTKY, 30V, 200mA, A.1 (Design)	1	each	D2	Excluded
070021, DIODE, SCHOTTKY, 30V, 200mA, A.1 (Design)	1	each	D1	Excluded
070217, IC, EEPROM, 1KB, 1-WIRE, A.1 (Design)	1	each	U17	Excluded
070023, JUMPER, CONN HEADER, 2POS, .100 VERT, TIN,	1	each	TP1	Excluded
070028, LED, RED, CLEAR, SMD, A.1 (Design)	1	each	LED1	Excluded
070023, JUMPER, CONN HEADER, 2POS, .100 VERT, TIN,	1	each	JP11	Excluded
070023, JUMPER, CONN HEADER, 2POS, .100 VERT, TIN,	1	each	TP2	Excluded
070023, JUMPER, CONN HEADER, 2POS, .100 VERT, TIN,	1	each	JP10	Excluded
070023, JUMPER, CONN HEADER, 2POS, .100 VERT, TIN,	1	each	JP12	Excluded
070023, JUMPER, CONN HEADER, 2POS, .100 VERT, TIN,	1	each	JP1	Excluded
070023, JUMPER, CONN HEADER, 2POS, .100 VERT, TIN,	1	each	JP7	Excluded
070208, IC, OP AMP, LD, -3dB:250MHz, 2000V/μS, 5V, A.1	1	each		Excluded
070143, CAPACITOR, 68 nF 1% A.1 (Design)	1	each		Excluded
070143, CAPACITOR, 68 nF 1% A.1 (Design)	1	each	R2,R11,R16,R32,R34,...	Excluded
070143, CAPACITOR, 68 nF 1% A.1 (Design)	1	each	U1	Excluded
070143, CAPACITOR, 68 nF 1% A.1 (Design)	1	each	U6	Excluded

BOM Mode – one row per usage –reference designators are rolled up

Occurrence Mode – one row per occurrence – unique label per row

- Version Specific Documentation
 - Described By Documents
- Version Independent Documentation
 - References





- **Alternate Part**

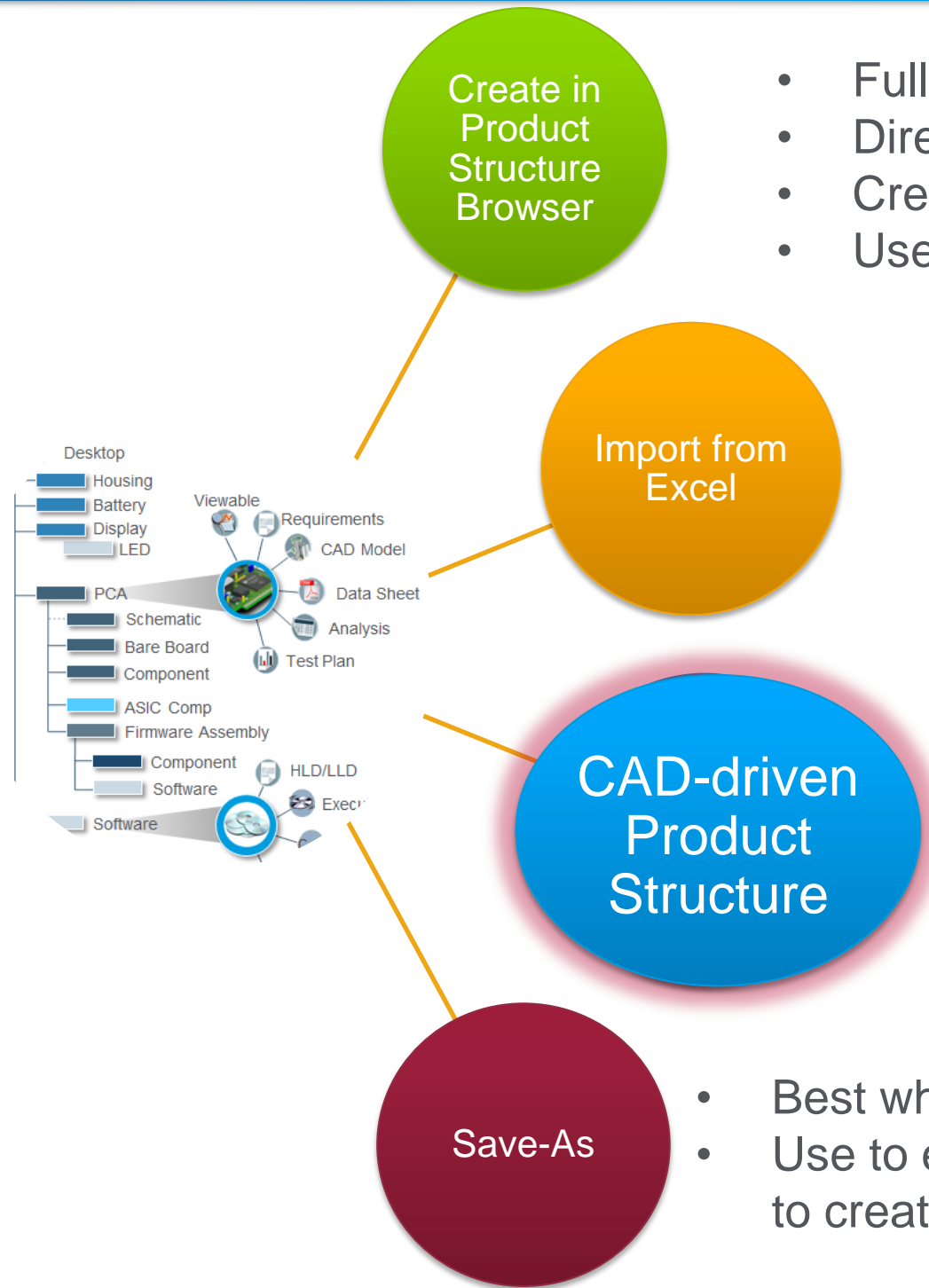
- An Alternate Part is a component that is a suitable replacement for another part in every assembly in which the original part occurs. Companies use alternate parts when multiple vendors can supply parts that serve the identical function and fit.

- **Substitute Part**

- A substitute part is a component that is a suitable replacement for another part in only one assembly in which the original part occurs.

- **Supersedes**

- Use supersede to identify when a part should take the place of another
- Duplicate parts
- Take a part out of service
- Replace an unsafe part



- Full BOM creation and editing environment
- Direct editing of BOM components and attributes
- Create and manage related data
- Use with creating new and evolving existing

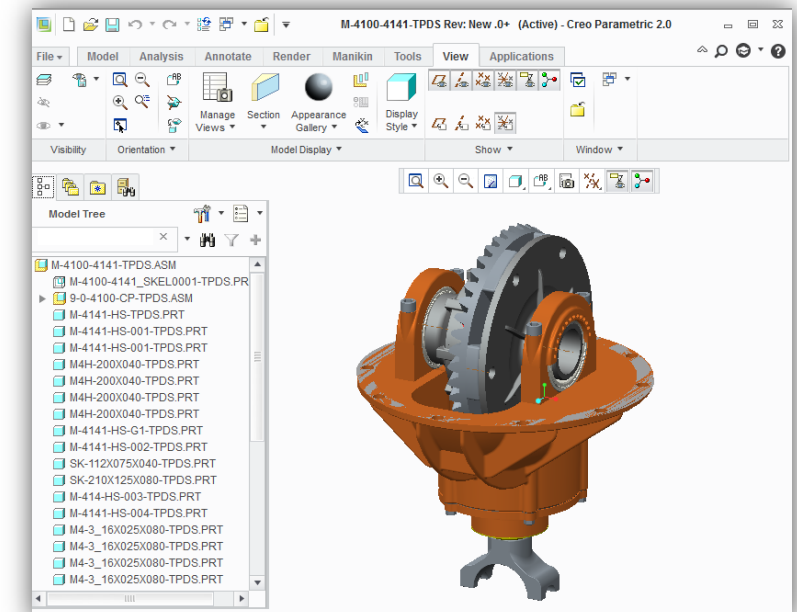
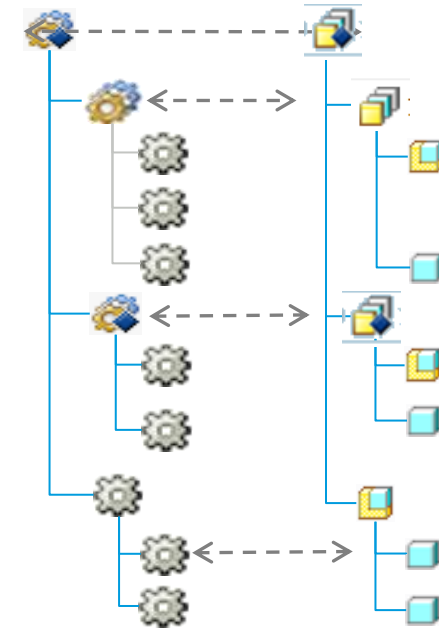
- Best for loading/updating of large sets of parts and structures
- Can be utilized when the product objects and structures are defined externally to Windchill
- Use with creating new and evolving with CAD as starting point

- Supports existing CAD driven design practices where structures match closely with the CAD environment
- Can be utilized “top-down” where associations occur to pre-existing Parts
- Use with new or existing – particularly when getting data from partners

- Best when designs have common objects and structures
- Use to evolve existing designs and to copy overloaded products to create new similar family

Bottom Up

- **Goal** -
 - Seamlessly transcribe the CAD Assembly Structure to a Windchill BoM Structure
 - Enable user outside of CAD tools to gain early visibility to the evolving Product Structure
- **Propagate Structure, Attributes and Viewables from CAD to BOM**
- **Accommodates differences in structures**
 - Gathering parts
 - Bulk items
 - Quantity differences
 - Parameter driven part creation capabilities
- **Support hybrid – drive bottom up and top down**
 - Create and insert CAD from part structure



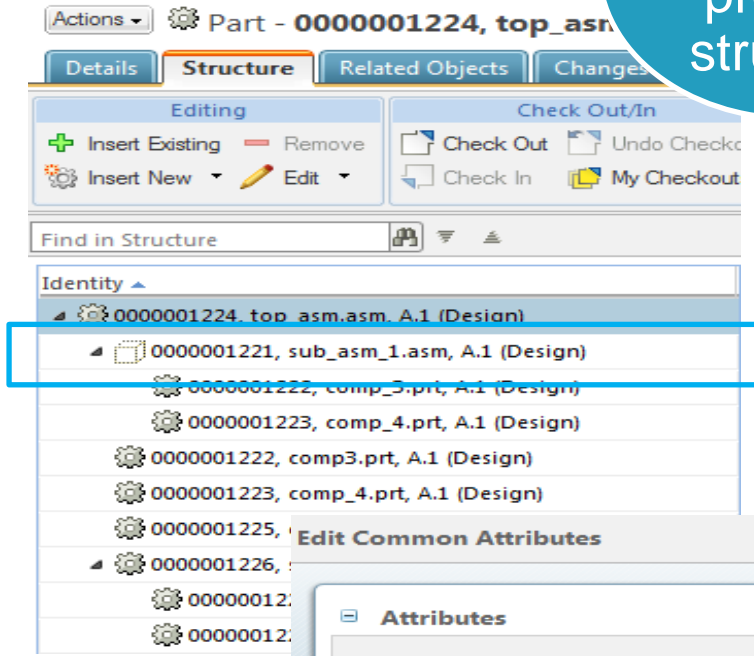


Association Type	Builds Structure	Attribute	Reps	Contributes to Structure	Usage
Owner					Associate primary CAD document responsible for driving structure creation
Contributing Image					Multi-CAD secondary association, flexible components
Image					Multi-CAD secondary association, flexible components
Contributing Content					Multi-CAD where secondary attributes critical to BOM
Content					Inclusion of additional descriptive CAD content, ex. Model's Drawing to Part

CAD driven product structure

Gathering Parts

- Purpose
 - Handling assemblies that are for *modeling only*
 - Elevating its children in the BOM
- Product Structure
 - Identified with special part icon
 - Controlled by Part attribute
 - Edit Common Attributes toggle on/off
 - Ability to initially set using CAD attribute
- BoM reports
 - Excluded from BOM reports
 - Children of gathering part maintained
 - Children elevated up a level in BoM



Toggle gathering part on/off

Toggle gathering part on/off

Sub-asm_1 excluded children comp_3.prt & comp_4.rt elevated to 1st level

Multi-Level Bill of Materials Report

Target Part: 0000001224, top_asm.asm, A.1 (Design)
Product: CDPSEditExample
Executed By: sshaw
Time Of Execution: 2011-06-13 00:26 EDT

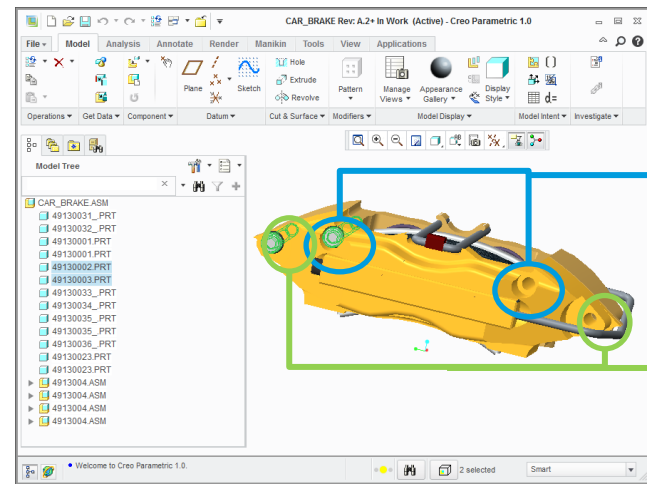
Filtering Gathering Parts: MyView (9 objects)

Number	Name	Version	Line Number
0	0000001224 top_asm.asm	A.1 (Design)	
1	0000001222 comp_3.prt	A.1 (Design)	
1	0000001222 comp_3.prt	A.1 (Design)	
1	0000001223 comp_4.prt	A.1 (Design)	
1	0000001223 comp_4.prt	A.1 (Design)	
1	0000001225 comp_1.prt	A.1 (Design)	
1	0000001226 sub_asm_2.asm	A.1 (Design)	
2	00000012: comp_3.prt	A.1 (Design)	
2	00000012: comp_1.prt	A.1 (Design)	



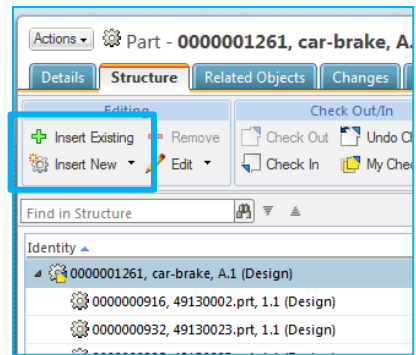
When what's modeled isn't exactly what you want

- Changing Quantities
 - Including for CAD built occurrences



Number	Name	Version	End Item	Line Number	Quantity	Unit	Trace C
0000000916	49130002.prt	1.1 (Design)	No		2	each	Untrace
0000000932	49130023.prt	1.1 (Design)	No		2	each	Untrace
0000000995	49130003.prt	1.1 (Design)	No		2	each	Untrace
0000001008	cali piston asm	1.1 (Design)	No		4	each	Untrace
0000001043	49130001.prt	1.1 (Design)	No		2	each	Untrace

- Adding non-modeled items
 - Bulk items



Challenge: Avoid gridlock while developing complex, multi-disciplined products

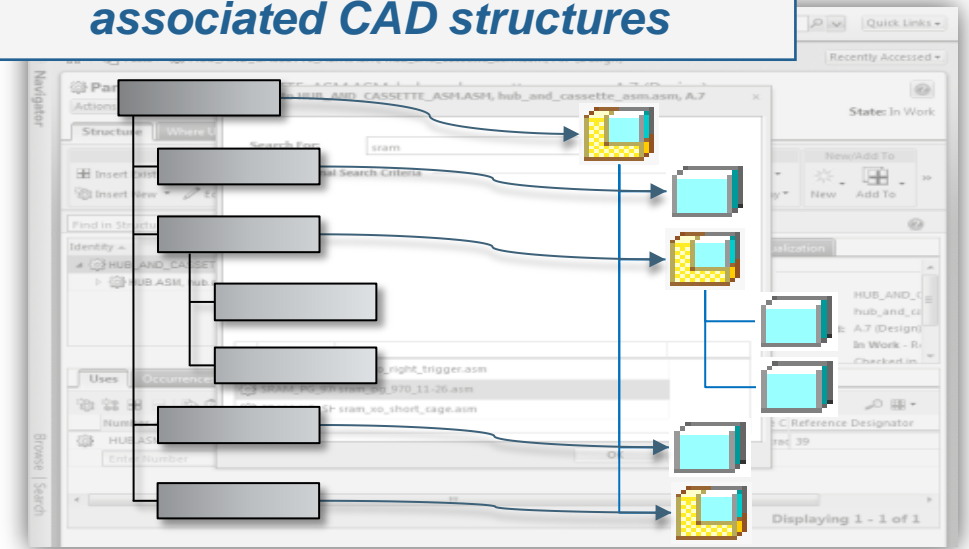
- **Goal -**

- Proactively plan and architect products to support top-down, concurrent, team-based development.

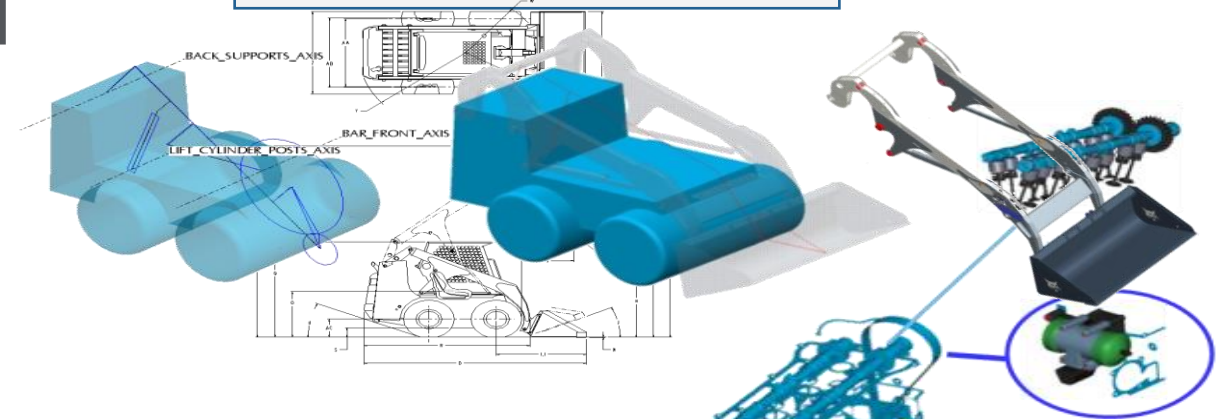
- **Capabilities:**

- Simultaneously create or reuse existing part and associated CAD structures
- Create and validate conceptual design structures in PLM
- Create or reuse skeletons to drive design intent (i.e. interfaces, keep out areas, etc.) in CAD
- Concurrently design subassemblies in CAD and synchronize updates with associated product structures

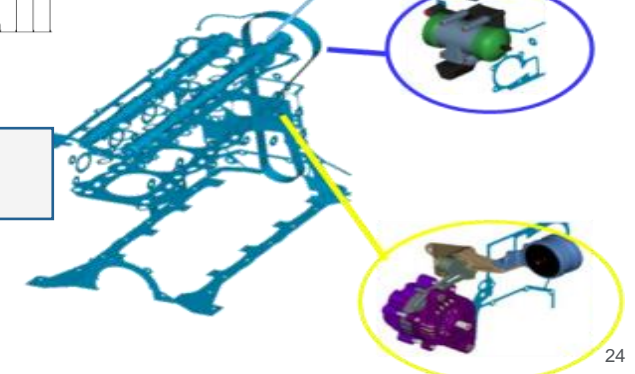
Create or reuse existing part and associated CAD structures



Capture Design Intent

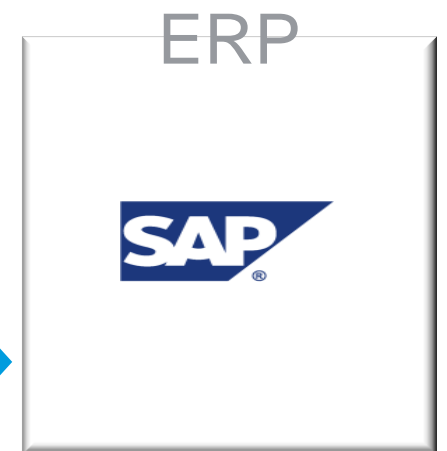
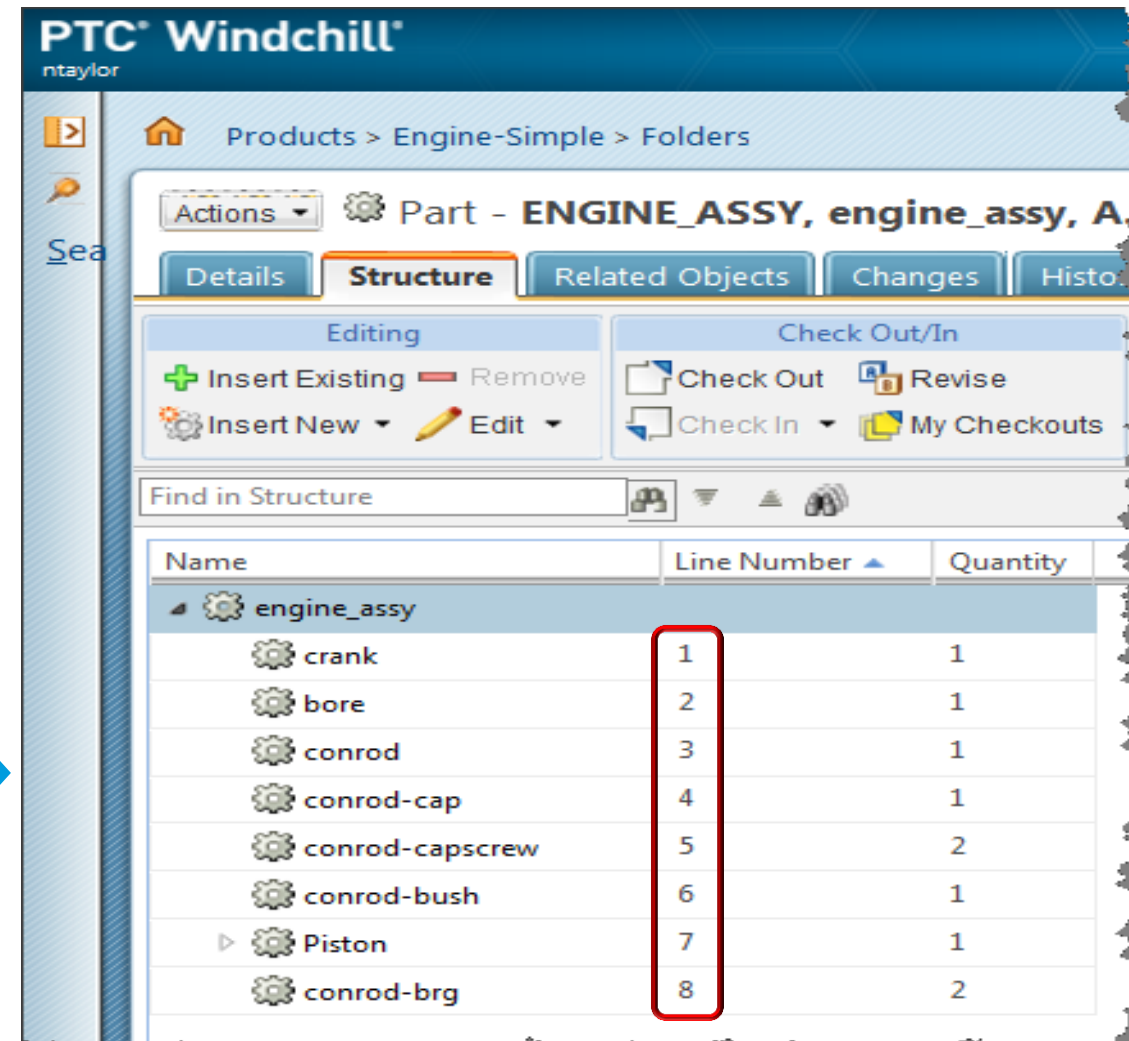
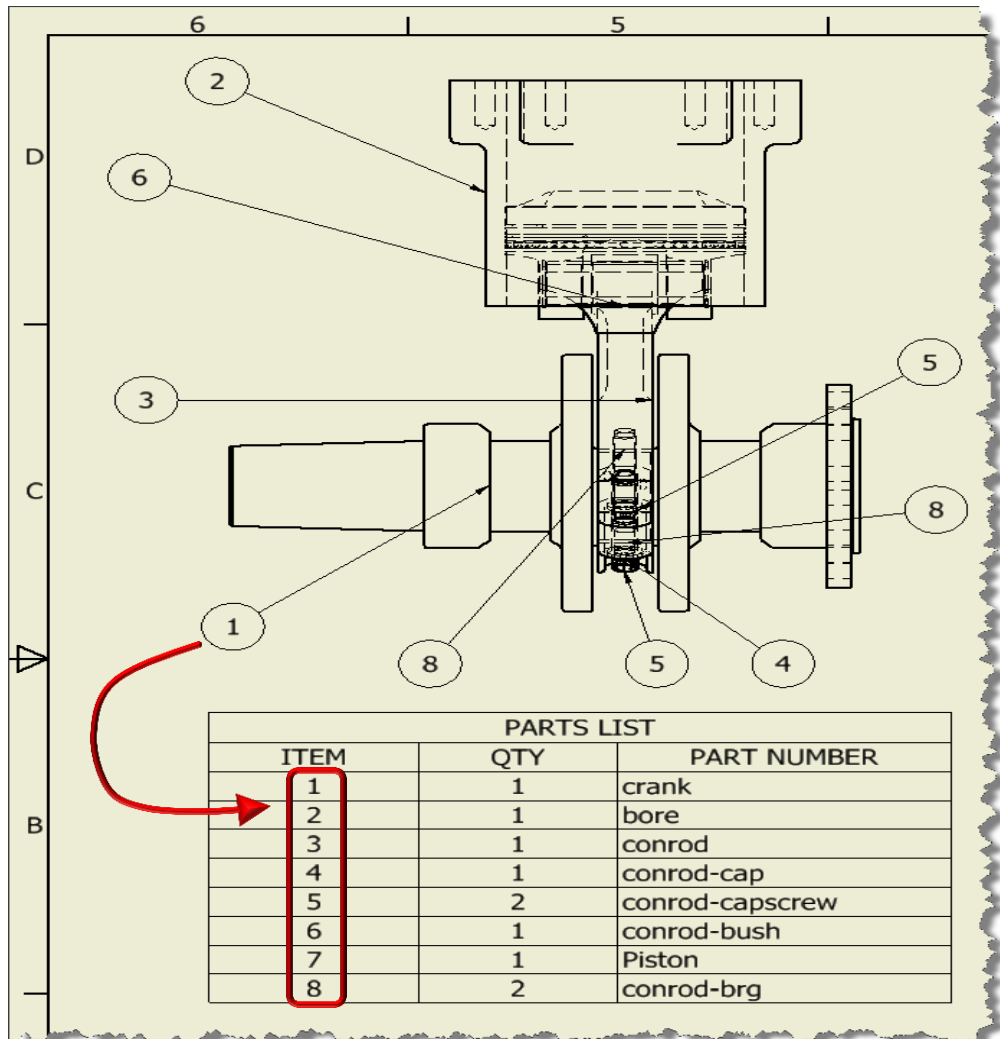
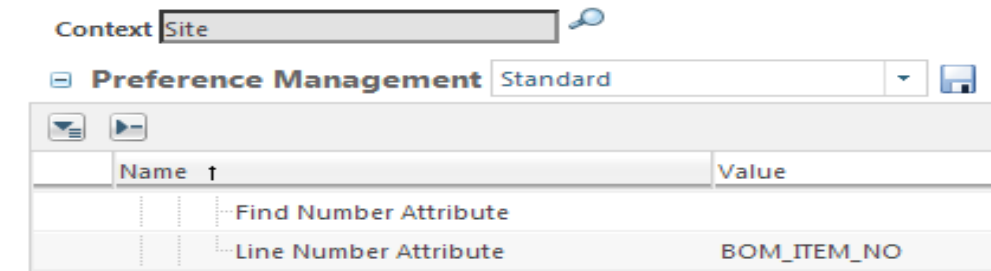


Communicate Design Intent



Driving Windchill Find Number or Line Number from CAD

- CAD BOM attributes can be mapped to PTC Windchill Part 'Line Number' and 'Find Number' fields via PTC Windchill Preferences.
- Supported for PTC Creo & Autodesk Inventor at 10.2 M010.



Driving Windchill Find Number or Line Number from CAD

- Preference defines the attribute used to link CAD Uses link attribute to Find and/or Line number

EPM Service Preferences		EPM service preferences
Build Service Preferences		Preferences used by build service
Attributes Delimiter	,	This preference defines the delimiter character that separates the attributes to be published.
Attributes to be published on Link		Attributes to be published on Link
Attributes to be published on Master	*	Attributes to be published on Master
Attributes to be published on Occurr...		Attributes to be published on Occurrence
Attributes to be published on Part	*	Attributes to be published on Part
Build Image Association by Default	Yes	Build Image Association by Default
Contributing Content Attributes	*	Attributes to be published on Part by Contributing Content relationship.
Contributing Image Attributes	*	Attributes to be published on Part by Contributing Image relationship.
Find Number Attribute	FINDNUMBER	Name of an attribute on CAD Document Uses Link that should be copied to the Part Usage's Find Number.
Line Number Attribute		Name of an attribute on CAD Document Uses Link that should be copied to the Part Usage's Line Number.

No.	Name
1	FRAME
2	ENGINE
3	ENGINE_SCREW
4	BLOWER
5	BLOWER_SCREW
6	NUT

Identity	Find Number
0000000129, ac-40.asm, Demo Organization, A.1 (Design)	
0000000122, blower_screw.prt, Demo Organization, A.1 (Design)	5
0000000124, blower.asm, Demo Organization, A.1 (Design)	4
0000000132, nut.prt, Demo Organization, A.1 (Design)	6
0000000133, engine.asm, Demo Organization, A.1 (Design)	2
0000000135, engine_screw.prt, Demo Organization, A.1 (Design)	3
0000000136, frame.prt, Demo Organization, A.1 (Design)	1

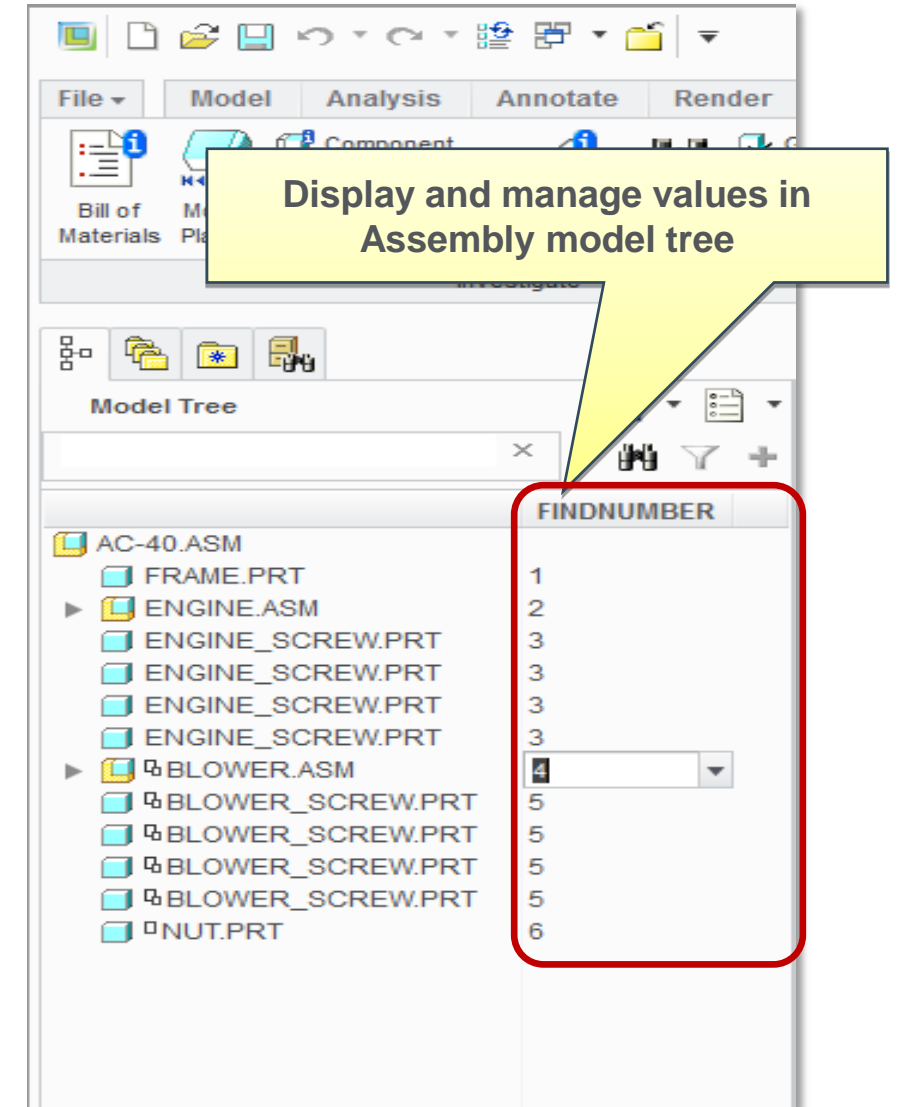
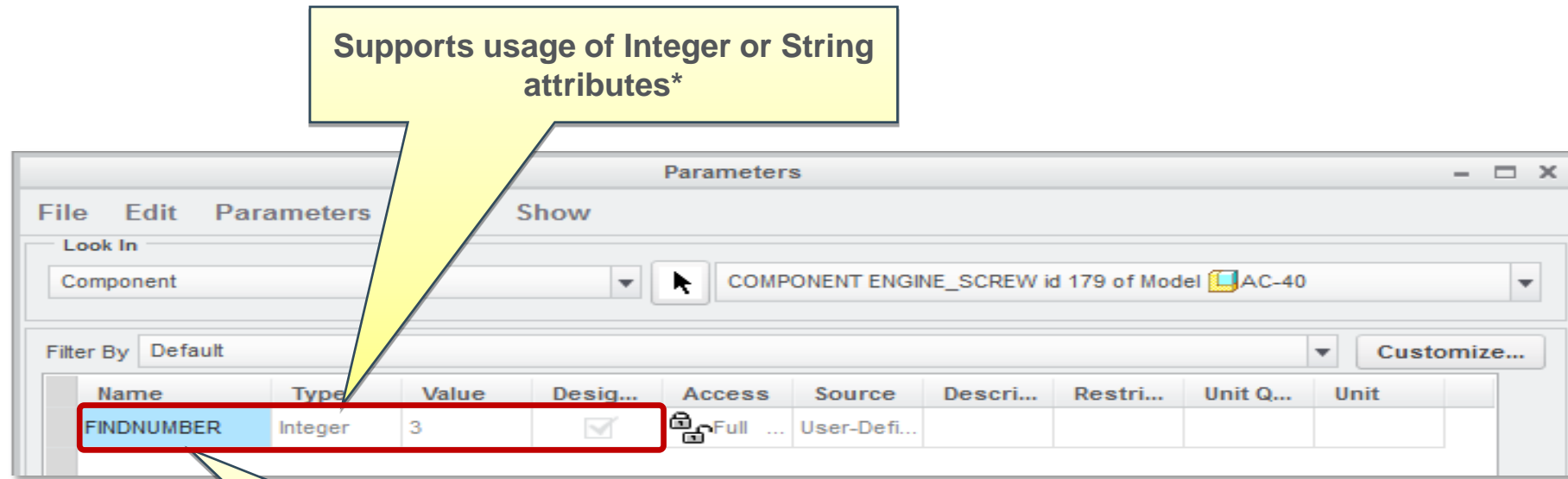
- Map parameter to attribute on CAD Document Uses Link

Link Type	Parameter	Attribute	Value	
CAD Document Uses Link	10	Component ID	identifier	
		Component Name	name	
	10	compRevNumber	compRevNumber	
		Created On	thePersistInfo.createStamp	
	10	Dependency Type	depType	
	10	FINDNUMBER	FINDNUMBER	
	t/f	Fixed	fixed	
	10	Geometry Restriction	referenceControl.geomRestr	
				Yes
				Yes

- Constraints

- Support 1-level deep
- Propagation of changes not supported by eTDD (building CAD from Part Structure)

Designated Component Parameter to manage Find/Line numbers



Display of Find Number on PTC Creo Drawings

Set component parameter to display in drawing table

Item No.	Item Name
asm.mbr.cparam.FINDNUMBER	asm.mbr.name

Configure BOM Balloon for table to utilize same component parameter

Table Properties

Height and Width | BOM Balloons

BOM Balloon Regions
Region_1

Type
Simple Circle

BOM Balloon Parameter: im.FINDNUMBER

Reference Balloons
Reference Balloon Text: REF Default

OK Cancel

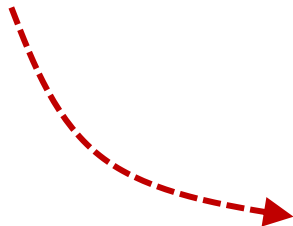
Find numbers and corresponding balloons driven from assembly parameter

Item No.	Item Name
1	FRAME
2	ENGINE
3	ENGINE_SCREW
4	BLOWER
5	BLOWER_SCREW
6	NUT

Parameters mapped to CAD and built to Part Structure

Find Number parameter stored on the CAD structure

File Name	Number	Quantity	FINDNUMBER	State
blower.asm	BLOWER.ASM	1	4	In Work
blower_screw.prt	BLOWER_SCREW.PRT	4	5	In Work
engine.asm	ENGINE.ASM	1	2	In Work
engine_screw.prt	ENGINE_SCREW.PRT	4	3	In Work
frame.prt	FRAME.PRT	1	1	In Work
nut.prt	NUT.PRT	1	6	In Work



Build process propagates attributes to Find Number on Part Structure / BOM

Number	Name	Version	Find Number	Quantity	Unit
0000000174	frame.prt	A.1 (Design)	1	1	ea
0000000170	blower.asm	A.1 (Design)	4	1	ea
0000000166	engine.asm	A.1 (Design)	2	1	ea
0000000164	engine_screw.prt	A.1 (Design)	3	4	ea
0000000163	nut.prt	A.1 (Design)	6	1	ea
0000000161	blower_screw.prt	A.1 (Design)	5	4	ea

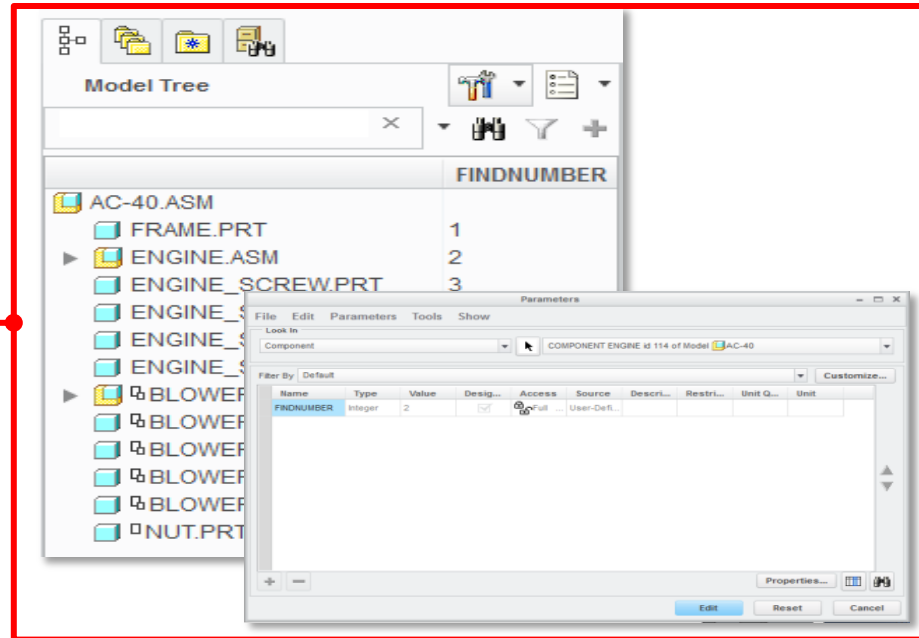
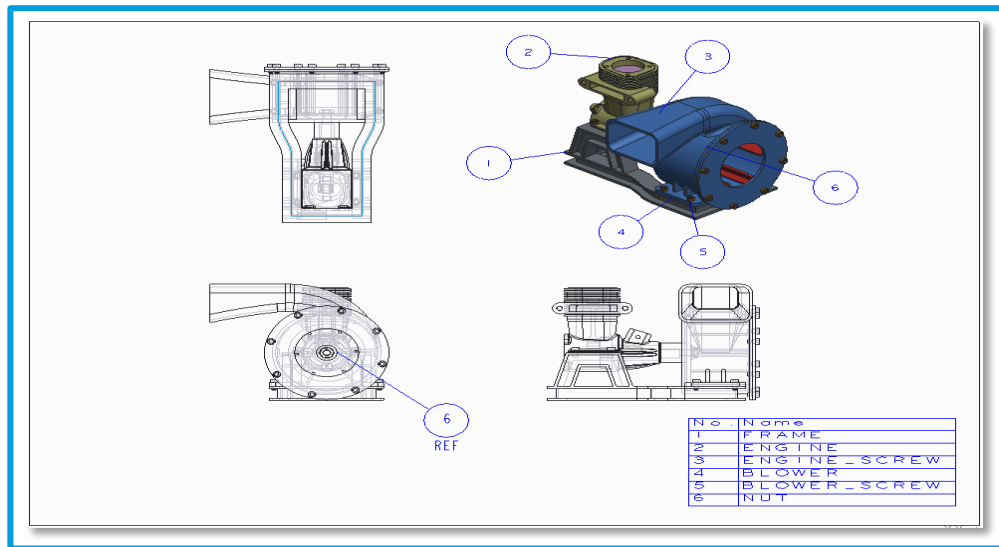
Ability to drive PTC Windchill Find Number or Line Number from CAD BOM

Managing and Maintaining the values with PTC Creo

Propagated to drawings

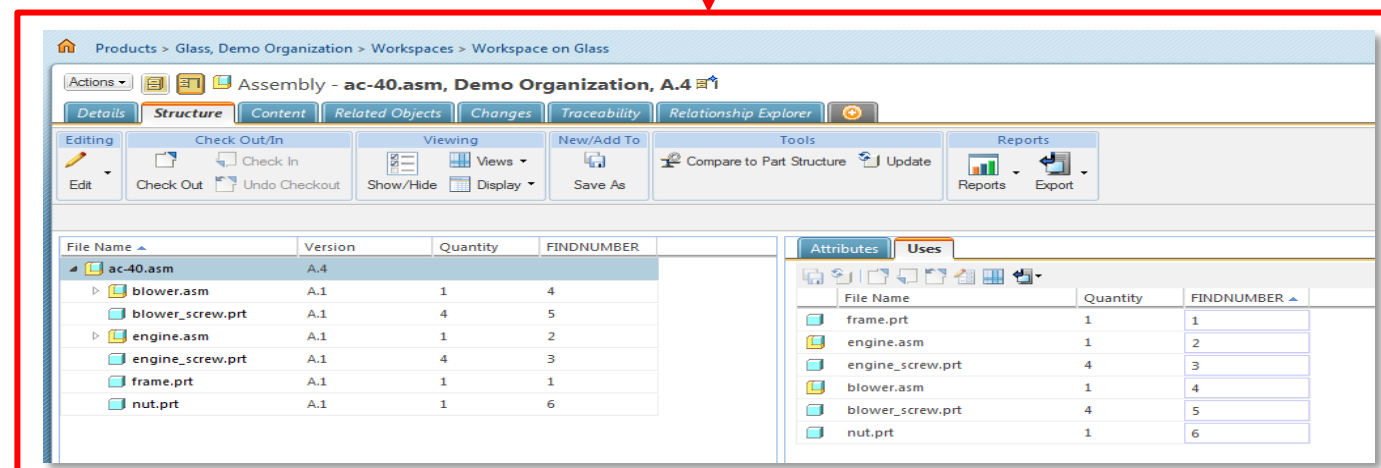
Edit Values

Propagated to Part BoM



Identity	Find Number
0000000129, ac-40.asm, Demo Organization, A.1 (Design)	
0000000122, blower_screw.prt, Demo Organization, A.1 (Design)	5
0000000124, blower.asm, Demo Organization, A.1 (Design)	4
0000000132, nut.prt, Demo Organization, A.1 (Design)	6
0000000133, engine.asm, Demo Organization, A.1 (Design)	2
0000000135, engine_screw.prt, Demo Organization, A.1 (Design)	3
0000000136, frame.prt, Demo Organization, A.1 (Design)	1

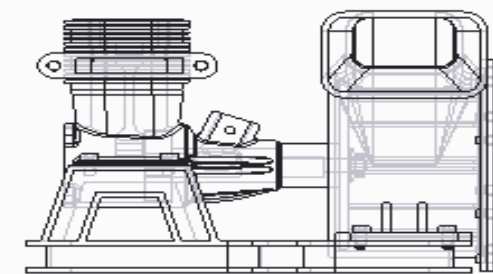
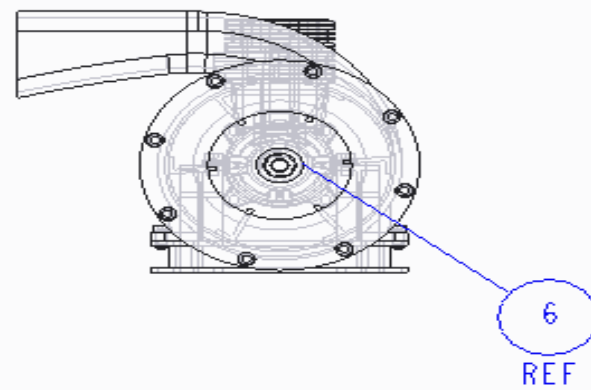
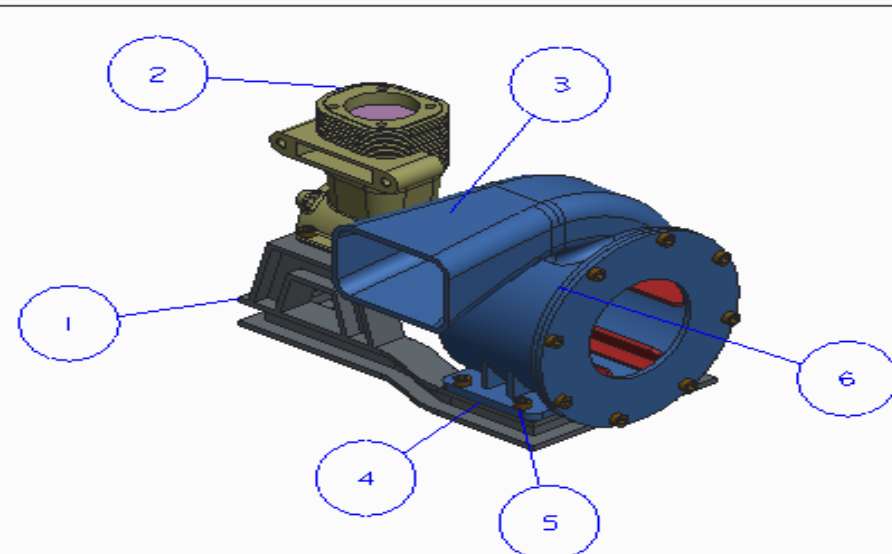
Edit Values



Build

Drawing and PTC Windchill BOM are in Sync

Identity ▲	Find Number
0000000129, ac-40.asm, Demo Organization, A.1 (Design)	
0000000122, blower_screw.prt, Demo Organization, A.1 (Design)	5
0000000124, blower.asm, Demo Organization, A.1 (Design)	4
0000000132, nut.prt, Demo Organization, A.1 (Design)	6
0000000133, engine.asm, Demo Organization, A.1 (Design)	2
0000000135, engine_screw.prt, Demo Organization, A.1 (Design)	3
0000000136, frame.prt, Demo Organization, A.1 (Design)	1

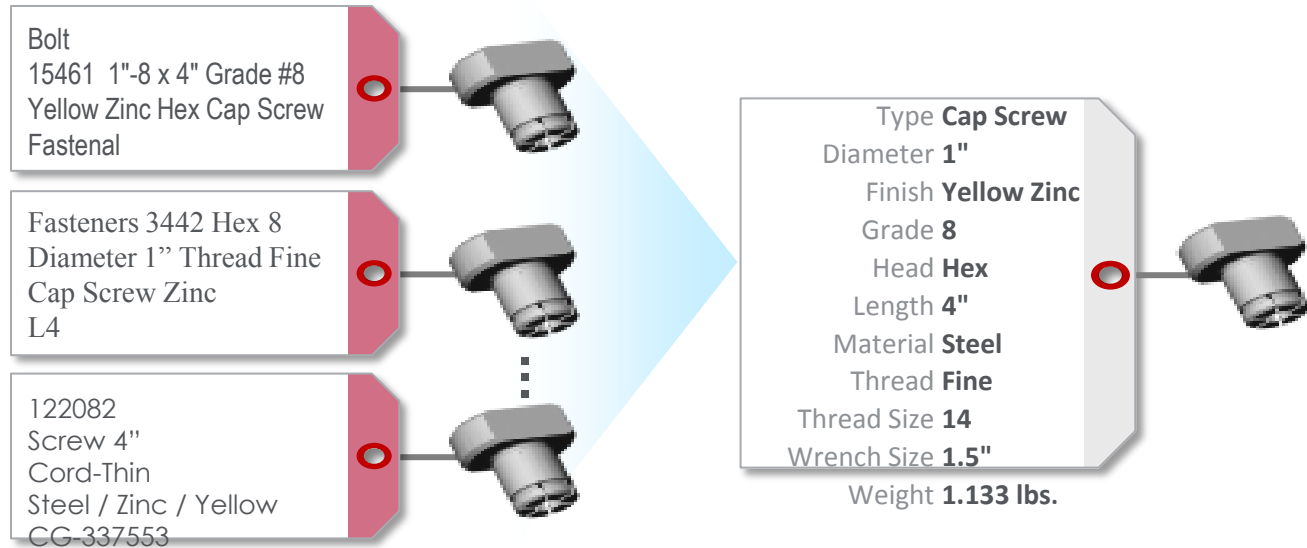


No.	Name
1	FRAME
2	ENGINE
3	ENGINE_SCREW
4	BLOWER
5	BLOWER_SCREW
6	NUT

There is a whole lot more you can do with PTC Windchill Parts...

- PTC Windchill PartsLink

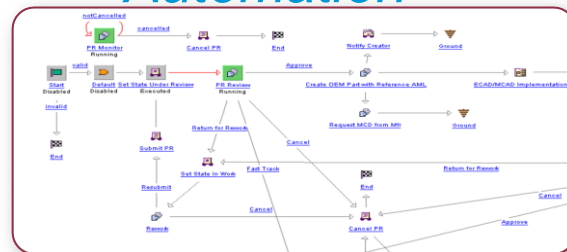
Part Characterization / Classification



High-Speed Search



Part Mgmt. Process Automation



- Windchill Supplier Management

AML/AVL Management



Manufacturers:
Organizations who market off-the-shelf components



Vendors:
Organizations who supply components or assemblies



Sourcing Contexts: Sourcing environments with common characteristics

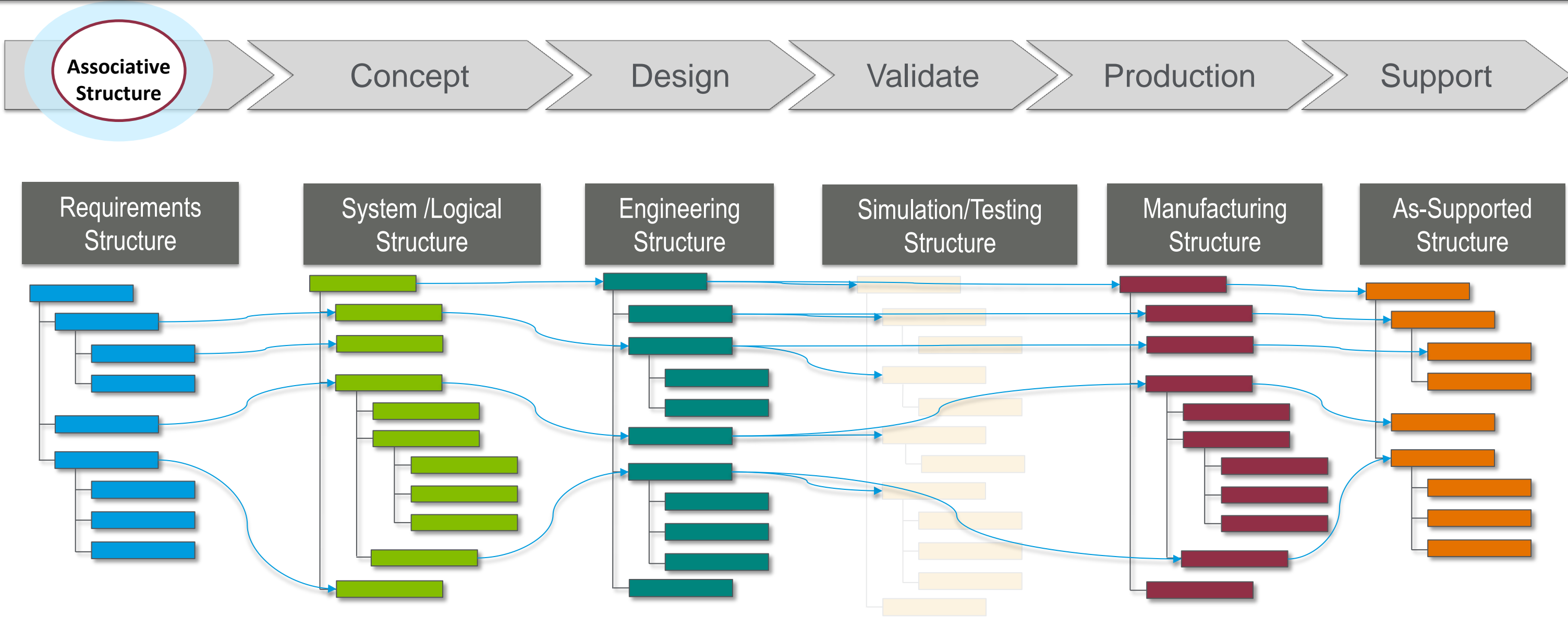


Vendor Parts:
Components that can be purchased



Manufacturer Parts:
Off-the-shelf commercial parts, specified by a manufacturer

Associative Structures



PTC Topic	Date	Time	Room	Customer Session	Date	Time	Room
PTC109: Best Practices for Managing Your Product Configurations	6/8/2015	2:15PM	Lincoln DE	Part113: Part-Centric PLM in a Drawing-Centric World: How we Manage Complete Part Specs	6/8/15	1:15PM	Lincoln A
PTC114: Part Types in PTC Windchill	6/8/2015	4:00PM	Lincoln DE	Cust124: Linked Data in Real Life: How "Owner Links" Change Everything, Solar Turbines	6/8/15	5:00PM	Cheekwood ABC
PTC201: Managing Configurable Product Platforms	6/9/2015	10:00AM	Presidential Boardroom A	Part201: Ninja MCAD/ECAD BOM Creation Scott Claes	6/9/15	1:15PM	Hermitage AB
PTC214: Managing the SKU Development Process for Consumer Products	6/9/2015	2:15PM	Lincoln DE	Cust238: GE Aviation Systems PLM Journey to Effective Global Concurrent Engineering	6/9/15	5:00PM	Washington B
PTC238: Driving Part Re-Use: ROI and Best Practices for Maximize Design Reuse	6/9/2015	5:00PM	Jackson AB	CUST305 Demo of Alcon Change Management Process Using CAD Driven Product Structure	6/10/15	8:15AM	Heritage E
PTC310: Moving to MBOM (Unifying Engineering and MFG Planning) with PTC Windchill MPMLink	6/10/2015	10:30AM	Jackson AB	Cust321: Whether Bottoms Up or Top Down Design: Let PTC Windchill do the Heavy Lifting, TE Connectivity	6/10/15	11:30AM	Heritage E
PTC300: Moving from PDM to PLM: The Value of Associative BOM	6/10/2015	8:15AM	Hermitage D				

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- Gain a chance to win an instant prize!
- Please complete your session evaluation now

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