

# Overview

## Purpose:

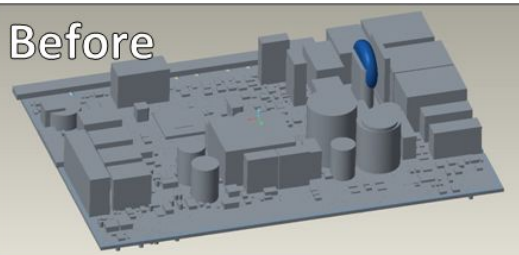
To associate an accurate 3D electronic component model with all new part requests.

## Goal:

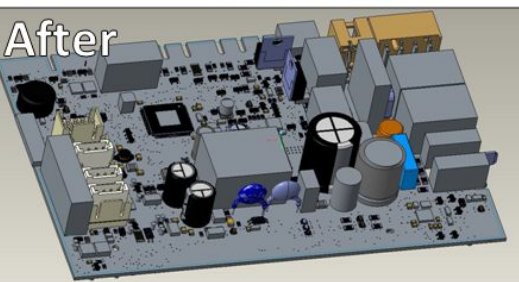
By associating 3D electronic components with the part in Windchill and in Cadence, we will reduce the number of unforeseen physical violations between PCB components and their enclosures.

How do we link up multiple parts to a single component CAD Model?

Before



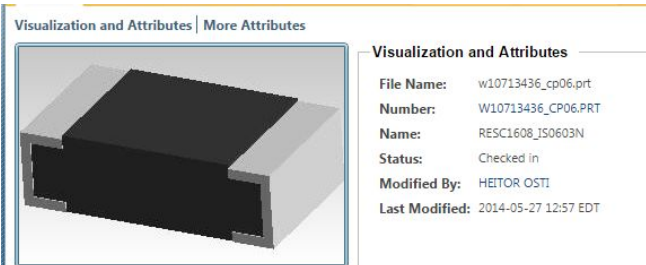
After



# Options

1. Neutral Part / Equivalent Links
2. Content Link

Part_no	Desc	CellName
W10113235	RES METF 1.8K 1/10W 5% SM0603	RESC1608_IS0603N
W10113247	RES METF 5.6K 1/10W 5% SM0603	RESC1608_IS0603N
W10113257	RES METF 15K 1/10W 5% SM0603	RESC1608_IS0603N



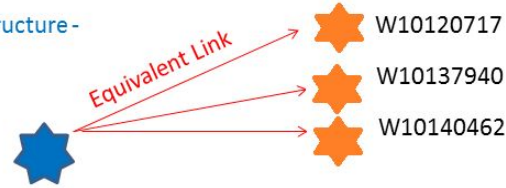
2	Footprint	Sum of Parts
1233	RESC0603_IS0201N	15
1234	RESC1005_IS0402N	284
1235	RESC1608_IS0603N	396
1236	RESC1608_IS0603N_B	1
1237	RESC2012_IS0805N	249
1238	RESC2012_IS0805N_B	14
1239	RESC3216_IS1206N	230
1240	RESC3216_IS1206N_B	15
1241	RESC3216_IS1206N_D	1
1242	RESC3225_IS1210N	25
1243	RESC3225_IS1210N_Z070	1
1244	RESC4632_IS1812N	1
1245	RESC5025_IS2010N	41
1246	RESC5025_IS2010N_B	2
1247	RESC5025_IS2010N_LR	1
1248	RESC6332_IS2512N_B	37
1249	RESC6332_IS2512N_D	1
1250	REST2_500P1300X900B_PD80	1
1251	REST2_KOA_J1-6Z	4
1252	REST2_KOA_Z25Y	1
1253	REST2_PHNX_AC05	2
1254	RESTA2_1016P254X750	15

Many Parts to 1 3D Model - Need efficient linking capability.

# 1. 3D model linkages - with Neutral Part approach

ECAD Librarian provide the the Footprint name to ECAD

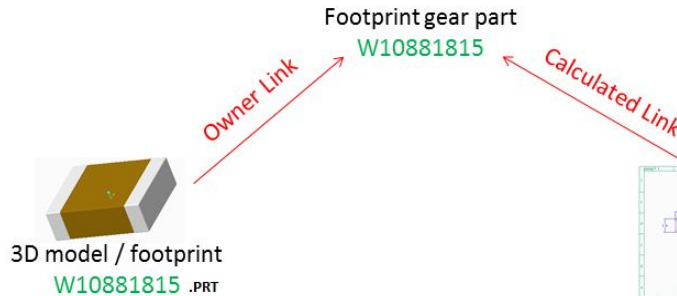
CAPC3225\_IS1210N Linkage Structure -



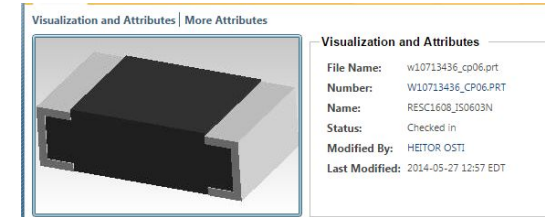
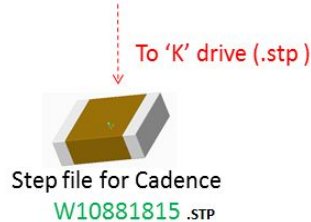
Neutral part will be linked to all Hardware Component Parts using Equivalent links

*(Customization? Engineering View - Engineering View?? Already done)*

MCAD person creates the .PRT and also creates a WTPart (W8) number



Copies the .STP file to Cadence library area.



Also create a drawing and links to CAD or Part.

Benefit: Each part has viewable

## 2. 3D model linkages - w/o Neutral Part approach

ECAD Librarian provide the the Footprint name to ECAD

**RESC1608\_IS0603N  
FOOTPRINT**



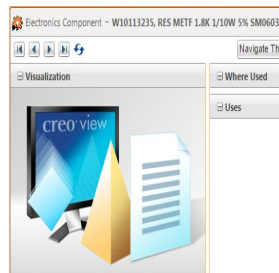
MCAD person creates the .PRT and links to all Component parts

**RESC1608\_IS0603N.prt**

Need to find the link

Copies the .STP file to Cadence library area.

**RESC1608\_IS0603N.stp**



Part has no viewable

*\*Image link is not supported linking one CAD file to multiple Parts.*

Content Link

One Cell/footprint is used by multiple hardware components

	W10113235	RES METF 1.8K 1/10W 5% SM0603
	W10113247	RES METF 5.6K 1/10W 5% SM0603
	W10113257	RES METF 15K 1/10W 5% SM0603

Libraries > Hardware - Global Electronics Execution, Whirlpool > CAD Documents

Actions **CAD Part - resc1608\_is0603n.prt, Whirlpool, E.2**

Details Content **Related Objects** Changes History New Tab 1 x New Tab 2 x Relationship Explorer

Where Used | Parts | CAD/Dynamic Documents | Distribution Targets | Action Items | Managed Collections | Contexts | Baseline

Name	Actions	Number ↑	Version	Association
RES METF 1.8K 1/10W 5% SM0603		W10113235	A.2 (Engineering)	Content
RES METF 5.6K 1/10W 5% SM0603		W10113247	A.2 (Engineering)	Content
RES METF 15K 1/10W 5% SM0603		W10113257	A.2 (Engineering)	Content

- ★ No need to create a WTPart in this approach.
- ★ No need for Owner Links
- ★ Link .PRT(CAD) to HW Components directly using Content Link from MCAD workspace
- ★ Easy for ECAD librarian to link step model and Cadence footprint because<sup>5</sup> no change in name

# Options & Pros/Cons

## Neutral Part Approach

### Pros

- ★ Follows a standard that each .PRT will have a Part created in the system.
- ★ Can drive the viewable to linked HW Components via Equivalent links

### Cons

- ★ Need to introduce a new WTPart for each unique symbol
- ★ Part Type cannot be Electronics Component, and Only with Engineering View??
- ★ Does it needs to be Released? If so, will there be any issues linking with other parts?
- ★ How does the Equivalent links will be managed when components get updated?
- ★ Lot of manual procedure?

## No Neutral Part Approach

### Pros

- ★ No need to create a WTPart in this approach.
- ★ No need for Owner Links
- ★ Link .PRT(CAD) to HW Components directly using Content Link from MCAD workspace
- ★ Easy for ECAD librarian to link step model and Cadence footprint because no change in name

### Cons

- ★ Image link is not allowed to link multiple parts to one CAD Document
- ★ Driving the Viewable from CAD to HW Component via Content link is not possible??

Recommendation: \_\_\_\_\_