TEAMCENTER

Structure Partitions — Usage

Teamcenter 2412

SIEMENS

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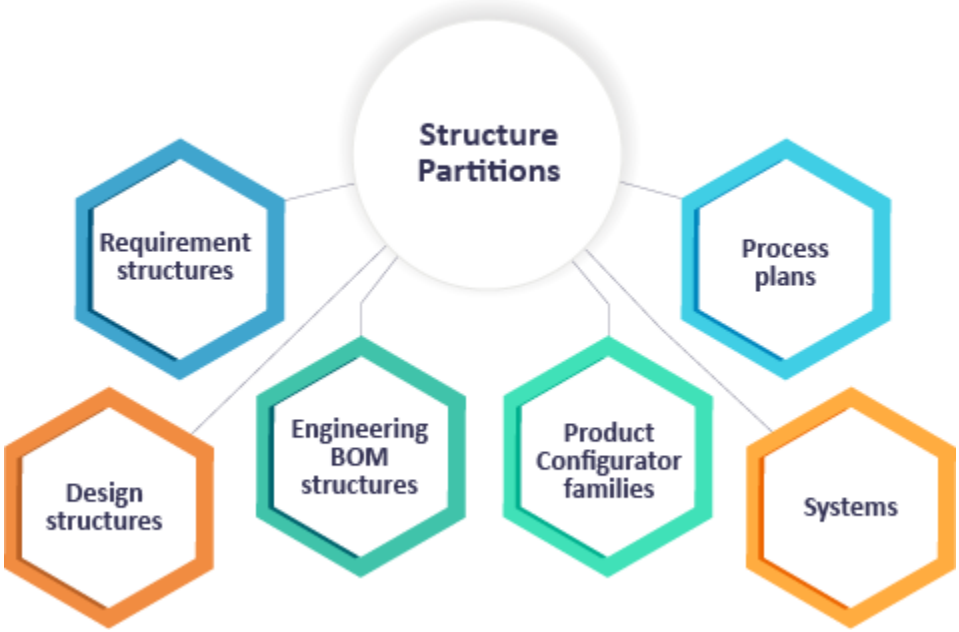
1. About Structure Partitions

BOM engineers, designers, and downstream and upstream consumers mostly work with specific structures (assemblies) rather than the entire product itself. In the case of complex and large products, locating the required structure becomes tedious. To help users easily find the required structure, as a BOM architect, you can divide a large product into smaller, manageable sections called *partitions*. Structures can be arranged logically and hierarchically within partitions. For example, you can divide the product structure of a car into different partitions such as steering, engine, suspension, chassis, and brakes.

Partitions can belong to different *partition schemes* such as functional, physical, or spatial. Every structure can be organized within one or more partitions as per the partition scheme without having the need to duplicate the structure. For example, the engine structure can belong to partitions in the physical and the functional partition schemes.

Partitions can be used to organize different kinds of structure data such as requirements, engineering BOM, and Product Configurator families.



Where do I go from here?

Business User	
I want to create partitions.	As partitions are created within partition schemes, you must first **create partition schemes** and then **add partitions** to these schemes.

I want to verify if all structure elements are assigned to partitions.	You can find out if you have **missed assigning any structure elements to partitions**.
I want to filter a product structure.	You can **filter a product structure by partitions** to locate the structure that you want to work in. There are several additional ways to filter a structure if you have the Smart Discovery for Structures license.
Can I add a structure element to multiple partitions?	Yes, you can **add a structure element** to more than one partition. You can also add the structure element to partitions that belong to different partition schemes.
How do I find out to which partitions a structure element is added?	See how to **find the partitions in which a structure element is available**.
Can I work with structures within partitions?	Currently, you can perform only certain Structure Management tasks for structures organized within partitions. Only the commands related to these tasks are enabled on the user interface for a selected element within a partition. To understand how to perform these tasks, see *Structure Management on Active Workspace — Usage*.

2. Create partition schemes

Partitions are used to organize the contents of a product structure. Partitions are created within *partition schemes*. A partition scheme contains attributes that specify the characteristics of a collection of partitions, for example, the type of child partitions or the number of top-level partitions the scheme may contain. Partition schemes can be of different types such as functional, spatial, or physical.

Partitions that are used to organize the contents of a product structure are created within *partition schemes*. A partition scheme contains attributes that specify the characteristics of a collection of partitions, for example, the type of child partitions or the number of top-level partitions the scheme may contain. Partition schemes can be of different types such as functional, spatial, or physical.

1. Open the product structure (item revision, part revision, or design revision) for which you want to create the partition schemes.

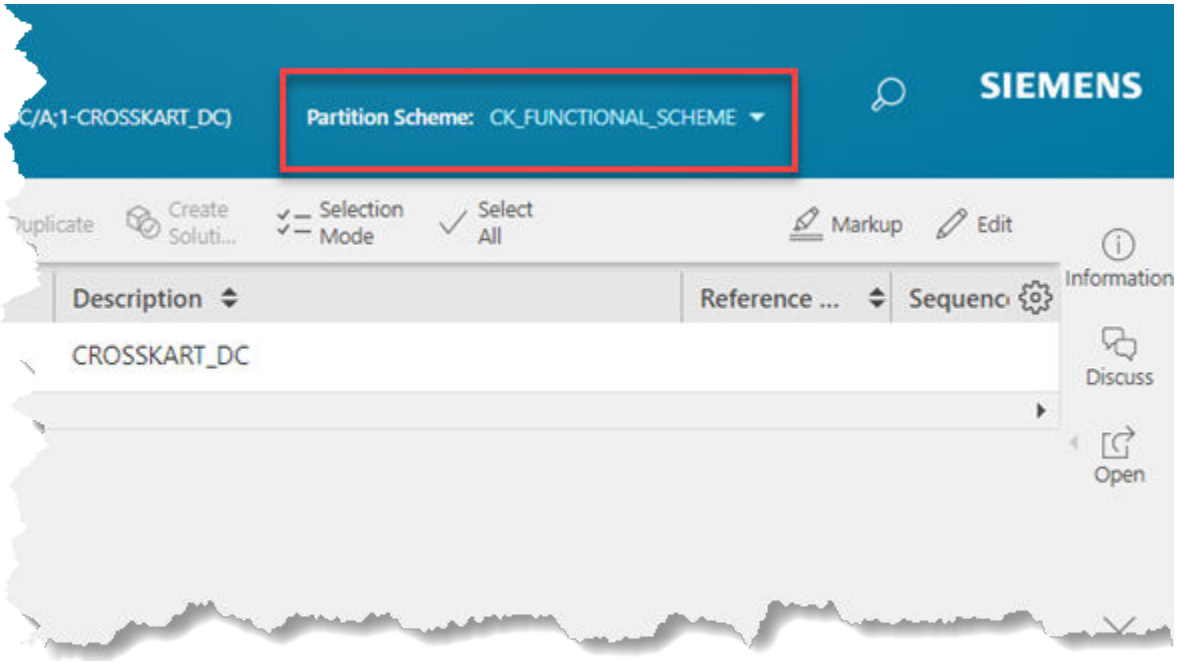
2. Select the topmost element of the structure, and click **Add** ⊕ > **Partition Scheme** ⊕.

3. In the **Partition Scheme** panel, select the type of scheme that you want to create, for example, **Function**.

4. Enter the required information and click **Add**.

> Note:
>
> Once you create a partition scheme of a specific type, you cannot create another scheme of the same type.

The partition scheme that you created is displayed on the screen. If this partition scheme is set as the primary scheme by your administrator, it is indicated as **Primary** in the **Partition Scheme** list. By default, a structure opens in the primary partition scheme. However, you can choose to load the structures in a different partition scheme by overriding the **PTN_DefaultPrimaryScheme** preference set by the administrator. In this case, by default, the structures will open in the partition scheme that you have set though this scheme is not the primary scheme.



You can now create additional partition schemes.

To go back to the product structure, select **None** from **Partition Scheme**.

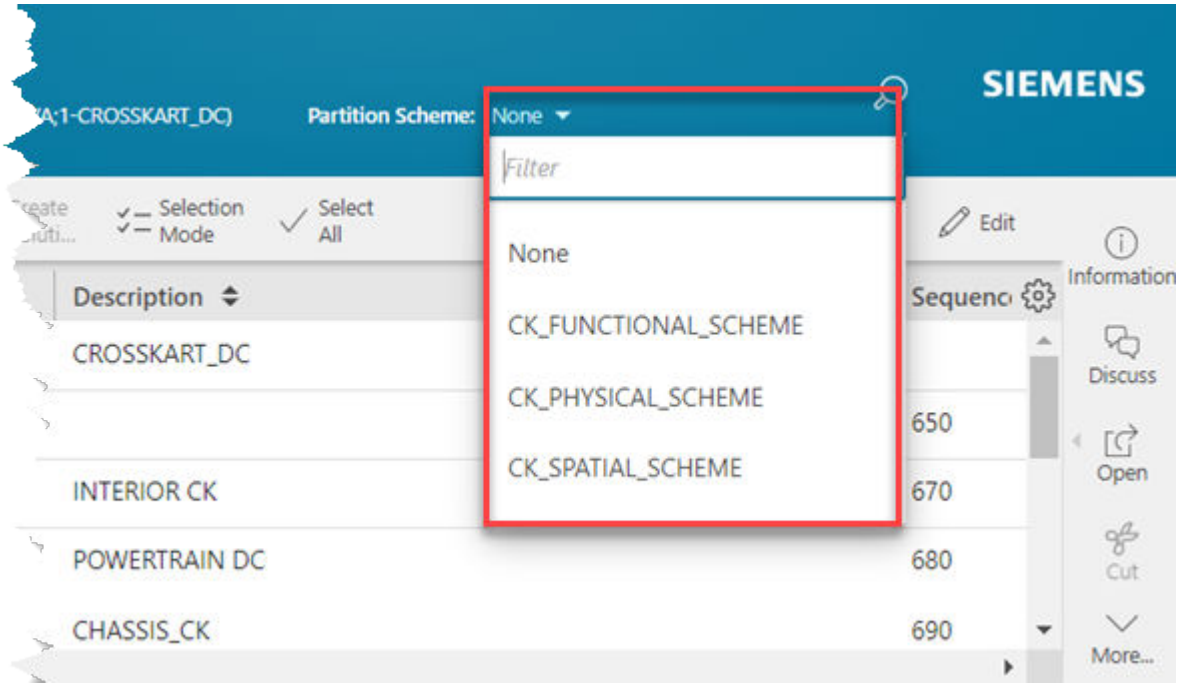
3. Create partitions

Partitions are used to logically organize the different elements of a product structure into a hierarchy that helps users to easily find their required data. Partitions are created within *partition schemes*.

1. Open the product structure (item revision, part revision, or design revision) for which you want to create partitions.

   By default, the structure opens in the partition scheme that is set as the primary scheme by the administrator. However, if you have overridden the preference set by the administrator, the structure opens in the partition scheme that you have set.

2. Select the partition scheme within which you want to create partitions.



3. Click **Partitions** > **Add** ⊕.

4. In the **Add Partition** panel, in the **Type** section, select the type of partition that you want to add.

5. Enter the required information and click **Add**.

Perform the above steps to create:

- A (child) partition within another partition by selecting the (parent) partition.
- Another (top-level) partition within the partition scheme by selecting the partition scheme.

- A partition within another partition scheme by selecting the scheme from **Partition Scheme**.

To go back to the product structure, select **None** from **Partition Scheme**.

4. Add structure elements to partitions

The structure elements included in a partition are called its *members*. To add structure elements to a partition:

1. Open the product structure (item revision, part revision, or design revision) for which you want to organize the content into partitions.

   By default, the structure opens in the partition scheme that is set as the primary scheme by the administrator. However, if you have overridden the preference set by the administrator, the structure opens in the partition scheme that you have set.

2. To add existing elements:

   a. Copy the elements that you want to add to a partition.

   b. Select a partition scheme that contains the required partition.

   c. Paste the copied element to the required partition.

3. To add existing elements in a split view:

   a. Click **Split Context**.

      The **Split View** displays the product structure in two views side by side.

   b. In one view, select a partition scheme that contains the required partition. On doing so, this view displays the partition hierarchy.

      In the other view, set **Partition Scheme** to **None**. This view now displays the product structure.

   c. Copy the elements from the product structure to the required partitions. You can also drag the elements to the required partitions.

4. To add a new element to a partition:

   a. Select the partition and click **Add** > **Child**.

   b. In the **Add Child** panel, enter the required details and click **Add**.

You can add an element to more than one partition.

Additional tasks

Task	Action
Remove an element from a partition	Right-click the element and select **Remove** ⊖. OR Select **Edit Structure** > **Remove** ⊖. If you remove an element that is the child of another element, the child element is removed from both the partition and the parent element.
Move an element to another partition	Drag the element from its current partition to the partition in which you want to add it. You can also copy the element and paste it to the required partition.

5. Unassign a structure element from its partition

The structure elements included in a partition are called its members. You can unassign an element (line) from its partition if you have the required permissions. You can unassign *only* an immediate child element of a partition. You can select and unassign multiple elements (lines). However, you cannot unassign a child partition from its parent partition.

Procedure

1. Click the element that you want to unassign from a partition.

2. Select **Partitions** > **Unassign**.

   The selected element is unassigned from the parent partition.

6. Find structure elements not yet assigned to a partition

While assigning structure elements to different partitions, you may miss assigning some elements. You can locate all such elements that are not yet assigned to a partition. To do so:

1. Open the required product structure (item revision, part revision, or design revision).

2. By default, the partition scheme set as the primary scheme by the administrator is opened. In case you have overridden this setting, the scheme that you have set is opened.

   You can select the a different scheme from **Partition Scheme**, if required.

3. Click **Partitions** > **Find Unassigned**.

   The **Partition Scheme Assignment** view displays the product structure and its partition structure side by side. The product structure view displays the elements that are not yet assigned to any partition.

4. To assign an element to a partition, either drag it or copy it to the required partition. You can add an element to multiple partitions.

   The value in the **Is Partitionable** column for a structure element denotes if the structure element can be assigned to a partition. You can assign only the structure element for which the **Is Partitionable** value is **True**. You cannot assign the structure element for which the **Is Partitionable** value is **False**. If you try to do so, you get an error.

   To remove an element from a partition, right-click the element and select **Remove**.

   To move an element from one partition to another, drag the element from its current partition to the partition in which you want to add it. You can also copy the element to the required partition.

   To exit the **Partition Scheme Assignment** view, click **Exit Partition Assignment**.

7. Filter structures by partitions

You filter a product structure to work with a specific product definition, which is comparatively small. However, for this to work, your system administrator must index the structures using Smart Discovery Indexing.

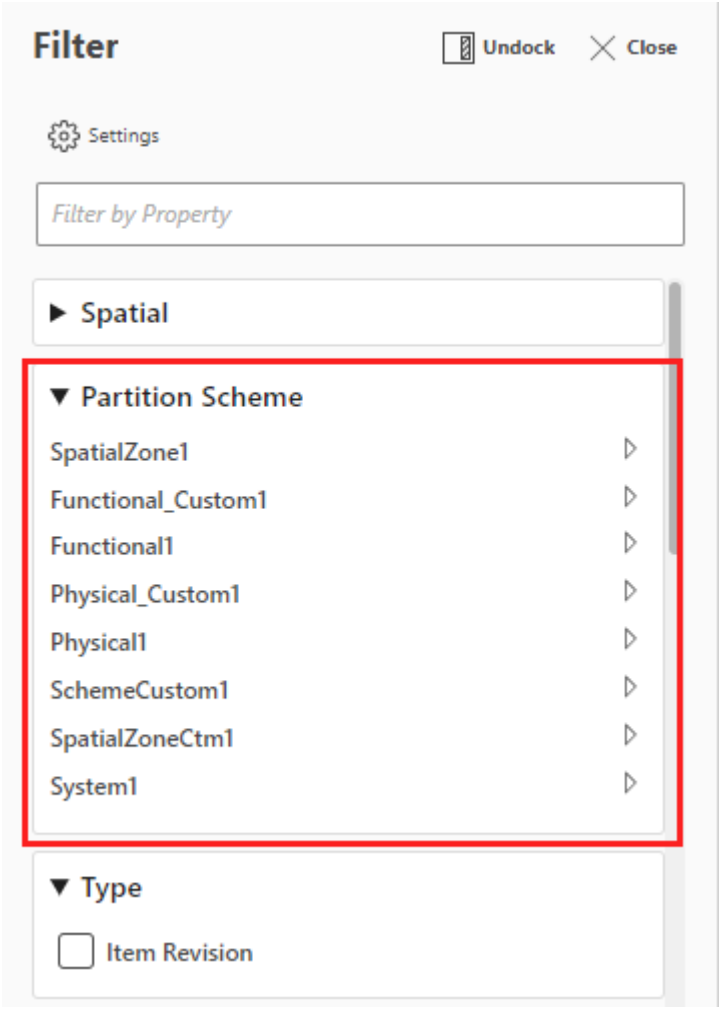
To filter a structure by partitions:

1. Open the structure that you want to filter.

   If a primary partition scheme is set by the administrator, the structure opens in this scheme, by default. However, if you have overridden the preference set by the administrator, the structure opens in the partition scheme that you have set.

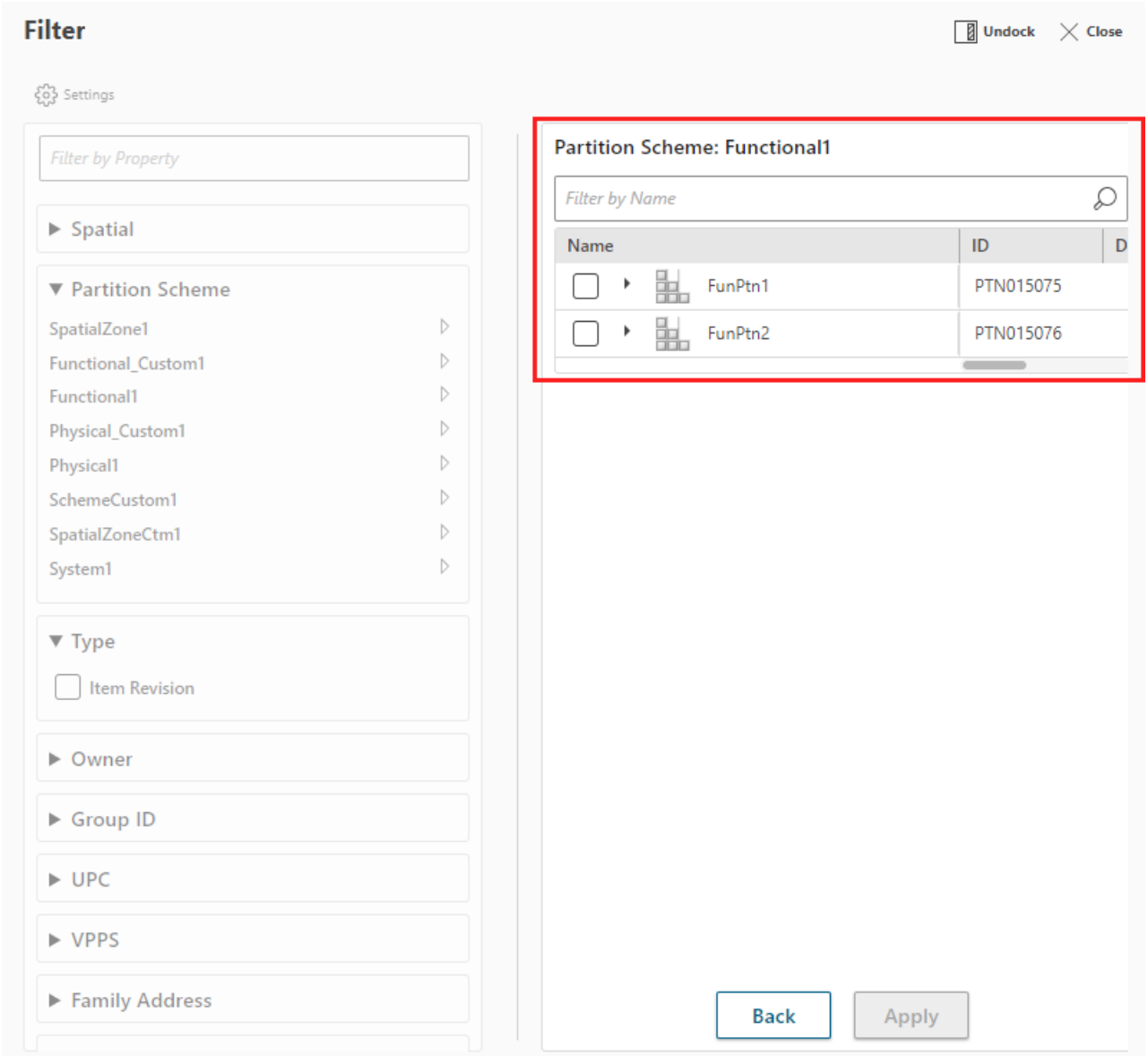
2. Click **Filter** .

   The **Partition Scheme** section on the **Filter** panel lists the partition schemes created for this structure.



3. Select a partition scheme from the list.

   The **Filter** panel displays the partition hierarchy within the selected partition scheme.

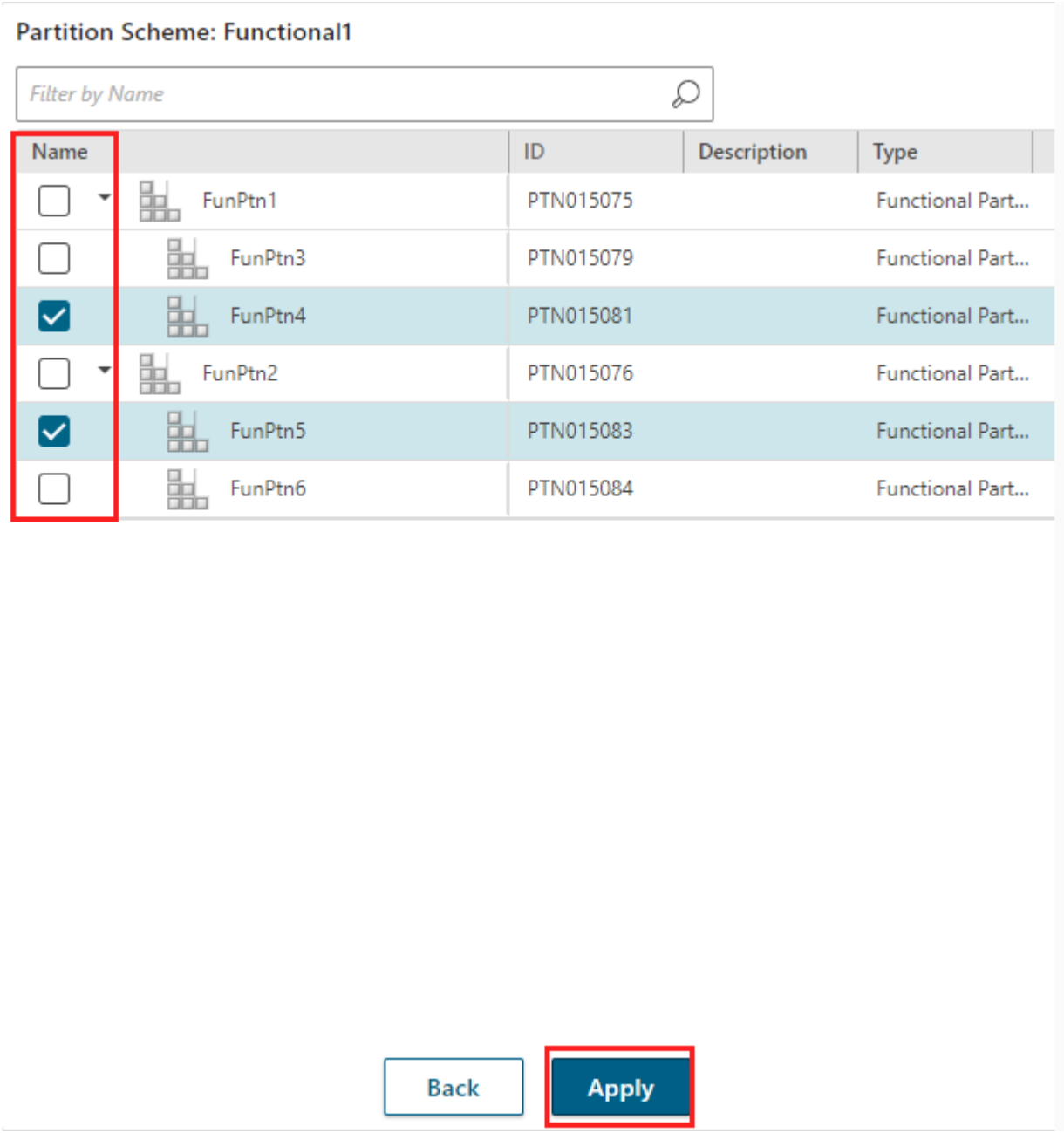


To select the required partition, you can either navigate the partition hierarchy by expanding the tree or by searching for a partition. You can expand a partition and choose a child partition. You can also search for a specific partition in the **Filter by Name** box and select the partition from the results list.

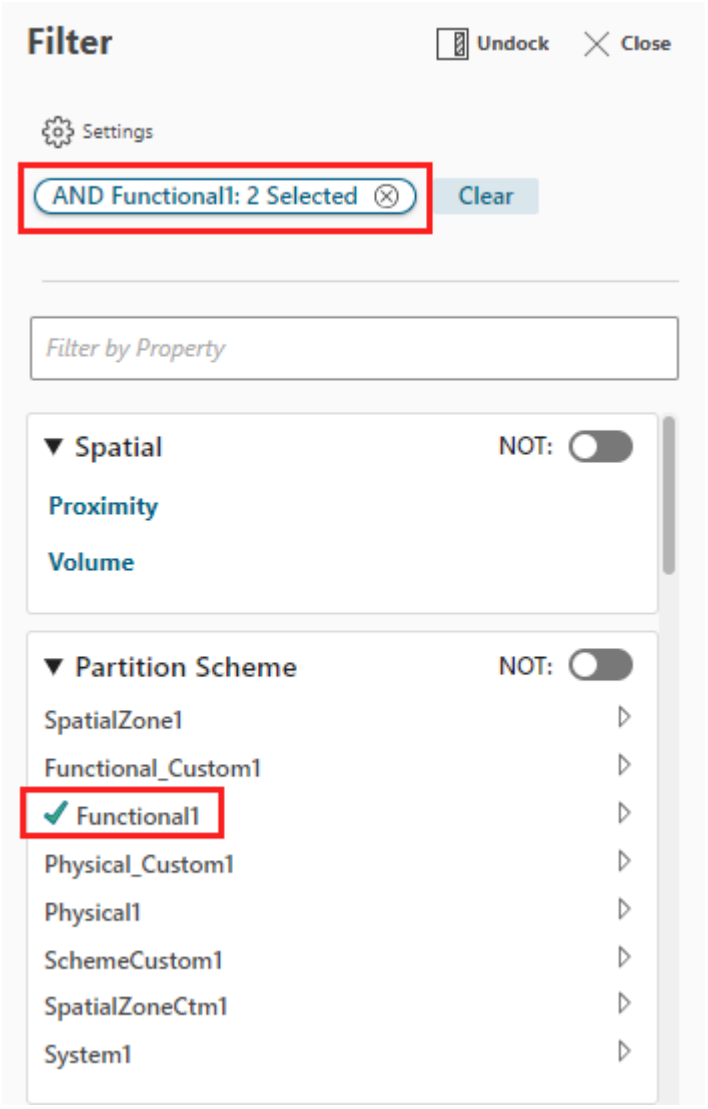
To go back to the partition hierarchy (tree), in the **Filter by Name** box, click ×and then click 🔍. When you go back to the tree, by default, you do not see the partition as expanded, unless you have already expanded it. That is, when you select a partition, the partition hierarchy does not expand automatically up to that level and show you the selection. You have to manually expand the parent partition and then see the partition that you selected.

Teamcenter saves the partition expansion state in a partition scheme. When you reopen the partition scheme, you can see the previous expansion state.

4. Select the required partitions and then click **Apply**.



A filter expression is generated and is displayed at the top of the **Filter** panel. Also, in the **Partition Scheme** section, a tick mark is displayed for the partition schemes from which the partitions are selected for filtering.



To exclude partition schemes as a filter, turn on the **NOT** toggle.

The loaded structure is filtered in real time based on the applied filters.

If you do not want the structure to be filtered in real time while you are applying filters, you can turn off **Auto-apply filters** from **Settings** ⚙. To load the filtered structure in this case, click the **Filter** button on the **Filter** panel.

If a selected partition, in turn, has child partitions, the elements of the child partitions are also considered in the filter criteria.

5. You can also filter the structure by using a combination of volume, proximity, and attributes if you have the Smart Discovery for Structures license.

6. To remove a filter, click ⊗ for the partition scheme.

To remove all filters, click **Clear**.

Tip:

You can save the filtered structure in a session, workset, or a product snapshot for easy retrieval. When you open these later, they retain the filters and scheme applied to the structure.

8. Compare the content in partitions

You can compare the content that is in two partitions when two different configurations are available for comparison, for example, when the content in each partition has a different revision, date, units, variants, and partition schemes. You can compare the content from a single structure where two different partition schemes are applied and where only one structure has a partition scheme applied. However, you must select the same element on both sides in a split view. You can compare the content in partitions that are present in two different structures as well.

Restrictions and limitations

You cannot compare the partition content at the root level in a structure. You must select either a partition or a BOM line for comparison. Further, you must select the same element on both sides in a split view. For example, if you select a partition on one side, you must select a partition on the other side as well. You cannot select a BOM line on the other side.

The content is compared only at the **Current Level**. Therefore, child partitions are not considered. The selected BOM lines are compared and child BOM lines are not considered.

Procedure

1. Open a structure.
2. Click **Split Context**.

   The **Split View** displays the structure side by side in two views.
3. Change the structure configuration, as required. You can do this in both views.
4. Click **Compare** on the task bar.
5. In the **Compare** panel, from **Options** > **Display**, select one or more of the following options to specify what you want to view in the comparison results:

Comparison option	Description
Matched	Displays the elements that are a match in both views.
Different	Displays the elements that differ across the two views.
Unique in Left View	Displays the elements that are only listed in the view displayed on the left.
Unique in Right View	Displays the elements that are only listed in the view displayed on the right.

6. Click **Compare**.

The comparison results are listed under **Results**. Clicking an element in the list highlights that element in the structure. Clicking an element in the structure highlights that element in the list.

> Note:
>
> If you close and relaunch the **Compare** panel by clicking **Compare** on the task bar, the panel is reset and it does not display the previous results.

9. Move a partition within a structure

You can move a partition along with its elements (lines) and child partitions to a different location in the partition hierarchy, but within the same partition scheme. To move a partition, you must have the required access permissions to the partition. You can select and move multiple partitions. In this case, you must select only one or more partitions. You must not select an element (line). If you do, the **Move to Partition** command is unavailable.

Procedure

1. Select the partition that you want to move.
2. Click **Cut**.
3. Select the top BOM line or any other partition, as required.
4. Select **Partitions** > **Move to Partition**.

   The cut partition along with its elements (lines) and child partitions are moved to the new location.

10. Delete a partition

You can delete a partition from a structure only if the partition does not contain any elements (lines) or child partitions. To delete a partition, you must have the required access permissions to the partition. You can select and delete multiple partitions. In this case, you must select the same object type, for example, a BOM line in both cases or a partition. If you do not, the **Delete** command is unavailable.

Procedure

1. Click the partition that you want to delete.

2. Select **Partitions** > **Delete**.

   The selected partition is deleted from the structure.

11. View partitions created for a product structure

1. Open the product structure (item revision, part revision, or design revision).

   By default, the structure opens in the partition scheme that is set as the primary scheme by the administrator. However, if you have overridden the preference set by the administrator, the structure opens in the partition scheme that you have set.

2. Click **Split Context** .

3. To view the product structure and its partition structure side by side, set **Partition Scheme** to **None** in one split view and set it to a specific partition scheme in the other split view.

   Any action that you perform on an element in the partition structure is automatically reflected in the product structure.

   To exit from the split view, click **Exit Split**.

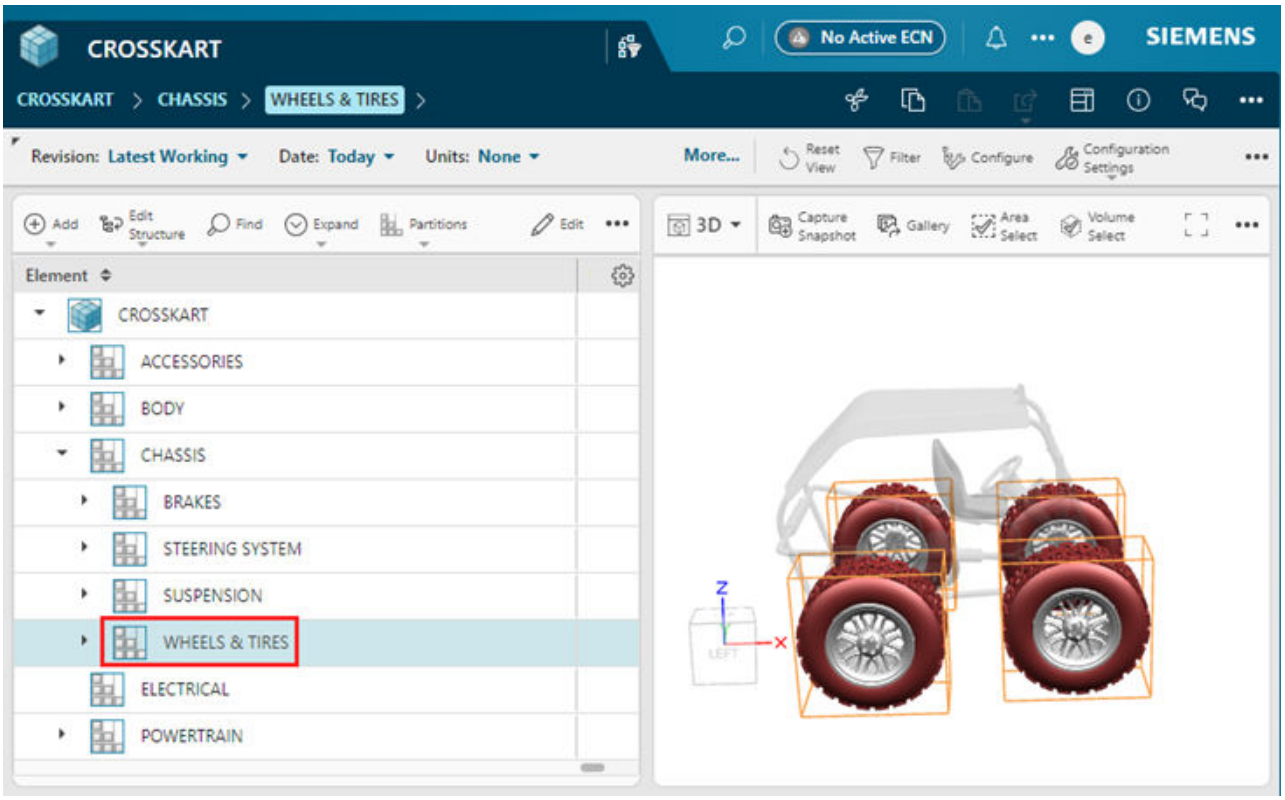
12. Visualize structure elements located within partitions

1. Open the structure that you want to visualize. By default, the structure opens in the partition scheme that is set as the primary scheme.

2. Select the required scheme from **Partition Scheme** that contains the required partitions.

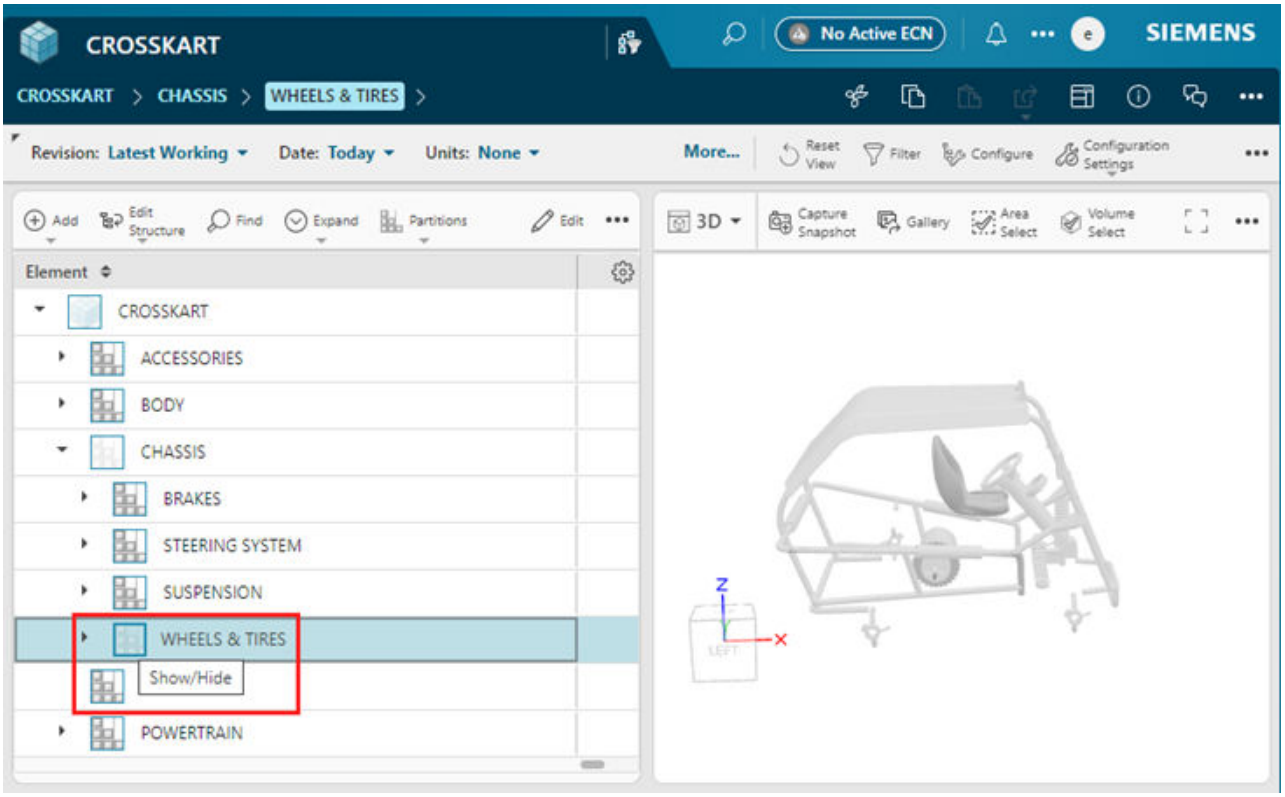
3. To visualize the structure elements located within a partition, select the partition, and go to the 3D viewer.

   All the elements within the selected partition are highlighted with their bounding boxes.



   If the selected partition has in turn a child partition within it, all the structure elements within the child partition are also highlighted in the 3D viewer.

   You can choose to not visualize the elements of a specific partition by clicking the **Show/Hide** icon. For example, the icon is displayed next to WHEELS & TIRES, as shown in the following image. To visualize the elements again, click the **Show/Hide** icon.



When you set variant criteria on partitions, the structure is configured to either show or hide the partitions and the elements within. Accordingly, the elements are displayed in the 3D viewer as well.

In several cases, the configured structure and the 3D viewer might not be synchronized.

- **Scenario 1**

  For a structure in a *workset*, a *Functional* scheme is applied and contains a variant criterion, VC1. In this case, the structure elements with a different variant criterion, VC2, are not included in the structure. However, the 3D viewer shows these elements. When you switch to a different partition scheme, the same scenario applies. In such cases, for structures in a workset, you can synchronize the partitioned structure and the 3D viewer by clicking **Replay**.

- **Scenario 2**

  A component resides in two different partitions. It is included in the structure configured for one partition, whereas it is not included in the structure configured for the other. When such a mismatch occurs, the component is displayed both in the partitioned structure and in the 3D viewer.

- **Scenario 3**

  In a partition scheme, structure elements at different hierarchical levels reside in two different partitions. When you set variant criteria on a partition to configure the structure such that the partition is not included in one case, the structure and the 3D viewer show a mismatch. Siemens

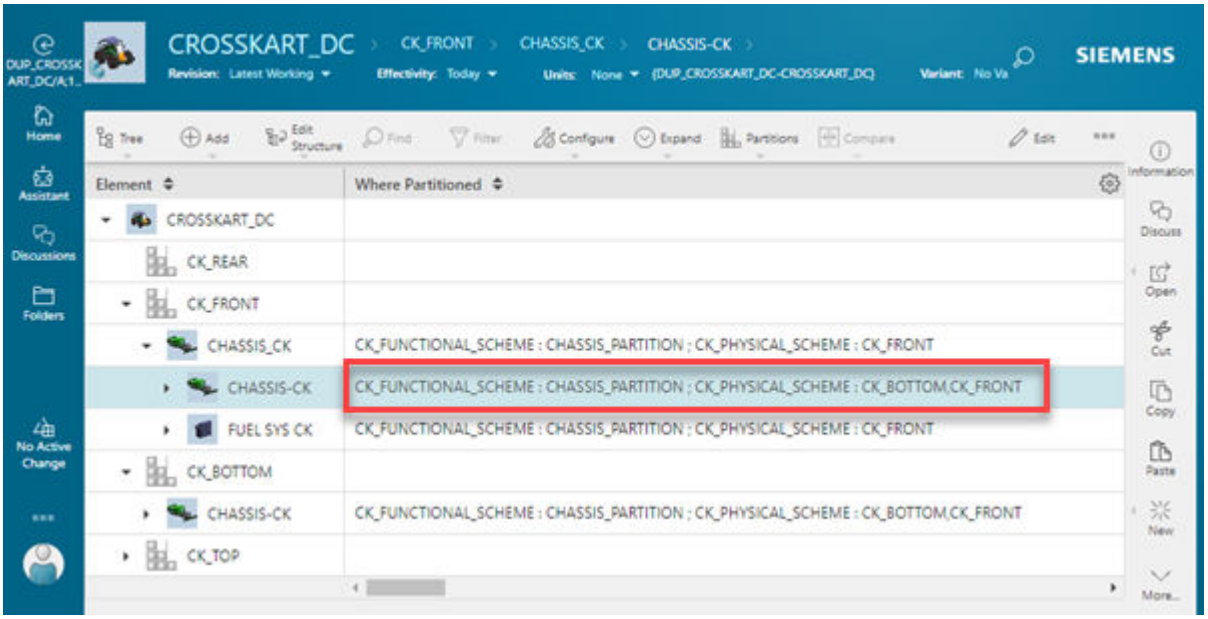
recommends configuring the system to restrict the addition of structure elements in partitions in such a manner.

13. Find the partitions in which a structure element is available

To find all the partitions that contain a structure element:

1. Open the product structure and select the required element.

2. The **Where Partitioned** field displays all the partition schemes and partitions in which the selected element is available.



The partition schemes and partitions are displayed in the following format:
partition_scheme_1 : *partition_1*, *partition_2* ; *partition_scheme* : *partition*

Each partition scheme is separated using a semicolon (**;**). Multiple partitions within a partition scheme are separated using a comma (**,**).

14. Working with structures within partitions

Currently, you can perform only certain Structure Management tasks for structure elements organized within partitions. The commands related only to these tasks are enabled in Active Workspace. To understand how to perform these tasks, see *Structure Management on Active Workspace — Usage*.

Currently, there is no support to specify effectivity on partitions. However, all the effectivity actions that you do on the structure elements work with and without a scheme overlay.

In the case of effectivity on the release usage, there is a split effectivity. For example, when you have a revision A released, and when it splits, you have a revision B created with the new split. The revision B usage becomes the member of the same partition.

If you set a partition scheme that was automatically created by your administrator, you cannot perform the **Add**, **Remove**, **Move**, and **Split** actions.