33nd CATIA Forum

Moving from Component to a Product

CAD services

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- Key features

- Use case

- Get a Product from a Component
  - Motivation
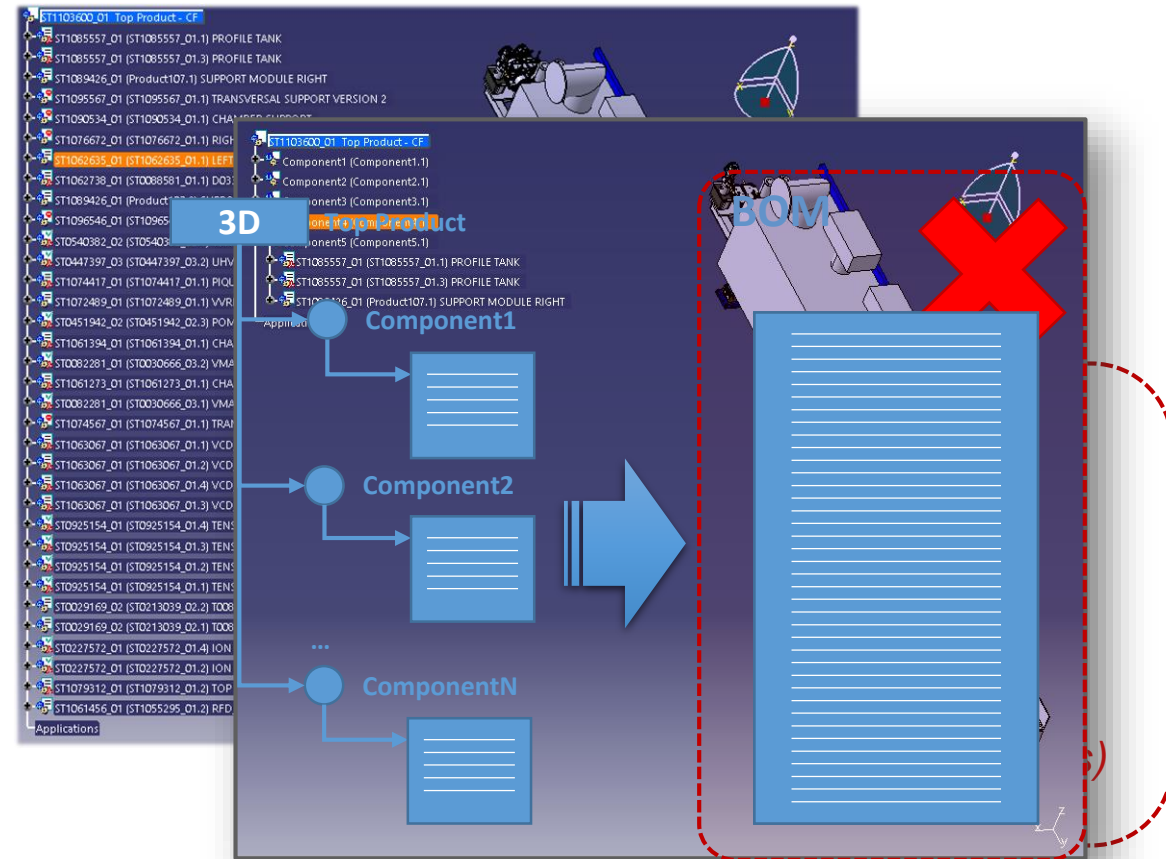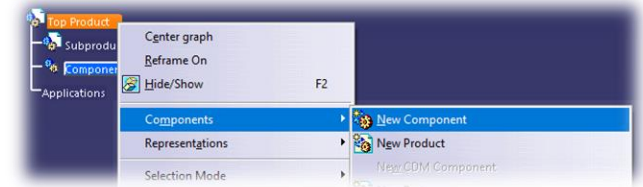 - CATIA Options
  - General procedure

- Additional information

Component

✓ It is an option to arrange instances within an assembly

✓ Useful for creating a tree structure for large assemblies

✓ It behaves exactly as an Assembly

✓ It does not generate a separate file, saving its information under the first parent Assembly upstream.

✓ BOM Transparent

But…

⚠ Cannot be saved independently.

⚠ Cannot be opened in a new window.

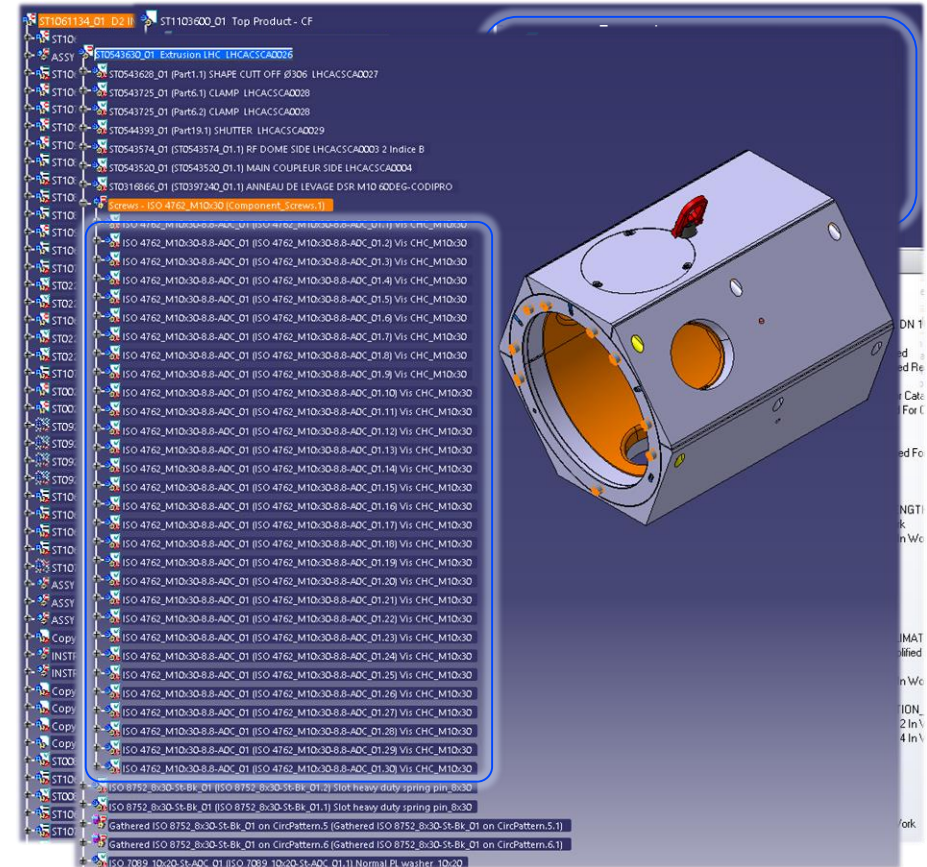⚠ Cannot be used into another Assembly (will be explained later).

USE CASE

Reasons to work with components

- Assembly with lots of first-level dependencies

- Show different design study options under the same file when scenes are not applicable (temporary solution)

- Facilitate selection of multiple elements

- There are specific elements repeated several times:

  - Nuts

  - Screws

  - …

Work-based decision

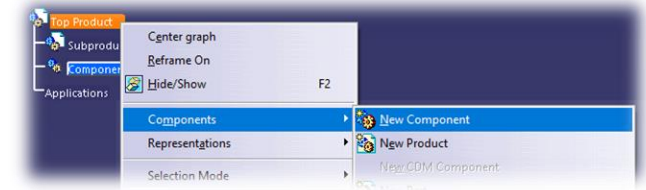*It makes easier to work under some circumstances, without creating additional data in SmarTeam.*
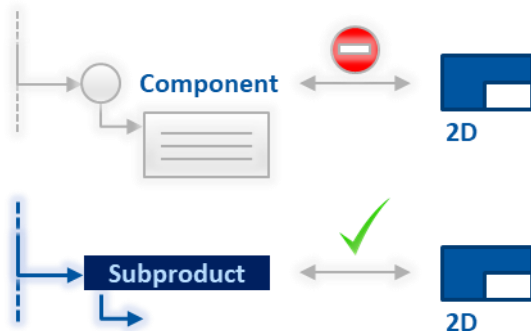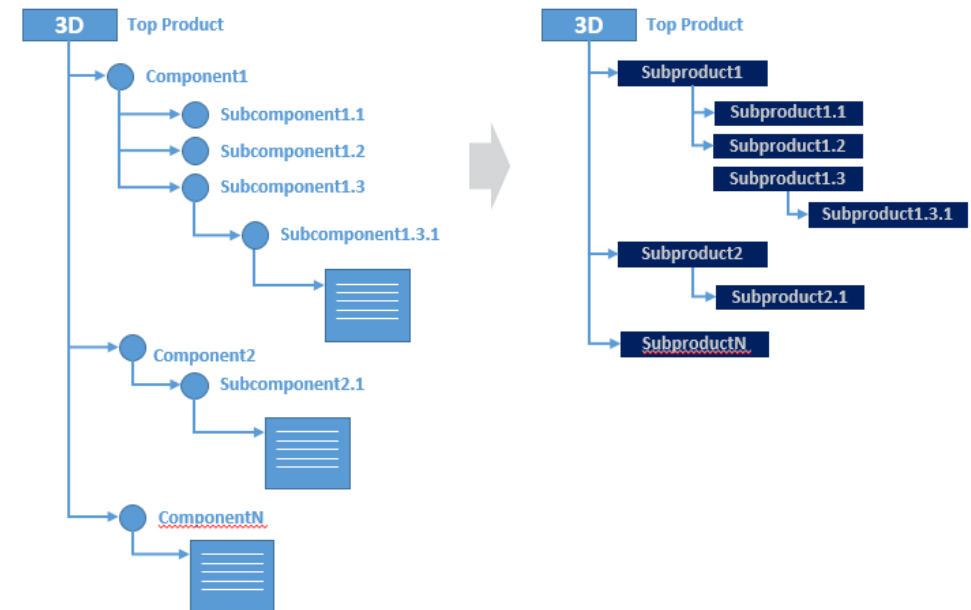
GET A PRODUCT FROM A COMPONENT

MAIN MOTIVATION

➢ **Complex Component tree structure created.**

➢ Reusing the structure created into another assembly

➢ Simplify the BOM

➢ …

Complex Structure (Work independently)

Enable creation of intermediate level drawings
(if the mounting sequence evolves for instance)

MAIN MOTIVATION

➢ Complex Component tree structure created.

➢ **Reusing the structure created into another assembly**

➢ Simplify the BOM

➢ …

Reuse the structure in other assembly

❗ *Actually it is possible… but it requires that the original assembly where the component was created is opened in session.*

Source component and copied component will be completely independent from each other.

Modifications performed on the source component will not be propagated to the copied component
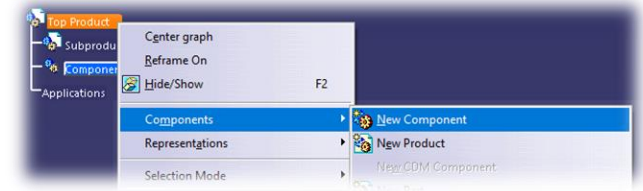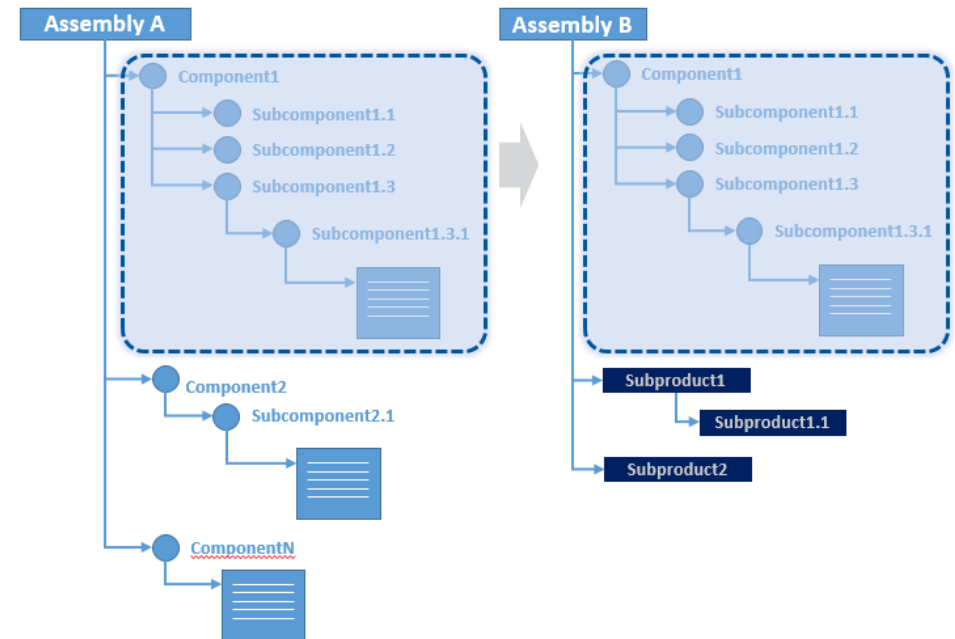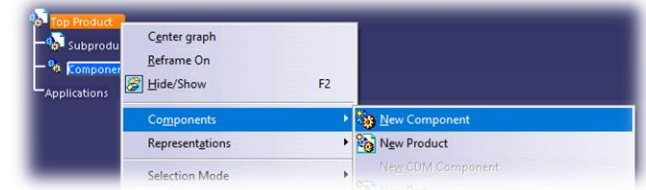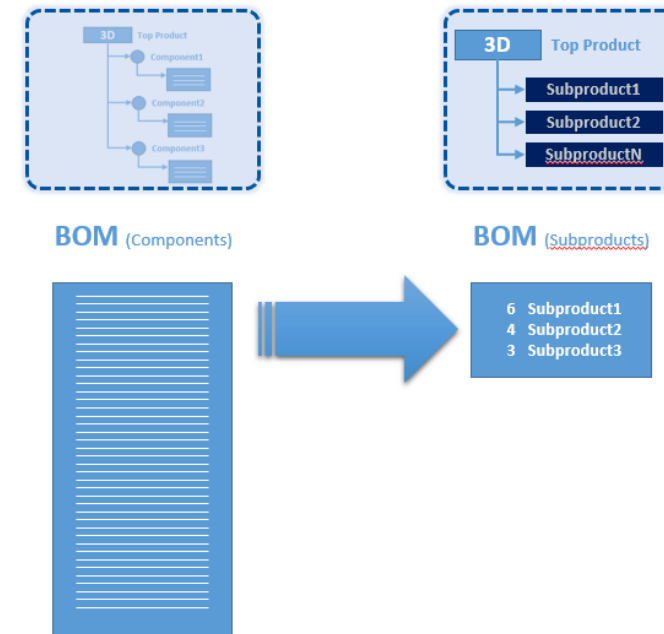
GET A PRODUCT FROM A COMPONENT

MAIN MOTIVATION

➤ Complex Component tree structure created.

➤ Reusing the structure created into another assembly

➤ **Simplify the BOM**

➤ …

Makes the BOM simpler

BOM (Components)

BOM (Subproducts)

6 Subproduct1
4 Subproduct2
3 Subproduct3

No direct way to "switch"

There is no direct option to transform a component into an assembly
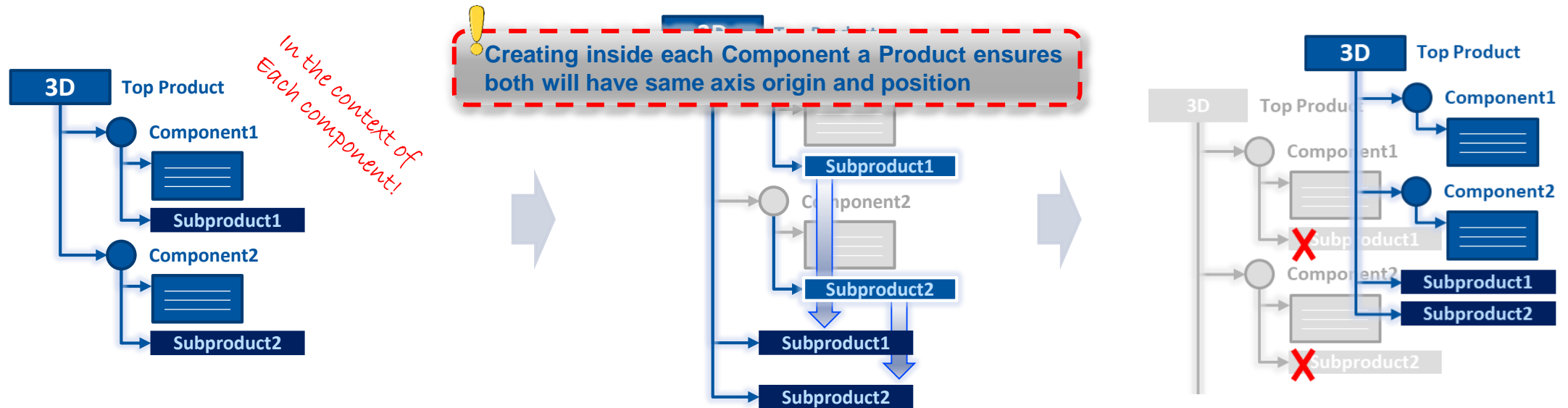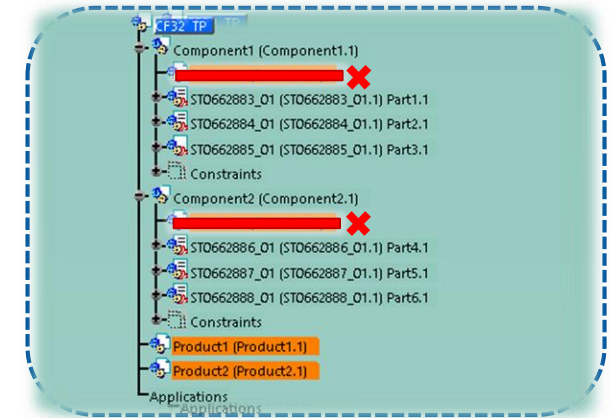
GET A PRODUCT FROM A COMPONENT

1. CREATE AN EQUIVALENT PRODUCT STRUCTURE

Best approach:

In the Component Tree structure (CTS) to be replicated…

1. Create a new Product underneath every existing component

2. Copy/Paste New Products outside the CTS in equivalent relative position

3. Remove the New products under Component-Structure

In the context of Each component!

> ⚠️ **Creating inside each Component a Product ensures both will have same axis origin and position**

(1) Create a new Product below any component

(2) Replicate the component tree-structure

(3) Delete the New products from comp.-structure

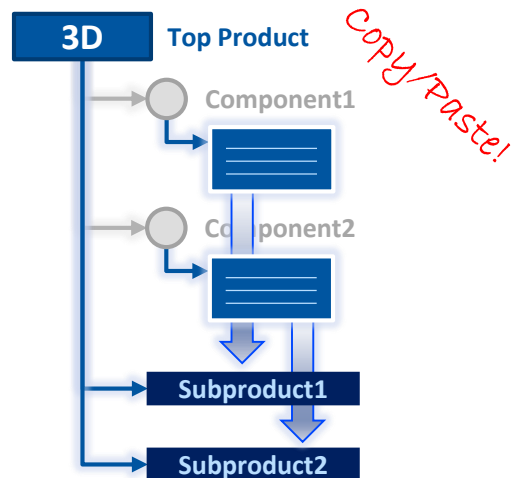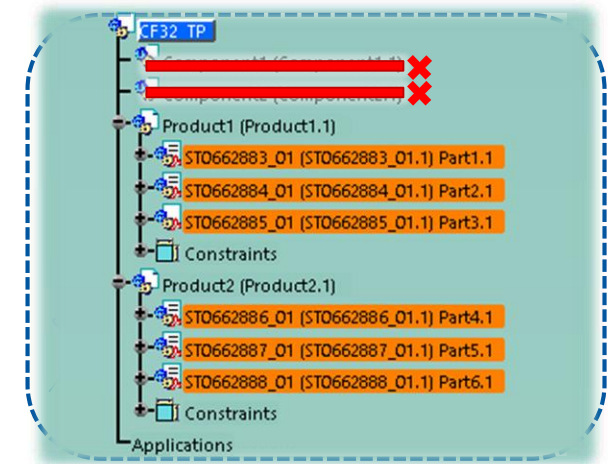# GET A PRODUCT FROM A COMPONENT
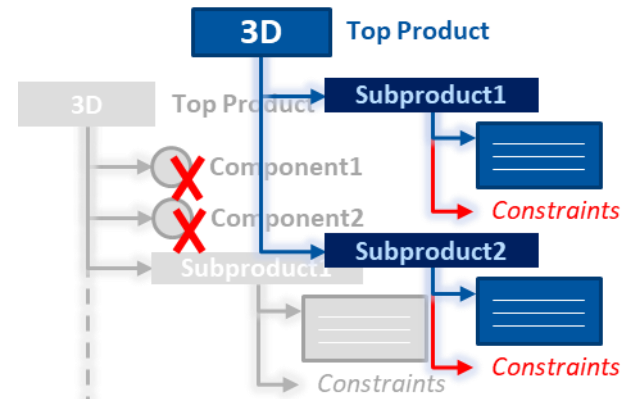
2. PLACE THE DATA UNDER NEW PRODUCTS

Best approach:

For every group of dependencies in the same level in the CTS…

1. Copy/Paste each group in the equivalent Product Structure level

2. Once done, remove the complete CTS.

3. Save it in SmarTeam

(1) Copy/Paste dependencies in the Product structure

(2/3) Remove the complete CTS + Save in SmarTeam

ADDITIONAL INFORMATION

Some final considerations…
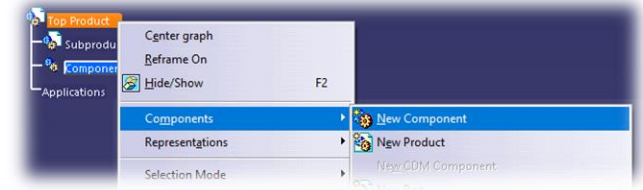
- **It is not a transformation**

  We are moving the data from a Component structure to a Product Structure.

- **These strategy can be useful under specific circumstances**

  Complex structure created, BOM Modification, reusing,...

- **Is there any way to reuse a component in another assembly?**

  Yes, it is possible, as long as the original Assembly where it was created is open in session.

Special thanks to Alberto who did this presentation

We wish him a prompt recovery !

Thank you!!

Questions?