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Virtuoso Concurrent Layout User Guide

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Contents

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Introduction to Concurrent Layout Editing

Virtuoso® Concurrent Layout (CLE with *E* for editing) is a layout editing environment that enables designers to work concurrently on the same cellview within Virtuoso. This helps them in parallelizing their efforts, and, in turn, increases the productivity of the layout design team. You can perform concurrent editing in Layout XL and Layout EXL.

Licensing Requirements

Concurrent layout functionality requires either:

- A `Virtuoso_Layout_Suite_XL` license combined with 4 GXL flexible license tokens
- A `Virtuoso_Layout_Suite_EXL` license
- A `Virtuoso_Layout_Suite_MXL` license

The license is held until the last layout window is closed.

If you switch from Layout XL to Layout EXL or Layout MXL, the GXL tokens remain checked out. To prevent this, first close Layout XL and then open Layout EXL or Layout MXL.

For information on licensing in the Virtuoso Studio, see *Virtuoso Software Licensing and Configuration User Guide*.

Benefits of Using Concurrent Layout

Some of the top benefits of using Concurrent Layout are the following:

- Boosts layout productivity by enabling several designers to work concurrently on the same cellview. Typical examples are DRC fixing, chip finishing, and critical nets manual routing.

- Saves the design partition view containing only the updated part of the design, which is quite small in comparison to the initial cellview. This reduces the disk access time. In the design management environment, this saves vault storage space and reduces the network traffic to improve the network responsiveness.
- Enables the design manager to review a partition view and merge or reject it. The user can generate several results for what-if analysis and picks the best combination in the end.
- Supports off-line concurrent editing because the client/server model can suffer synchronization bottleneck over the network.
- Provides Incremental Edit In Place to complement the traditional hierarchical design by postponing an update in the sub-hierarchy until it is verified in all the designs referencing it.

Limitations of Concurrent Layout

Listed below are some tasks that are currently not supported in Concurrent Layout:

- Constraint editing. For example, you cannot edit MODGENs in Concurrent Layout.
- Editing an object created in an imported peer partition. Edits made to such objects are not saved. You can only concurrently edit an object existing in the top design.

When a limitation is detected, Concurrent Layout displays an alert glyph on the canvas and an *Edit Loss* error in the *Alerts* section of the *Concurrent Layout* assistant. You will be asked to undo the changes because saving them can result in a partially saved design, where the unsupported changes will be lost.

In case of constraint editing, if you proceed with saving the design, Concurrent Layout may create a marker to record the incident and inform the design manager that an unsupported edit was not undone by the designer before save.

You might see other kinds of alerts, such as edit conflicts that can result in merge issues. For example, a complex object, such as an MPP being edited in two design partitions can cause edit conflicts. Such issues can be avoided by carefully creating the design partitions and are not considered a limitation.

Related Topics

Terms Used in Concurrent Layout Editing

Concurrent Layout Flow

Accessing Concurrent Layout

Concurrent Layout Modes

Accessing the Concurrent Layout Assistant

Terms Used in Concurrent Layout Editing

Listed below are some important Concurrent Layout terms you need to know before you start using the software:

Area-based design partition	Defines one or more areas for a designer to edit within.
Design manager	Defines the design partition for each designer and merges the respective design partition views back to the top design.
Design partition	A design partition divides the design responsibilities among designers. You can create as many partitions as needed in a design and new design partitions can be created at any time.
Design partition view	The on-disk layout cellview that stores incremental edits to the top design separately. These updates can be reapplied to the same top design later.
Designer	A user who edits in the assigned design partition.
Free design partition	Allows the user to work on any object, net, and any part of the design.
Net-based design partition	Defines a net set for a designer to edit only those objects that have allowed or no connectivity.
Object-based design partition	Defines the object ownership for a designer to edit. The person who created the object also owns it.
Peer designer	A designer working on another design partition of the same top design concurrently. Updates made by the peer designer are saved to a different design partition view.
Top cellview (or top design)	This is the initial layout cellview to be concurrently edited after initialization. After opening in memory it is called the top design.

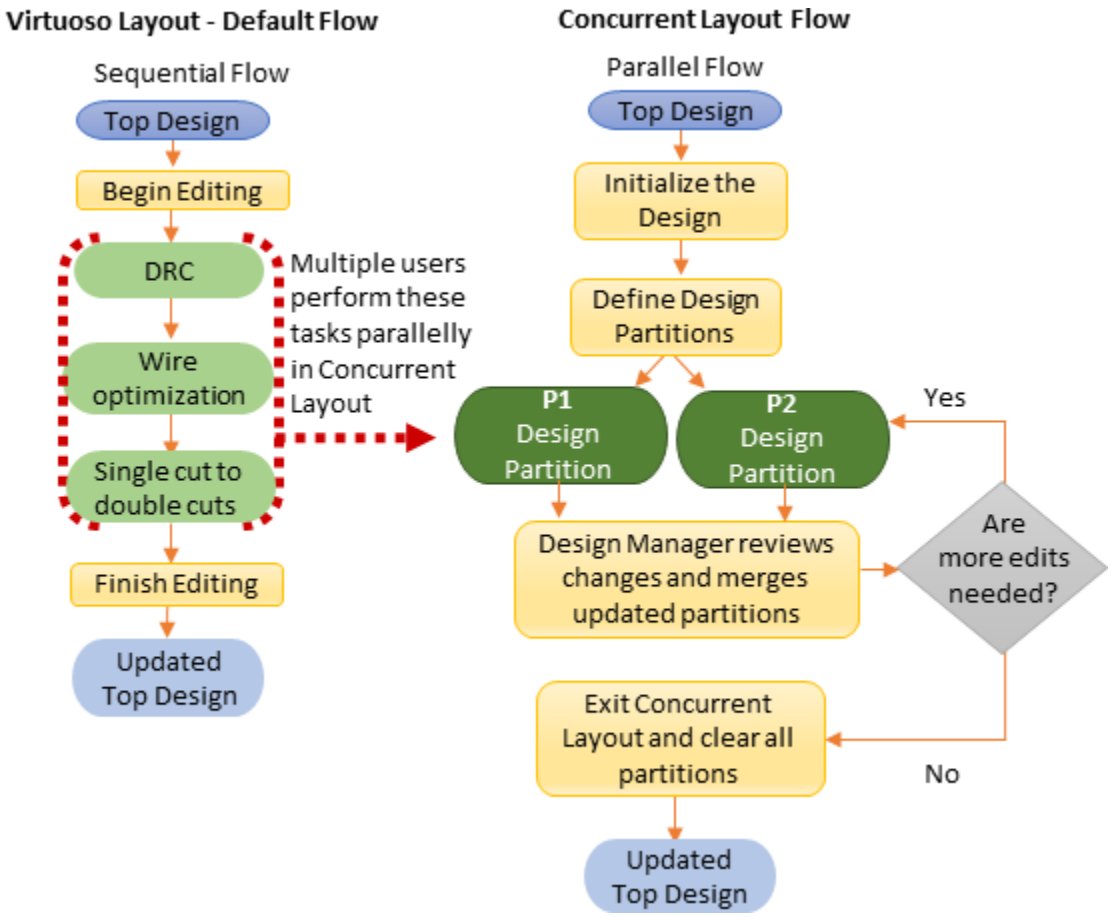
Related Topics

Concurrent Layout Editing in Manager Mode

Concurrent Layout Editing in Designer Mode

Concurrent Layout Flow

The default Virtuoso Layout flow is sequential in which each task is carried out after the previous task is complete. However, in the CLE environment, you can create multiple partitions in the design and have designers work in parallel, which helps save time. The following flow chart shows the difference between the default Virtuoso Layout flow and the Concurrent Layout flow.



The basic Concurrent Layout flow, involves the following tasks:

1. Open the top design. (Design Manager)
2. Initialize the design for concurrent layout editing. (Design Manager)
3. Define design partitions based on how you want to divide the work among various designers. (Design Manager)
4. Perform various tasks such as DRC checks and wire optimization in parallel on assigned designed partitions. (Designers)

5. Save design partition updates in respective design partition views and submit the updates for merge with the top design. (Designers)
6. Review and merge design partitions. (Design Manager)
7. Repeat steps four to six as needed. A merged design partition is auto reset in memory when it is reopened. (Designers)
8. Exit the CLE environment and clear all design partitions. (Design Manager)
9. Open the updated top cellview in Virtuoso Layout. (Design Manager)

Related Topics

Initializing the Design for Concurrent Layout Editing

Concurrent Layout Assistant

Defining an Area-Based Design Partition

Defining a Layer-Based Design Partition

Submitting a Design Partition for Merge

Merging a Submitted Design Partition

Accessing Concurrent Layout

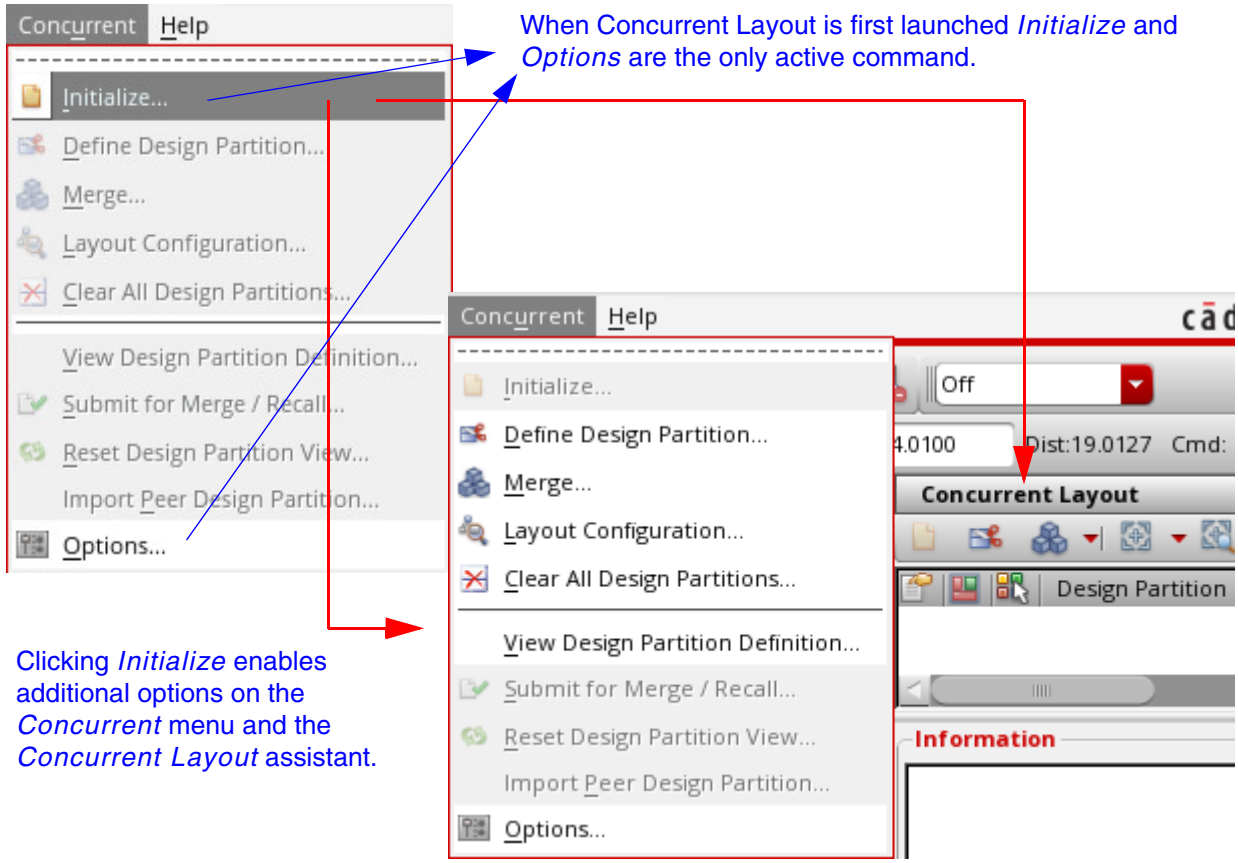
You can access Concurrent Layout in Layout XL and Layout EXL either from the *Concurrent* menu in the menu bar or using the *Concurrent Layout* workspace:

Concurrent menu

The *Concurrent* menu provides flow-related commands for Concurrent Layout. To get the design ready for concurrent editing:

➡ Choose *Concurrent - Initialize*.

Displays additional commands in the *Concurrent* menu and embeds the Concurrent Layout assistant as a docked assistant pane within the current session window.



Concurrent Layout workspace

The workspace for Concurrent Layout is called *Concurrent_Layout*. To apply the Concurrent Layout workspace, do one of the following in the Layout XL or Layout EXL window:

- Choose *Window – Workspaces – Concurrent_Layout*.
- Select *Concurrent_Layout* from the drop-down list on the *Workspace Configuration* toolbar.

Related Topics

Terms Used in Concurrent Layout Editing

Concurrent Layout Modes

Concurrent Layout Editing in Manager Mode

Concurrent Layout Editing in Designer Mode

Concurrent Layout Modes

The commands that are enabled in the *Concurrent* menu depend on the mode in which the design is open. These modes are the following:

- **Manager mode**
  Lets you perform various managerial tasks, such as defining the design partition for each designer and merging the respective design partition views back to the top design.
- **Designer mode**
  Lets you edit the design in the assigned design partition view and then submit these changes for merging with the top design.
- **Single user mode**

  Lets a single user edit a design in a safe environment. You can choose to work on the complete design or in a focused area or focused range of layers. Your changes are implemented only when you save your changes and merge them with the top design.

The manager mode and designer mode commands in the *Concurrent* menu are described below.

Command	Description	Mode
Initialize	Initializes the design for concurrent editing or single user editing in safe mode.	Pre-Initialization
Define Design Partition	Displays the Define Design Partition Form form that lets you create and configure design partitions.	Manager
Merge	Displays the Merge Form form that lets you merge or reject design partition views that have been submitted to be merged with the top design.	Manager
Layout Configuration	Displays the Layout Configuration Form form that lets you load or unload layout configurations in design partition views.	Manager and Designer
Clear All Design Partitions	Displays the Clear All Design Partitions Form form that lets you remove the existing design partition views from the top design so that the design can be edited without using Concurrent Layout.	Manager
View Design Partition Definitions	Displays the View Design Partition Form form that lets you check design partition definitions.	Manager and Designer
Submit for Merge / Recall	Submits the updated design partition view for merge. If you have submitted a design for merge, then you can use this command to recall the design and change the design status to *Editing*.	Designer
Reset Design Partition View	Clears all the edits in the design partition view. The status changes to either *Created* or *Reset* (if this design partition view was merged before). If the design partition status is *Error*, see the tooltips for the reason and you could fix it by resetting.	Designer
Import Peer Design Partition	Displays the Import Peer Design Partition Form form that lets you import updates made by a peer designer in your Design Partition view.	Designer

Command	Description	Mode
Options	Displays the Concurrent Layout Options Form form.	Manager and Designer

Related Topics

Concurrent Layout Editing in Manager Mode

Concurrent Layout Editing in Designer Mode

Concurrent Layout Editing for Hierarchical Designs

Accessing the Concurrent Layout Assistant

The Concurrent Layout assistant is a dockable assistant pane that provides various options that let you perform tasks related to concurrent layout editing. The assistant also displays alerts and other information about the design partition you are updating.

To access the Concurrent Layout assistant in Layout XL, do one of the following:

- In the Layout XL window, choose *Concurrent – Initialize*.
- In the Layout XL window, choose *Window – Assistants* – Concurrent Layout.
- Right-click the main Layout XL menu or toolbar area and select *Concurrent Layout*.
- Apply the Concurrent Layout workspace, by selecting *Window – Workspaces – Concurrent_Layout*.
- Select *Concurrent_Layout* from the drop-down combo box on the Workspaces toolbar.

Layout XL embeds the *Concurrent Layout* assistant as a docked assistant pane within the current session window. By default, the *Concurrent Layout* assistant is positioned on the right side of the session window.

Related Topics

Accessing Concurrent Layout

Concurrent Layout Assistant

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Concurrent Layout Editing in Manager Mode

From Concurrent Layout Flow you can see that tasks in Concurrent Layout are dependent on whether you are in manager mode or designer mode. There are certain tasks such as initializing the design and defining the design partitions that can be done only in manager mode, while tasks such as editing in the design partition or resolving the conflicts can be done only in designer mode.

A single user can perform tasks of both manager and designer at a time. You cannot have more than one manager for the top cell on which you are performing concurrent editing. However, you can have multiple designers working in parallel on different design partition views. The manager should have write permission on the top design for creating design partition views.

Related Topics

Concurrent Layout Flow

Initializing the Design for Concurrent Layout Editing

Defining an Area-Based Design Partition

Defining a Layer-Based Design Partition

Defining a Mixed Design Partition

Generating a Temporary Blockage in Manager Mode

Merging a Submitted Design Partition

Assigning Clones in Concurrent Layout

Rejecting a Submitted Design Partition

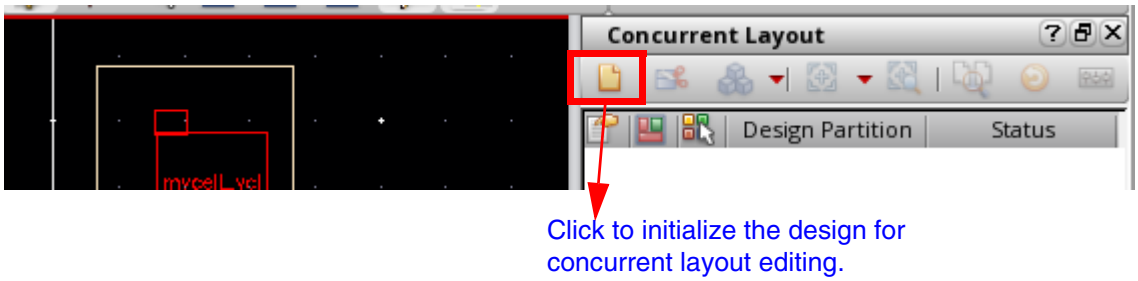
Resolution of Edit Conflicts in Nets during Merge

Clearing a Design Partition in Manager Mode

Initializing the Design for Concurrent Layout Editing

The first task for the manager is to initialize the design to get it ready for concurrent editing:

1. Choose *Concurrent – Initialize* from the menu bar or click *Initialize* in the Concurrent Layout assistant toolbar.



   The Initialize Design form is displayed.

2. Select *Multiple Users (Concurrent Editing)* option.

Initialization saves some information about all the objects in the design. It is used as a reference later to identify and merge back the objects edited in a design partition.

After the design is initialized for concurrent editing, additional options will be available on the *Concurrent* menu and the Concurrent Layout assistant.

Note: *Generate All From Source* is disabled after initialization because it can erase concurrent layout data saved in the initial design. Run this command before initialization.

Related Topics

Join Objects and Update Definition Form

Accessing Concurrent Layout

Concurrent Layout Assistant in Manager Mode

Design Partitions in Concurrent Layout

When a design is initialized for multiple users, you can start defining design partitions based on your editing requirements.

You can define following types of design partitions:

- **Area-based design partition:** One or more area partitions are attached to each design partition.
- **Layer-based design partition**: A range layers is specified for each design partition.
- **Mixed design partition**: An area partition is specified, along with a range of layers for a design partition.

You can specify all three types of design partitions at the same time based on your requirement.

You should partition the design carefully to avoid partition overlapping that will increase the likelihood of edit conflicts among design partitions. Additionally, try to not use a global container, like a FigSet, across design partitions.

Related Topics

Defining an Area-Based Design Partition

Defining a Layer-Based Design Partition

Defining a Mixed Design Partition

Defining an Area-Based Design Partition

To define an area-based design partition:

1. Click *Define Design Partition* on the Concurrent Layout assistant or choose *Concurrent – Define Design Partition*.

   The Define Design Partition form appears.

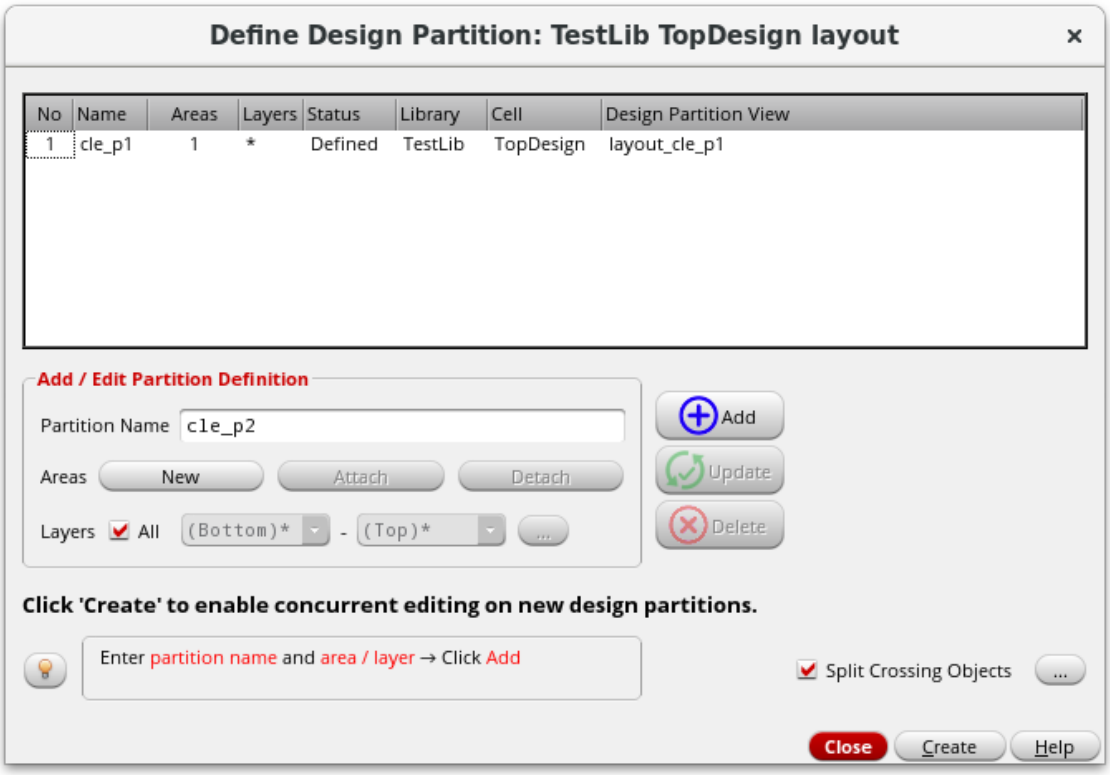
2. (Optional) Specify a name for the new design partition in the *Partition Name* field.

   If you do not specify a name, the default name in this field is used. By default, the names of the new design partitions and the corresponding design partition views are `cle_px` and `layout_cle_px`, where `x` is a number.

3. Click *Add*.

   A design partition with corresponding design partition view is added.

   The status of the new design partition is *Defined*. If a design partition view already exists the status is *Reuse*.



4. (Optional) Click *Add* again to add more design partitions.

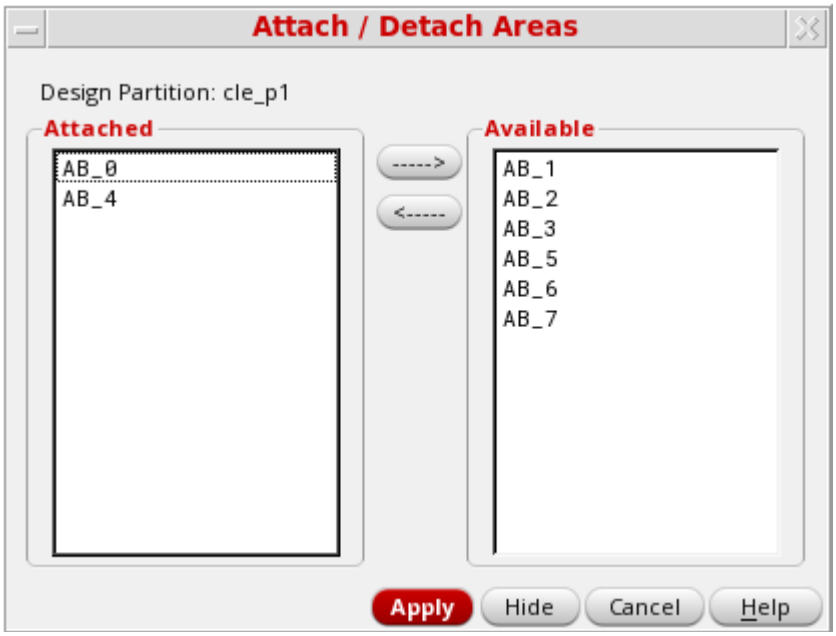
5. (Optional) Select a design partition, specify a different name in the *Partition Name* field and click *Update*.

   - If the design partition is not yet created, which means its status is *Defined*, rename the design partition name and click *Update*.
   - If the design partition is already created, rename the design partition name, and click *Update*. Design partition view name will update automatically. The status of the design partition will change to *Reuse*.

6. Attach an area to the selected design partition by doing one of the following:

   - Select the area boundary and then click the *Attach* button for the *Areas* option.
   - Click *Attach* and then select area boundaries on the canvas to attach.

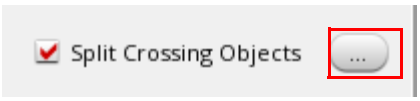
   (Optional) Press `F3` to display the Attach / Detach Areas form for further assistance.



7. (Optional) Click *Update* to apply changes if you make any further adjustments.

   If you use the *chop* command to edit the area boundary, the existing area boundary is deleted and detached from the design partition. You will have to attach the new area boundary again.

8. (Optional) Click the button next to the *Split Crossing Objects* option to display.



The Split Crossing Objects Options form is displayed. Use this form to change the settings of how crossing objects are handled when the design partitions are created.

9. Click *Create* after you have completed defining all the design partitions.

   A message box is displayed informing you about the design partitions that will be created.

10. Click *OK*.

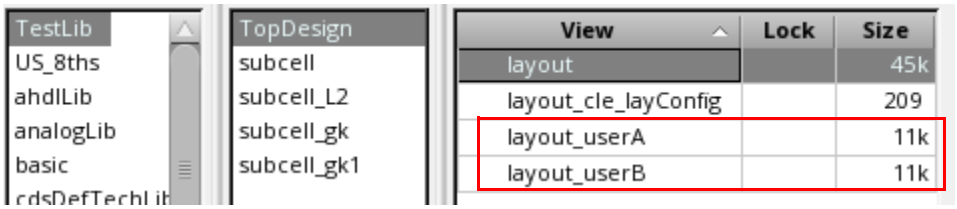
    - Design partition views are created and the status *Created* is displayed in the Defined Design Partition form and the Concurrent Layout assistant.
    - The top design is saved.
    - Objects crossing the design partitions are split at the boundary. This happens because the *Split Crossing Objects* option is selected by default.

11. Click *Close* to exit the Define Design Partition form.

    In the Design Management environment, an additional dialog box is displayed to confirm that new design partition views have been checked into the design management system.

    Note: You can exit the Define Design Partition form only by clicking the *Close* button.

12. (Optional) Open the *Library Manager* to review the created design partition views and observe the changes.



The created design partition views are of minimal size. This is because only the changes made to the associated design partition are saved in this view.

Related Topics

Defining a Layer-Based Design Partition

Defining a Mixed Design Partition

Attach / Detach Areas Form

Colors that Identify Objects in an Area-based Design Partition

Concurrent Layout Assistant in Designer Mode

Concurrent Layout Options Form

Edit Scope of a Design Partition

Permission Required to Open a Design Partition View

Split Crossing Objects Options Form

Generating a Temporary Blockage in Manager Mode

You need to generate temporary blockages at the area boundaries of the design partitions, for space-based routing between Concurrent Layout design partitions. These blockages are needed because the space-based router connects to the temporary Concurrent Layout pins only at the area boundary. No routing takes place within the design partitions.

To add temporary blockages:

➡ Right-click in the Concurrent Layout assistant and click *Generate Temporary Blockages*.

Temporary blockages are added at the area boundaries.

Related Topics

Generating a Temporary Pin in Designer Mode

Defining an Area-Based Design Partition

Design Partition Options in Manager Mode

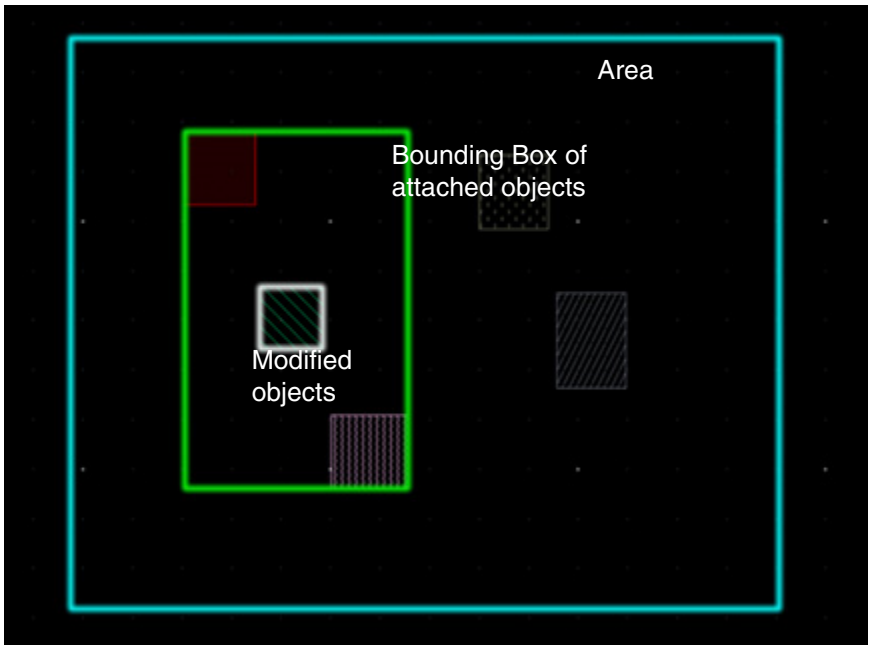
Design Partition Options in Designer Mode

Colors that Identify Objects in an Area-based Design Partition

To prevent users from touching modified objects while using the *Attach* and *Detach* commands, colors are used to identify the following objects in a selected design partition:

- Areas: Light blue
- The bounding box of attached objects: Green
- Modified objects: White

The following screenshot shows different colors used to highlight modified objects.



Related Topics

Defining an Area-Based Design Partition

Editing in a Design Partition

Attach / Detach Areas Form

Defining a Layer-Based Design Partition

After a design is initialized, you can start defining layer-based design partitions as follows:

1. Click *Define Design Partition* on the Concurrent Layout assistant or choose *Concurrent – Define Design Partition*.

   The Define Design Partition form appears.

2. (Optional) Specify a name for the new design partition in the *Partition Name* field. If you do not specify a name, the default name in this field is used. By default, the names of the new design partitions and the corresponding design partition views are `cle_px` and `layout_cle_px`, where *x* is a number.

3. Click *Add* to add one or more design partitions.

A design partition with the corresponding design partition view is added.

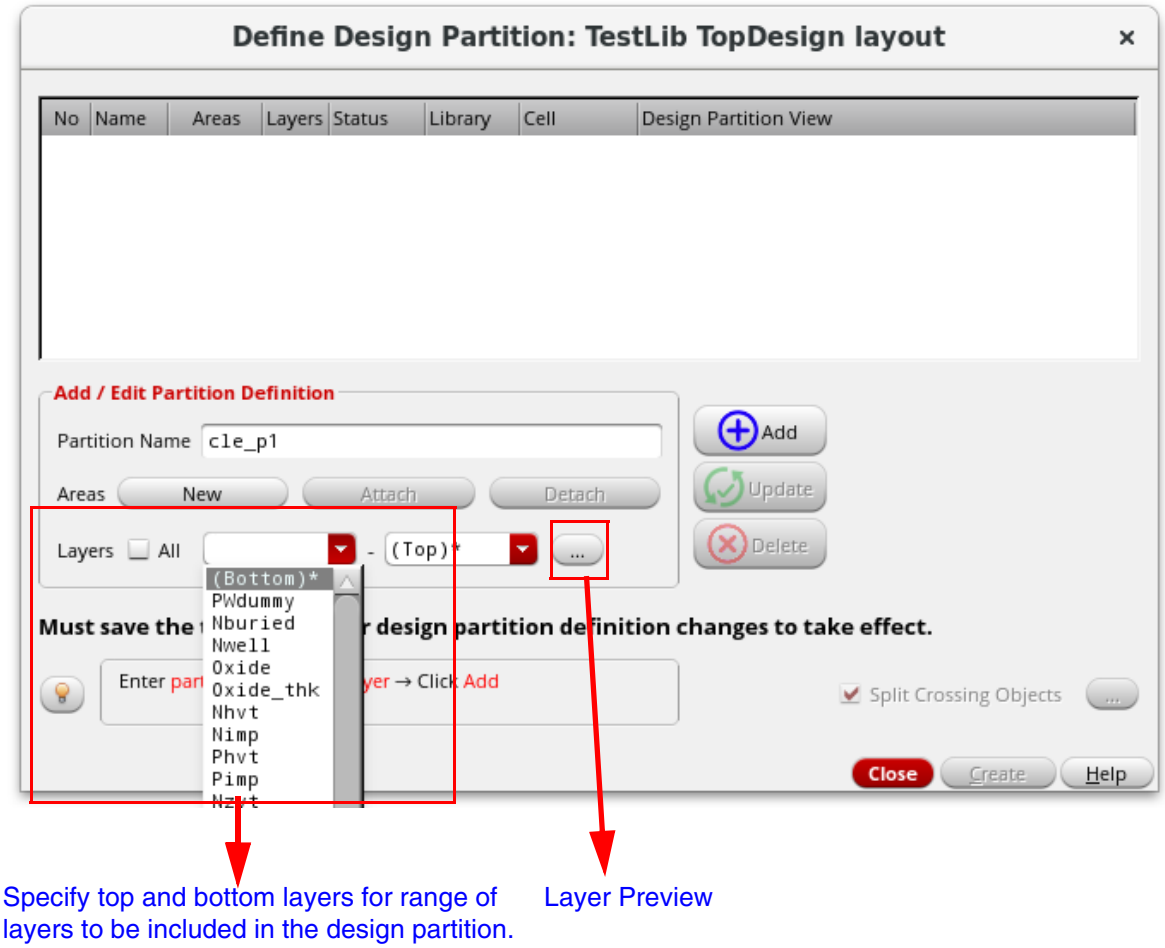
The status of the new design partitions is *Defined*. If a design partition view already exists, the status is *Reuse*.

4. (Optional) Select a design partition, specify a different name in the *Partition Name* field and click *Update*.

   Name of the corresponding design partition view will also change automatically.

5. Deselect *All* if you want to specify a range of layers for the layer-based design partition.

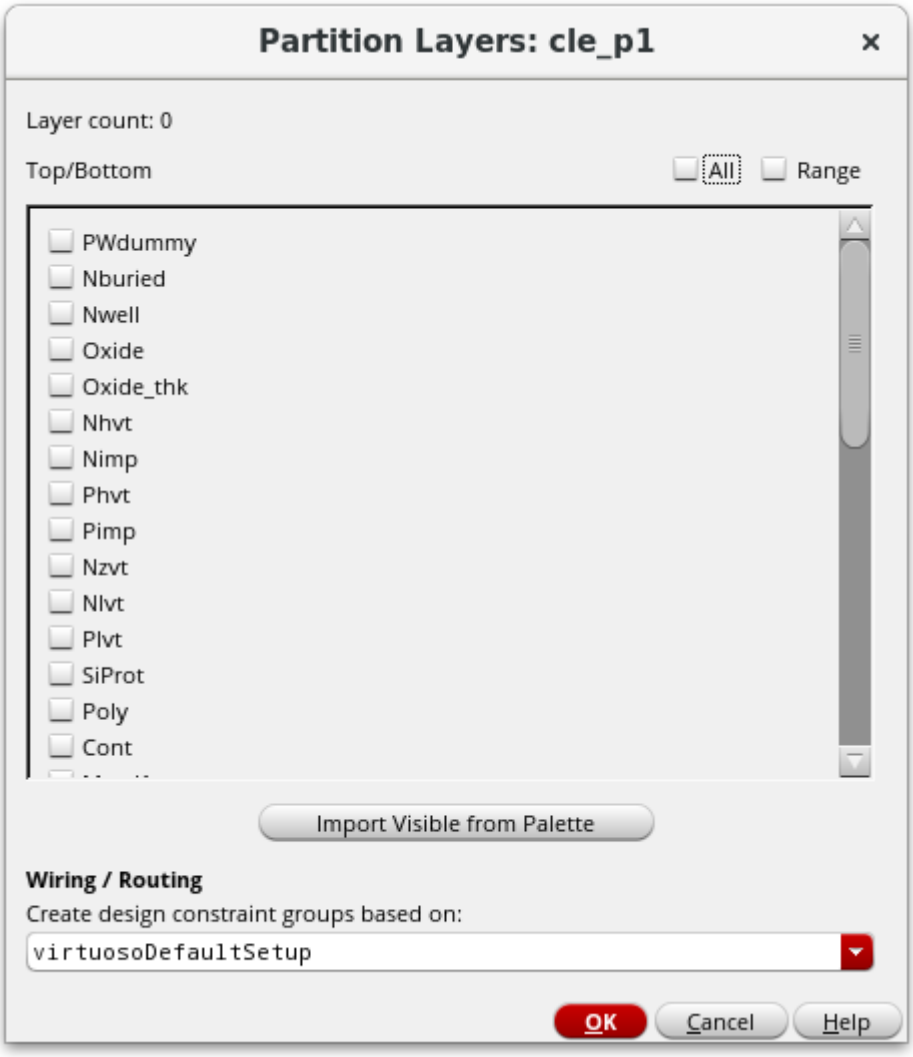
6. Specify the top and bottom layers to be included in the design partition in the *Layers* field.



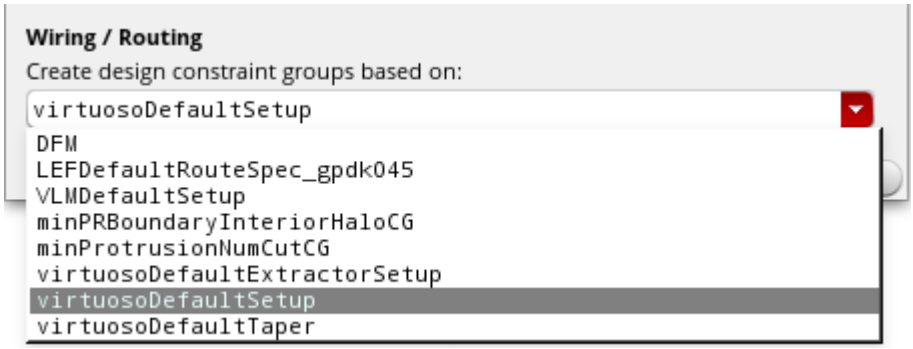
7. (Optional) Click *Layer Preview* to remove certain layers from the layer range or add other visible layers from the Palette.

   The Partition Layers form appears. Use this form to:

- Preview the layers included in the design partition.
- Clear the check boxes of the layers you do not want to include in the design partition.
- Click *Import Visible from Palette* to import additional layers from the Palette.



- Select a constraint group from the *Create design constraint groups based on* drop-down list to rebase a Concurrent Layout constraint group to a different parent constraint group and click *OK* in the message box that appears.

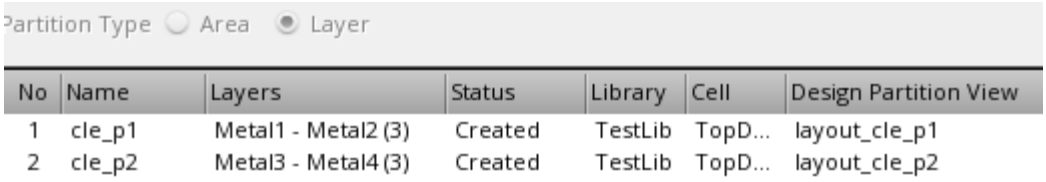


  This option specifies the parent constraint group based on which all the Concurrent Layout constraint groups dedicated to each design partition are created.

8. Click *Create*.

   A message box appears listing the design partitions that will be created.

9. Click *OK*.



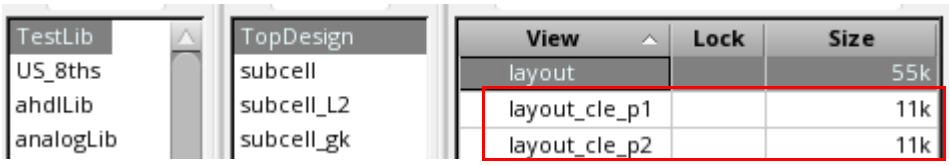
- Design partition views are created, and the status *Created* is displayed in the Defined Design Partition form and the Concurrent Layout assistant.
- The top design is saved.
- Two types of Concurrent Layout constraint groups dedicated to each design partition are created to enable layer constraints. For more details, see Constraint Groups in a Layer-based Design Partition.

10. Click *Close* to exit the Define Design Partition form.

    In the Design Management environment, an additional dialog box is displayed to confirm that new design partition views have been checked into the design management system.

    Note: You can exit the Define Design Partition form only by clicking the *Close* button.

11. Open the *Library Manager* to review the created design partition views and observe the changes.



The created design partition views are of minimum size. This is because only the changes made to the associated design partition are saved in this view.

Related Topics

Define Design Partition Form

Partition Layers Form

Generating a Temporary Pin in Designer Mode

Permission Required to Open a Design Partition View

Defining a Mixed Design Partition

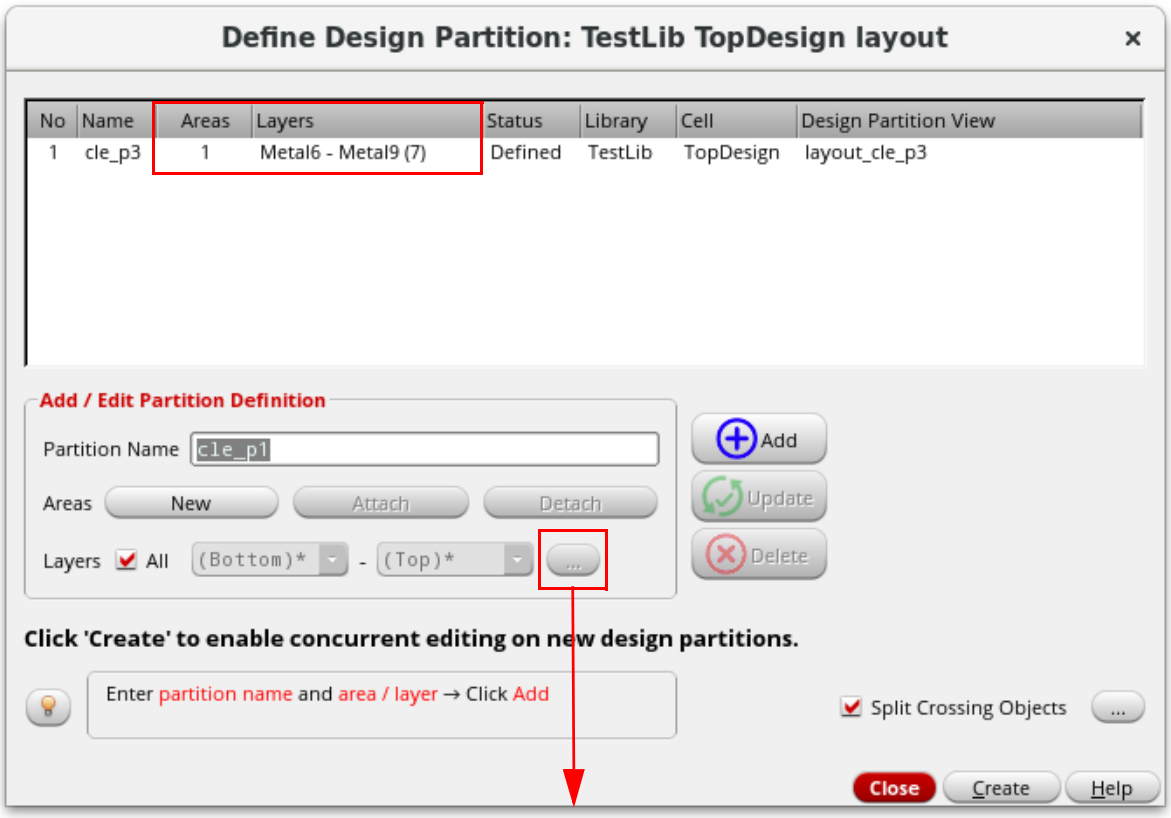
To define a mixed design partition:

1. Click *Define Design Partition* on the Concurrent Layout assistant or choose *Concurrent – Define Design Partition*.

   The Define Design Partition form appears.
2. (Optional) Specify a name for the new design partition in the *Partition Name* field.
3. Click *Add*.
4. Attach an area to the selected design partition by doing one of the following:
   - Select the area boundary and then click the *Attach* button for the *Areas* option.
   - Click *Attach* and then select area boundaries on the canvas to attach.

     (Optional) Press `F3` to display the Attach / Detach Areas form for further assistance.
5. (Optional) Click *Update* to apply changes if you make any further adjustments.
6. In *Layers*, deselect *All*.

7. Specify the top and bottom layers to be included in the design partition in the *Layers* field.



Layer Preview

8. (Optional) Click *Layer Preview* to open the Partition Layers form and remove certain layers from the layer range or add other visible layers from the Palette.
9. Click *Create*.

   A message box appears listing the design partitions that will be created.
10. Click *OK*.

    - Design partition views are created and the status *Created* is displayed in the Defined Design Partition form and the Concurrent Layout assistant.
    - The top design is saved.
    - Objects crossing the design partitions are split at the boundary. This happens because the *Split Crossing Objects* option is selected by default.
11. Click *Close* to exit the Define Design Partition form.

Related Topics

Defining an Area-Based Design Partition

Defining a Layer-Based Design Partition

Define Design Partition Form

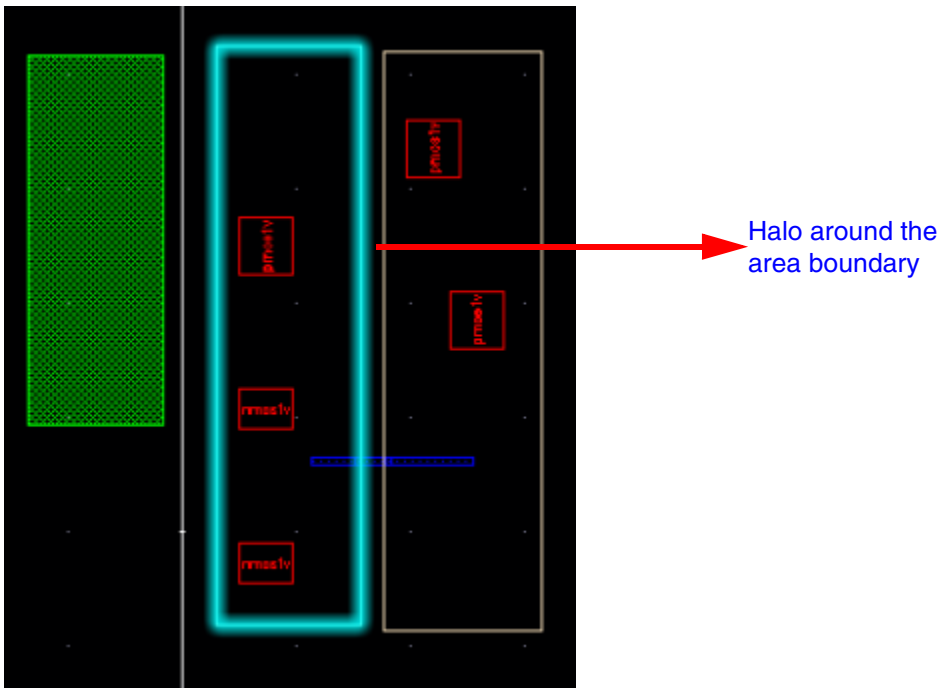
Partition Layers Form

Edit Scope of a Design Partition

Concurrent Layout uses the definition you made in the Define Design Partition form to identify which object belongs to which design partition. Information about the objects undergoing modification in a design partition is stored in the associated design partition view.

Edit scope for each design partition is set to select only those objects that are inside the current partition by default. You can change these settings from Concurrent Layout Options form or from the Concurrent Layout assistant in designer mode.

If *Edit Scope* is set to *Off,* editing objects outside the partition generates alerts in the Concurrent Layout assistant. You will have to individually sign off each alert and warning.



Related Topics

Defining an Area-Based Design Partition

Defining a Layer-Based Design Partition

Permission Required to Open a Design Partition View

Designers must have write permission to open a design partition view for concurrent editing. In the Design Management (DM) environment file permission is handled by the DM check-in and check-out process. Otherwise, the manager can use UNIX commands to change the file permissions.

When the manager and designers are in the same group, the following command can be used to grant the group write permission:

```
chmod -R g +w <design_partition_views>
```

Alternatively, you can change UMASK as shown below before launching Virtuoso to set the file permission for all the files created by the current Virtuoso process.

```
% umask
=> 22
```

Change the UMASK setting and start Virtuoso. You might need this setting when the manager and designers are not in the same group.

```
% umask 0
```

The UMASK change affects all new files in the current Virtuoso session; if you use commands such as Save As and Copy, the file permission might not be as expected.

```
% virtuoso &
```

After you have defined and saved new design partitions, exit Virtuoso and restore the UMASK setting by using the following command.

```
% umask 22
```

Related Topics

Defining an Area-Based Design Partition

Defining a Layer-Based Design Partition

Assigning Clones in Concurrent Layout

Clones are auto assigned to a design partition when new design partitions are created. However, there might be some clones straddling multiple design partitions and cannot be auto assigned. To be able to assign a design partition as the owner for these unassigned clones:

1. In the Concurrent Layout Options form, choose *Prompt to assign clone owner* in the *Manager Only* section and click *OK*.

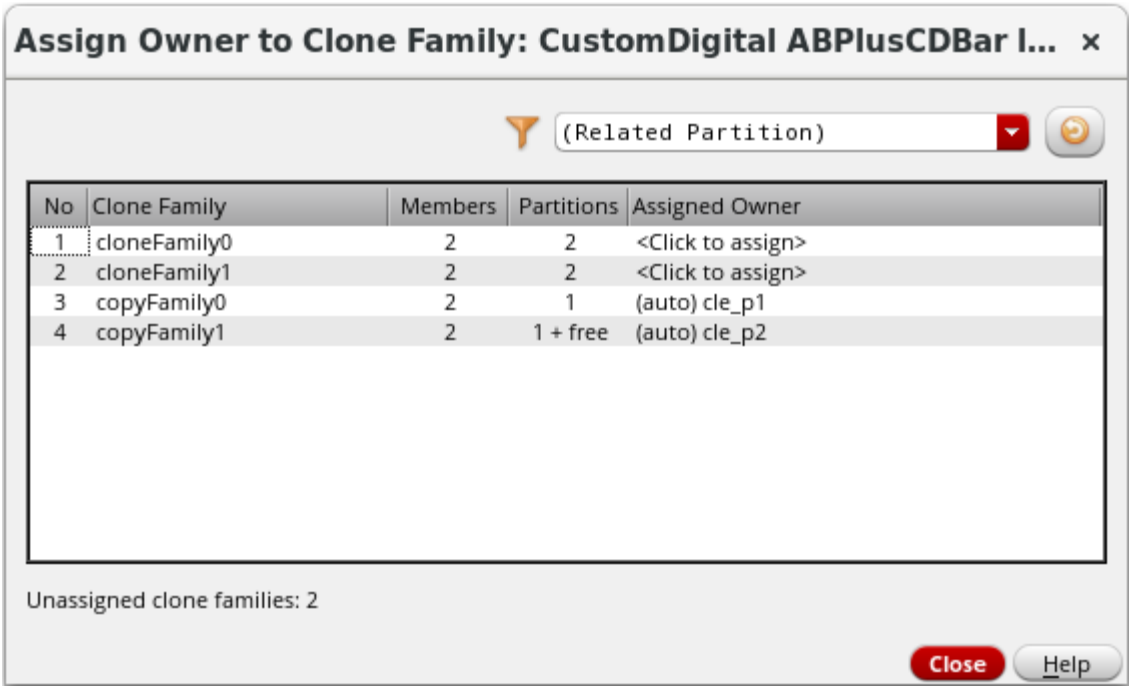
   This update is applied to all existing design partitions and the new design partitions when they are created.

2. Open the Define Design Partition form, create new design partitions, and click *Create*.

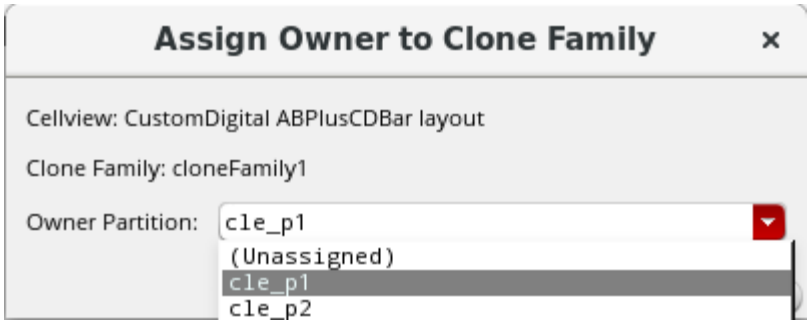
   If there are unassigned clones in the design partitions being created, a message is displayed that unassigned clones have been found and whether you want to assign them to a specific design partition.

3. Select *Yes* to display the Assign Owner to Clone Family form.

   This form consolidates all unassigned clone alerts in one place by each clone family.



4. Select an unassigned clone family in this form, and then from the dialog box that displays, select the owner design partition from the *Owner Partition* dropdown list and click *OK*.



You can select *(Unassigned)* to unassign an owner.

Related Topics

Clone Source Selection and Target Search and Generation

Concurrent Layout Options Form

Assign Owner to Clone Family Form

View Clone Occurrence Form

Rules for Editing Clones in Design Partitions

Merging a Submitted Design Partition

After the designers have completed editing the design and submitted their respective design partitions for merge, the manager needs to review these requests and then either approve or reject the merge requests.

When the merge process is in progress, manager should make changes only in the design partition view. Any direct edits to the top design during merge are discarded when the top is reverted to the previously unmerged state.

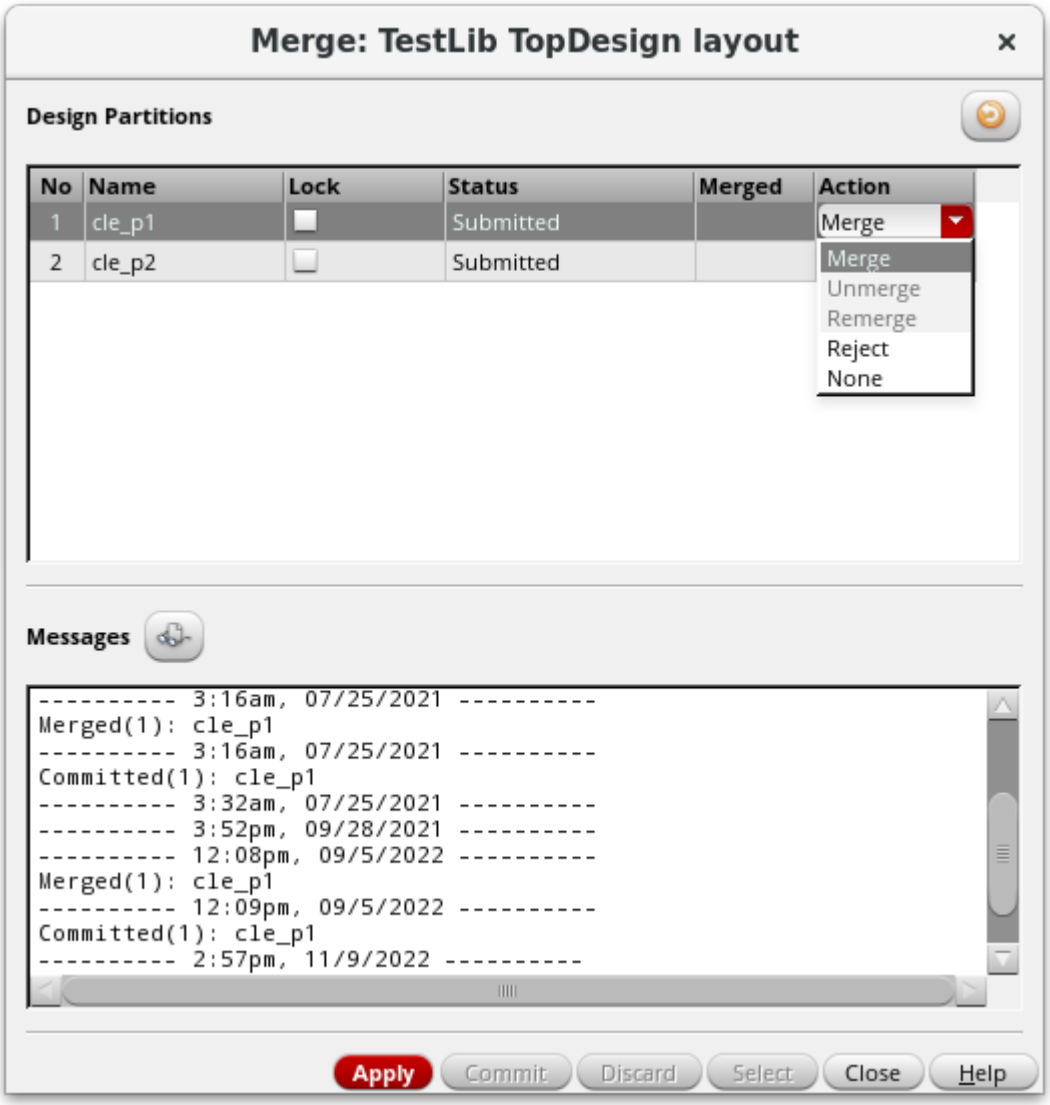
To approve merge requests:

1. Click *Merge/Unmerge* in the Concurrent Layout assistant or choose *Concurrent – Merge*.

   The Merge form is displayed.

2. Click in the *Action* field of the design partitions you want to merge.

3. Select *Merge*.



4. Click the *Apply* button.

   Design partitions with action set as *Merge* are merged with the top design. Information regarding the actions taken are added to the message box on the form.

5. (Optional) Click the *Messages* button to view the merge log.

   In case a conflict is detected during merge, then when you click the *Messages* button an HTML file is displayed with the Merge Report. This report has details about the conflicts.

6. Select *Commit* on the *Merge* form to complete the merge process.

   This step recursively merges the children hierarchical design partition views into the subcell and commit the changes.

Rejecting a Submitted Design Partition

To reject merge requests:

1. Click *Merge/Unmerge* in the Concurrent Layout assistant or choose *Concurrent – Merge*.

   The Merge form is displayed.

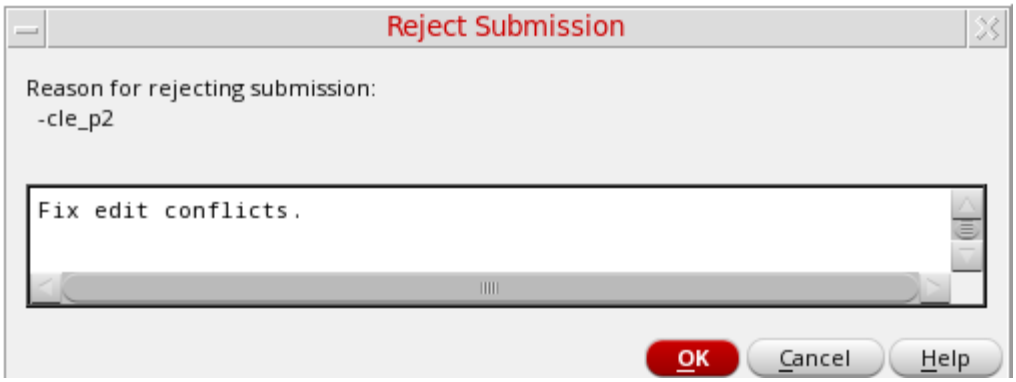
   In the Concurrent Layout assistant, the design partition view status changes to *Committed*.

2. Select *Reject* in the *Action* field for the design partitions you want to reject.

   If the design partition status is *Merging*, undo the changes until the status changes back to *Submitted* and then reject it.

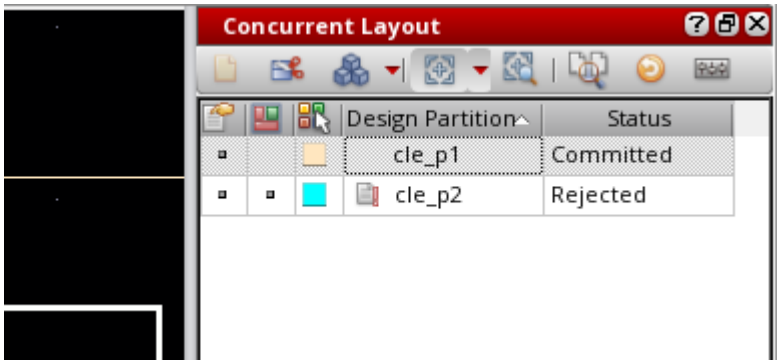
3. Click *Apply*.

   The Reject Submission form is displayed.



4. Specify a reason for rejecting the merge request for the rejected design partitions and click *OK*.

   In the Concurrent Layout assistant, the status of the rejected design partitions changes to *Rejected* and the status of the merged partitions changes to *Committed*.



Related Topics

Concurrent Layout Editing in Designer Mode

Merge Form

Reject Submission Form

Resolution of Edit Conflicts in Nets during Merge

Edit conflicts occur when there are nets with the same net name in two design partitions. Concurrent Layout can automatically resolve most conflicts using the following principles:

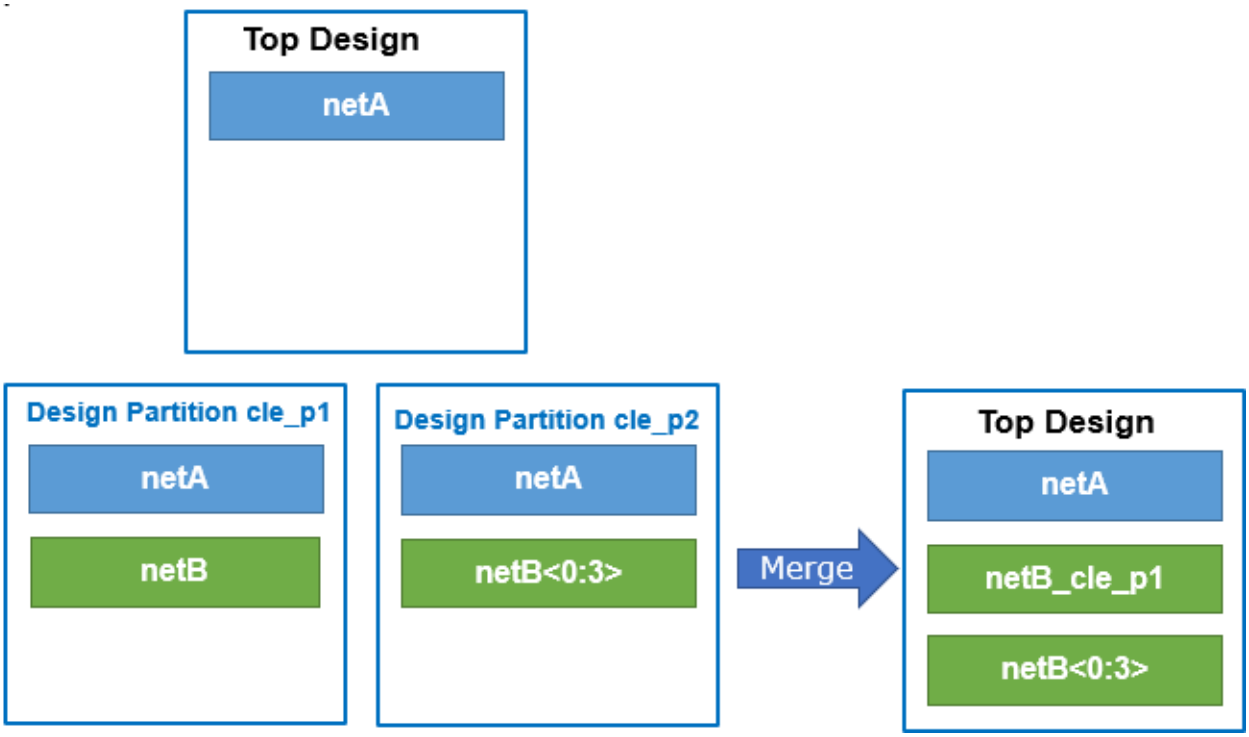
- Nets created in two design partitions (or in the top design) with the same user-specified name are automatically merged if their net types are same because this situation is not considered a conflict.
- Nets created with the same system name (`"N__#"`) are automatically renamed with the prefix of the design partition.
- Nets created with the same base name but different net type (scalar or bus net) are automatically renamed. See Example - Nets with same base name but different types.
- If the nets are created with the same name but with different signal types (power or clock), the first net is merged and the second net is skipped with a warning. Example - Nets created with the same name but different signal types.

Automatic Resolution of Edit Conflicts

Discussed here are a few examples to show you how conflicts between nets are resolved automatically during the merge process.

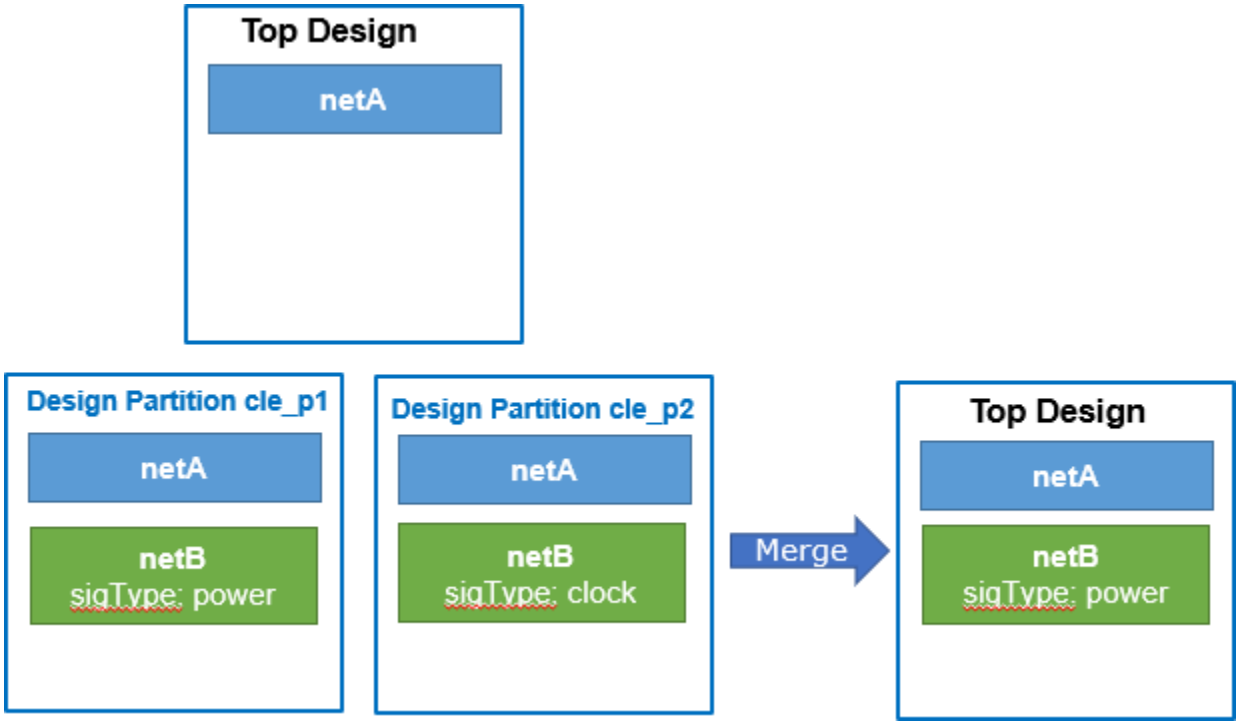
Example - Nets with same base name but different types

The nets with same name are automatically renamed during merge.



Example - Nets created with the same name but different signal types

The first net is merged and the second net is skipped with a warning.



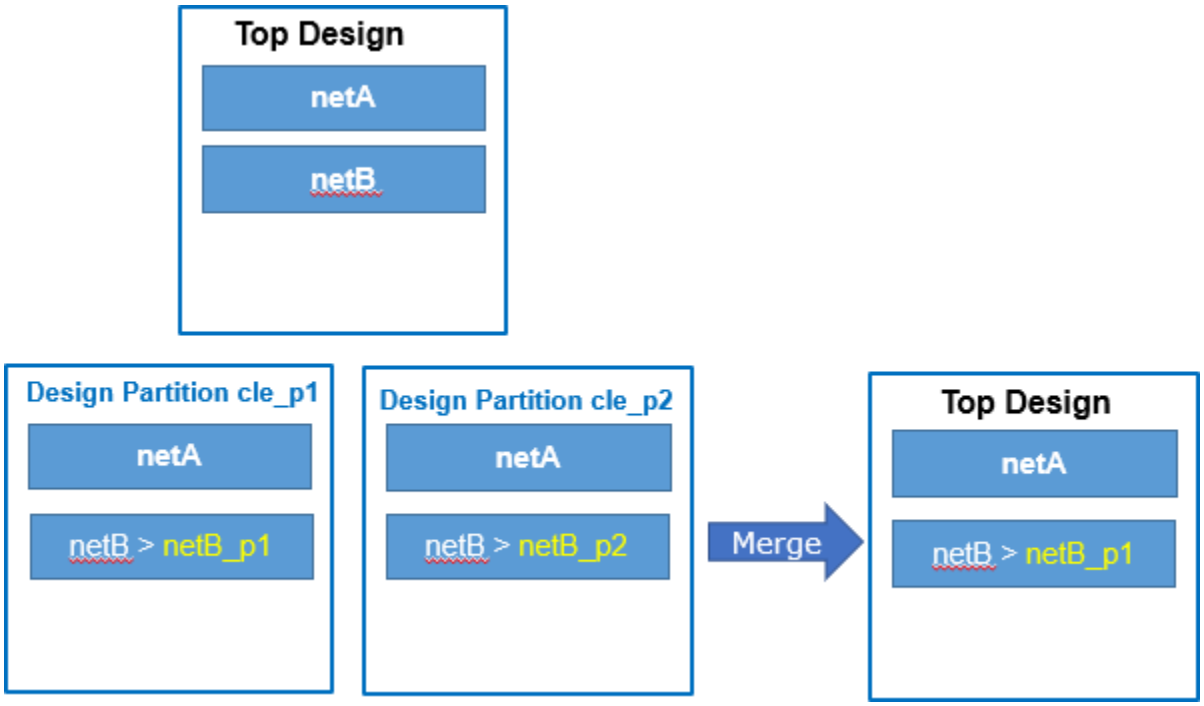
Resolution of Edit Conflicts Based on Connectivity Name Conflict Action Setting

If conflicts are not resolved automatically, the *Connectivity Name Conflict Action* option specified on the Concurrent Layout Options Form is used:

Pin and term name conflicts are treated like nets, except when they are created in two design partitions with the same user-specified name. The *Rename* option will rename the last and keep both (not automatically merged).

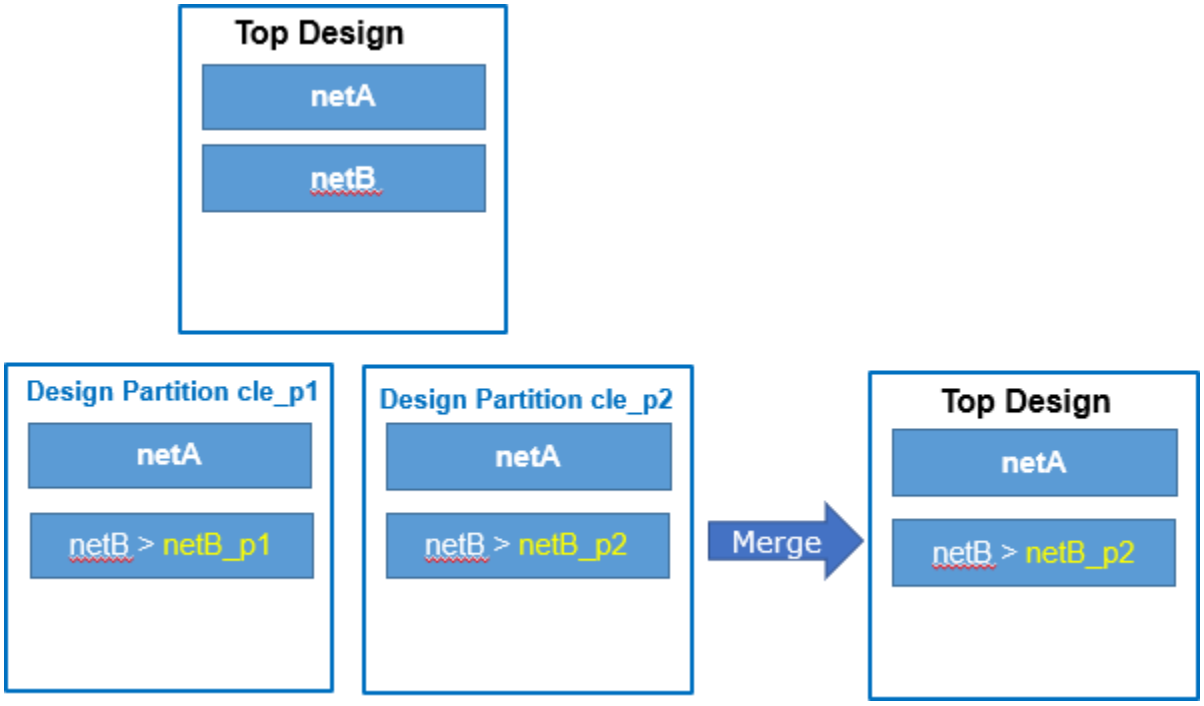
Example - Connectivity Name Conflict Action is set to Skip

The first net is merged and the second net is skipped.



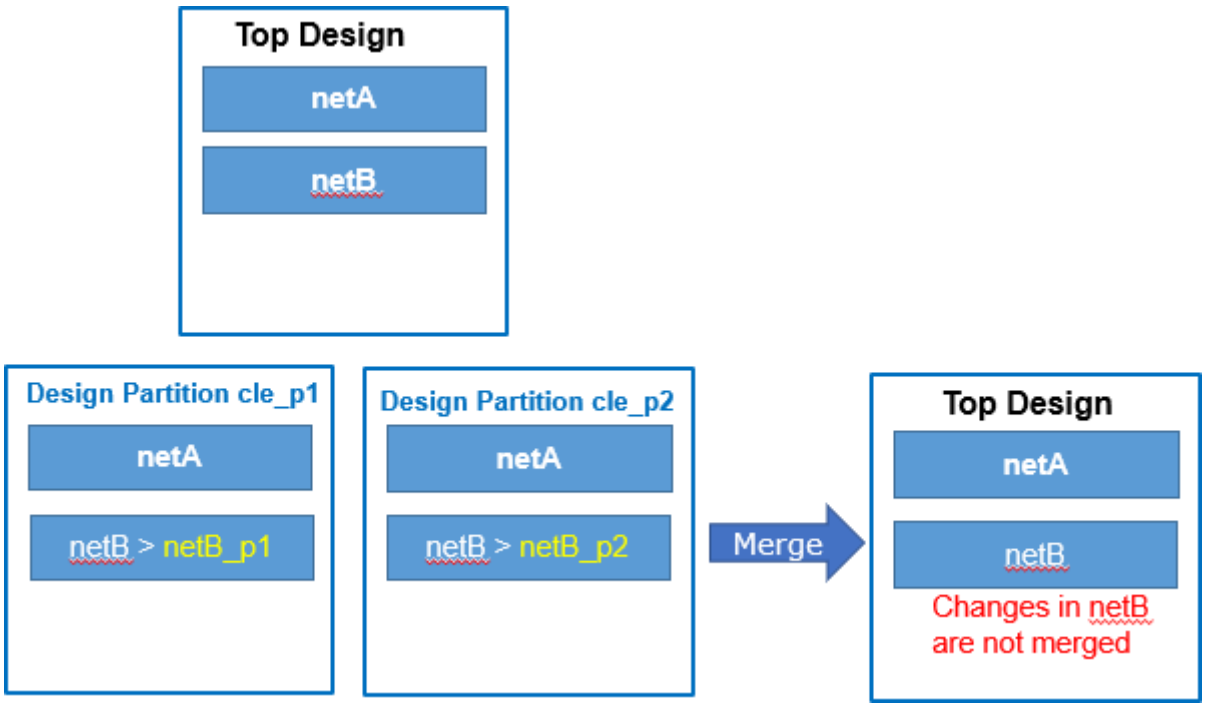
Example - Connectivity Name Conflict Action is set to Replace

The second net replaces the previous or the first net.



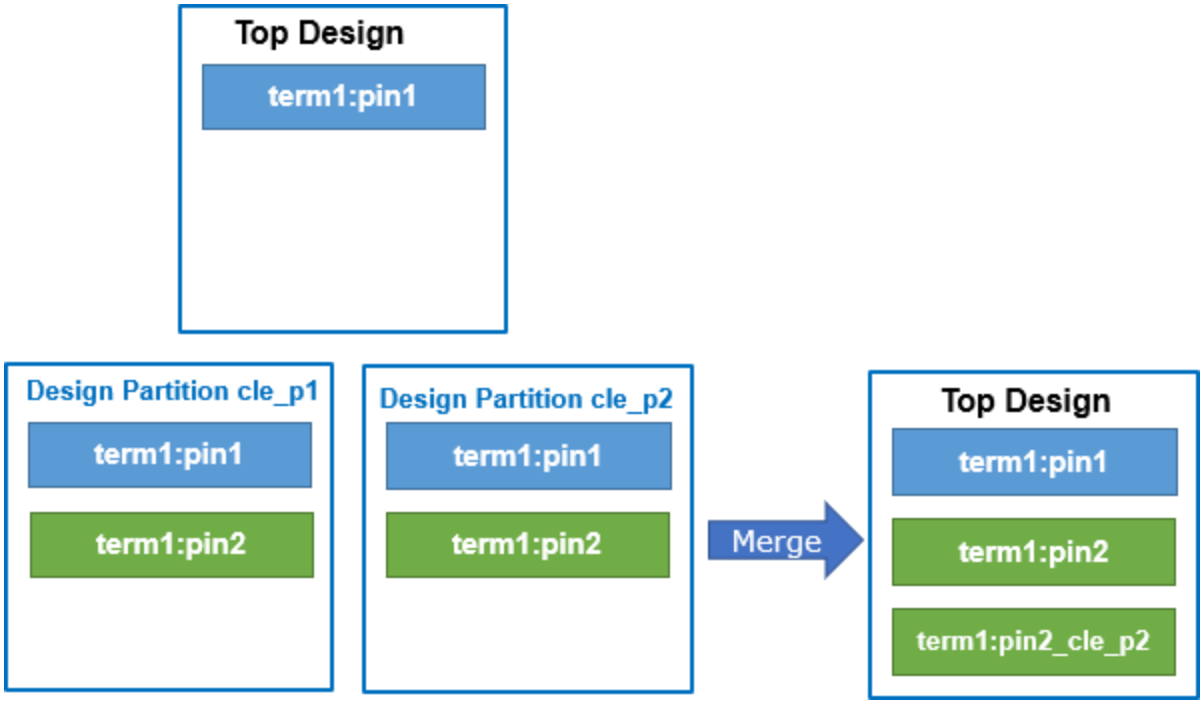
Example - Connectivity Name Conflict Action is set to Rename

Renames the second net and retains both. However, the changes are not merged because one net cannot have two names.



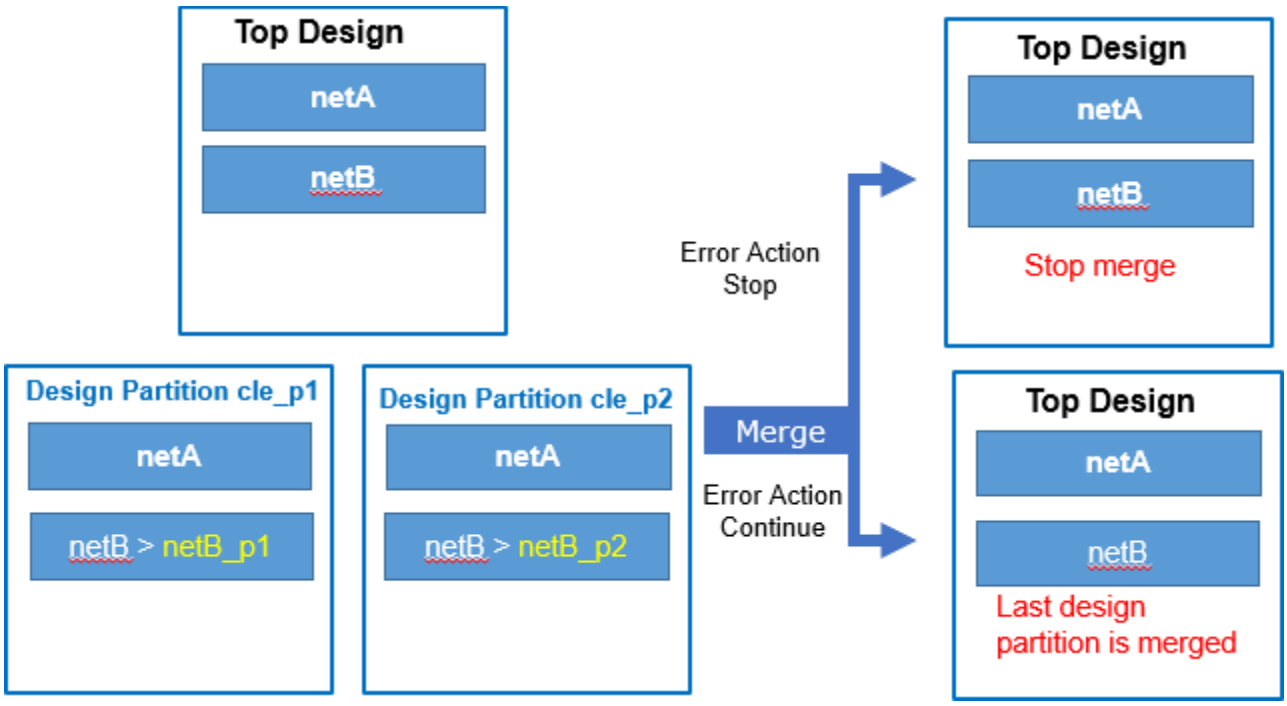
Example - Connectivity Name Conflict Action is set to Rename and have Pins with Same Name

Second pin is renamed and both entries are retained.



Example - Connectivity Name Conflict Action is set to Error

Existing net is renamed in the two design partitions. An error is reported when duplicate entries are found.



To see how to stop merge when an error occurs, consider that top design has a net `netB`.

1. Rename the net in `cle_p1` using:
   ```
   dbRenameNet(netB_Id "netB_p1")
   ```
2. Save the renamed net.
3. Rename the net in `cle_p2` using:
   ```
   dbRenameNet(netB_Id "netB_p2")
   ```
4. Save the renamed net.
5. Open the top design.
6. In the Concurrent Layout Options form, specify the following:
   - *Connectivity Name Conflict Action* as *Error*
   - *Error Action* as *Stop*
   - Select *Treat warnings as error.*

7. Merge `cle_p1` and `cle_p2`.

   Merge stops with warnings for conflicts.

8. Change the setting of C*onnectivity Name Conflict Action* to *Continue*.

9. Redo merge.

   Merge will succeed with warnings.

Related Topics

Concurrent Layout Options Form

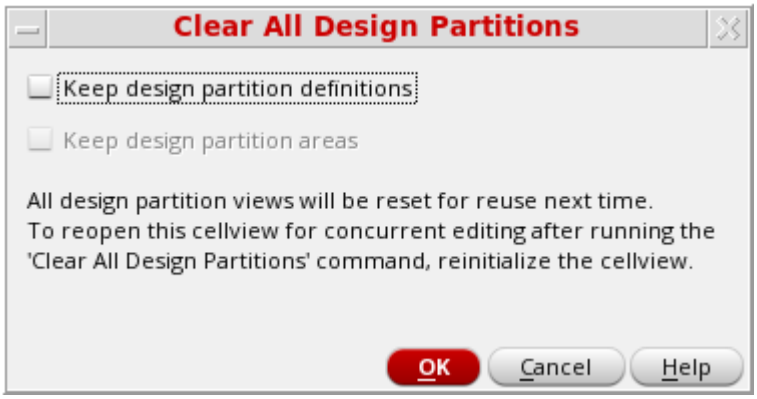
Merge Form

Clearing a Design Partition in Manager Mode

After all design partitions are merged with the top design, you might want to delete all design partitions and exit the Concurrent Layout Editing environment. To clear all design partitions:

1. Choose *Clear All Design Partitions* from the *Merge* dropdown list in the Concurrent Layout assistant or *choose Concurrent – Clear All Design Partitions*.

   The Clear All Design Partitions form is displayed.



2. Select the *Keep design partition definitions* check box if you want to retain design partition definitions,
3. Select the *Keep design partition areas* check box in the area-based design partitions, if you want to retain the design partition areas created using Define Design Partition form.
4. Click *OK*.

   All design partitions will be deleted and you can edit the design without using Concurrent Layout.

Note: In a DM environment, users usually do not have permissions to remove files from the DM vault, therefore clearing design partitions might just retire them, and the information might still exist in the DM vault. To automatically delete design partitions in DM environment using the *Clear Design Partitions* command, set the `autoDeletePartitionView` environment variable to `t`.

Related Topics

Clear All Design Partitions Form

Define Design Partition Form

autoDeletePartitionView

3

Concurrent Layout Editing in Designer Mode

After the required design partition and design partition views are created, designers can start editing in the allocated design partition views. Designers should have write permission on the design partition views that store the edits of the top design.

Concurrent Layout can be used both in single-user and multiple-user modes. In single-user mode the manager can move to designer mode to edit the design. Updates made in Concurrent Layout do not affect the top design until you merge the updates made in the design partition views with the top design. This is why you can use concurrent editing in single user mode to edit the design in different ways, and then merge the update that works the best.

When a ***single user*** is editing the design, in the *Concurrent Layout* assistant:

➡ Right-click the design partition you want to edit and select *Edit in Design Partition*.

The design switches to designer mode.

If ***multiple users*** are working on different design partitions:

➡ Open Library Manager and then select and open the design partition view you want to edit.

There are certain updates that should be made only in the top design. Avoid making these updates in design partitions. For example:

- Net deletion and property changes of cellviews (`cv~>prop`) are not merged or imported. Net deletions can trigger unexpected deletions in the current design partition. They are automatically updated in the top design. Similarly, property changes can cause edit conflicts so they are updated only in the top design.
- Snap Boundary and P&R Boundary are global and should be modified only in the top design.

Related Topics

Concurrent Layout Assistant

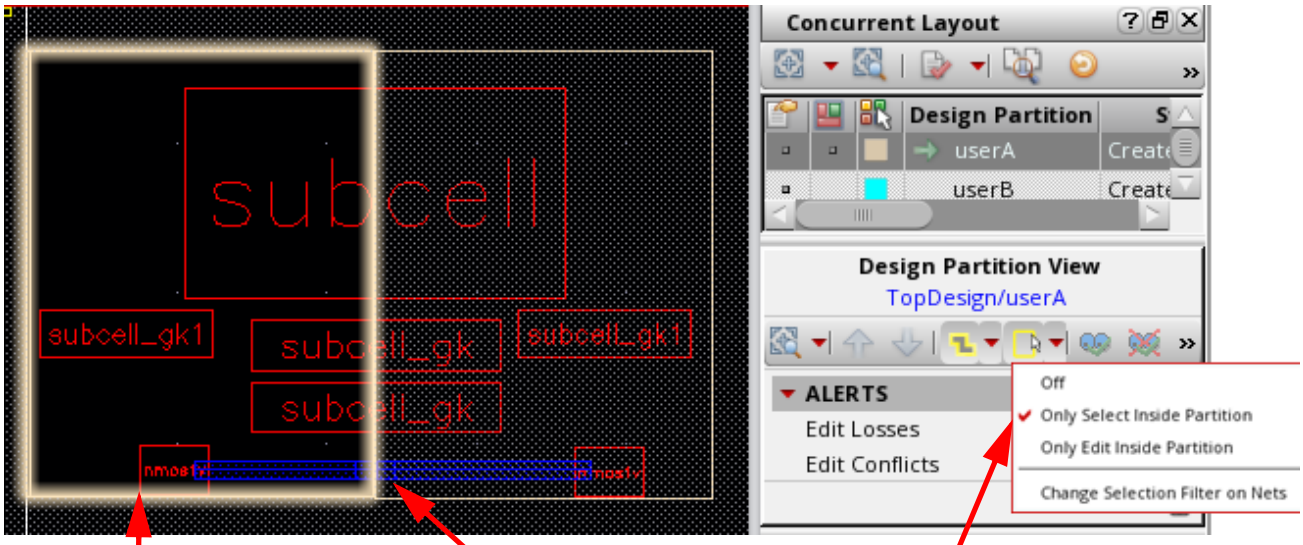
Design Partition Options in Manager Mode

Editing in a Design Partition

Editing in a Design Partition

In designer mode, by default in area-based design partitions, the area boundary for the selected design partition is highlighted and the region outside it is grayed out. This happens because the *Only Select Inside Partition* option is enabled by default in the *Concurrent Layout* assistant.

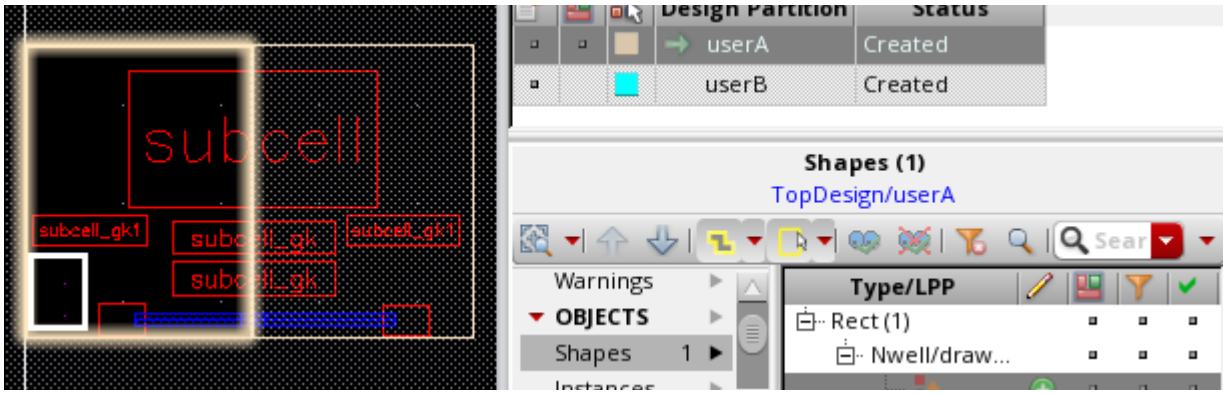
This helps in preventing users from selecting any objects outside their area partition. Additionally, any wire that is crossing the design partition is split by default at the boundary.



Editing in a layer-based design partition is similar to editing in an area-based design partition. The difference is that your edit scope is set to the range of layers included in that design partition. You can also perform tasks such as routing and interactive wire editing in these design partitions.

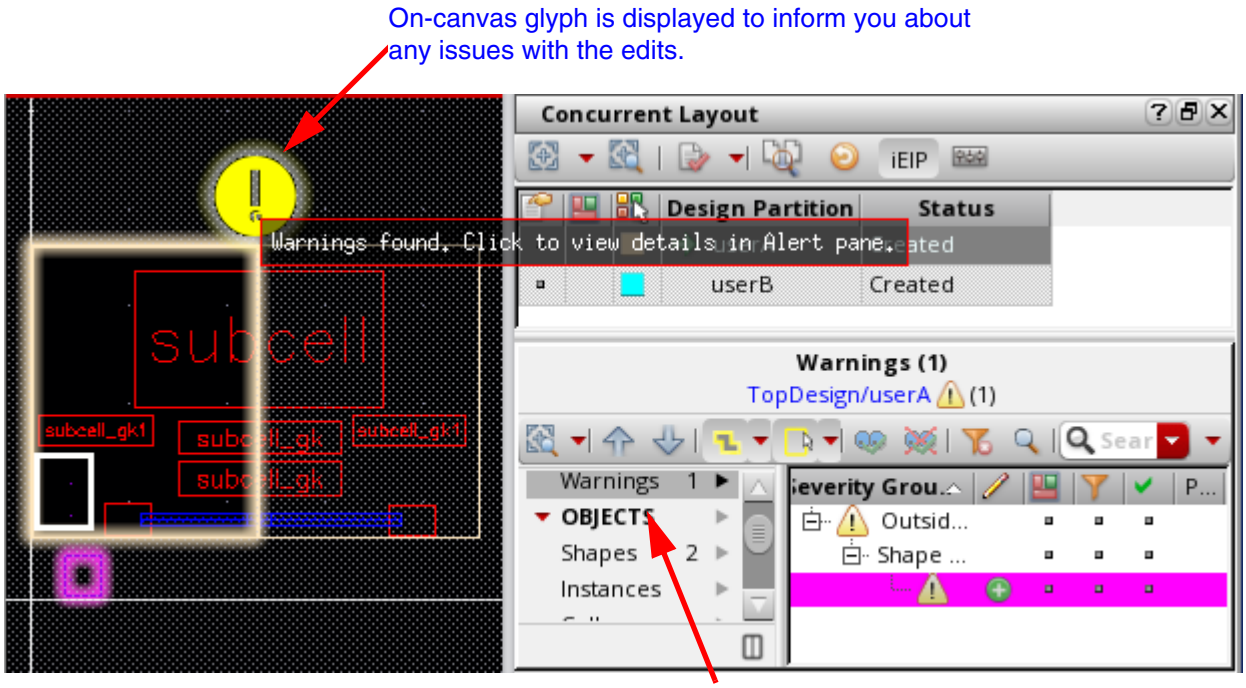
To create objects inside and outside the current design partition:

1. Create a rectangle inside the partition to start editing the design.



2. Add a shape outside the current design partition.

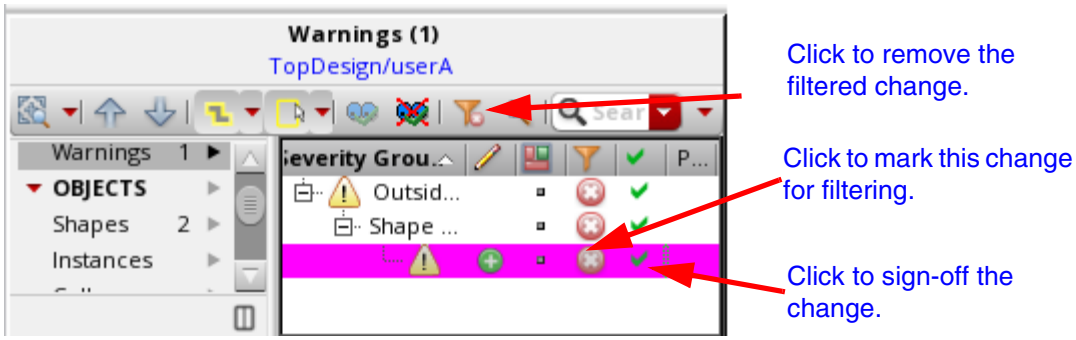
   A glyph is displayed in canvas to warn you about possible edit conflicts. Additionally, a warning alert is added in the assistant to inform you about edits made outside the current design partition.



3. Clear edit conflicts:

   a. Click *sign off* for the edits you want to retain or use *filter* to mark the changes you do not want to retain.

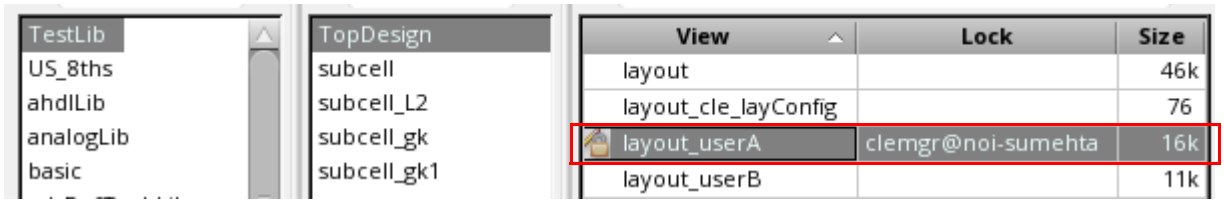
   b. Click *Remove Changes from Design Partition View* to delete the filtered changes.



4. Click *Save* after you have completed editing the design.

   The status of the design changes to *Not submitted*. You can continue editing the design after saving.

5. (Optional) Open Library Manager and check the size of the edited and saved design partition. You will notice a marginal increase in the size indicating that the design partition now comprises saved changes.



Related Topics

Design Partition Options in Manager Mode

Design Partition View Toolbar

Summary Pane

Details Pane

Automatic Routing in an Area-Based Design Partition

Automatic Routing in a Layer-Based Design Partition

Generating a Temporary Pin in Designer Mode

You need to generate temporary pins in designer mode for space-based routing between design partitions. These pins are generated only on the nets crossing design partitions.

To generate temporary pins:

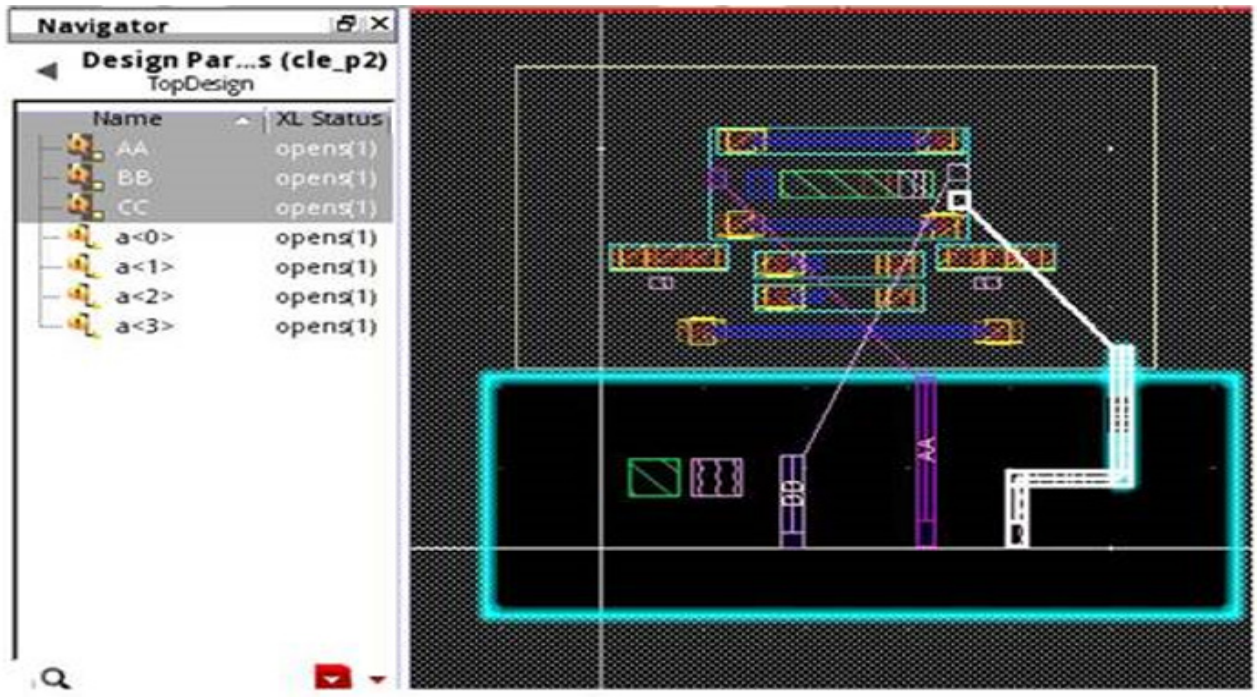
➡ Right-click in the Concurrent Layout assistant and choose *Generate Temporary Pins*

Temporary pins are added to the current design partitions.

In the following screenshot:

- Net `AA` is exactly on the area boundary of the design partition.
- Net `BB` is inside the area boundary.
- Net `CC` is outside the area boundary.

When you run the *Generate Temporary Pins* command, pins are generated only on the nets `AA` and `CC`.



To select these pins for deleting or cross-selecting their nets:

➡ Right-click in the Concurrent Layout assistant and choose *Select Temporary Pins*.

Related Topics

Generating a Temporary Blockage in Manager Mode

Defining an Area-Based Design Partition

Design Partition Options in Designer Mode

Automatic Routing in an Area-Based Design Partition

In an area-based design partition, the scope of edit is defined in terms of area. When you perform routing inside an area-based design partition, you can route:

- Fully between the pins that are inside the design partition.
- Partially, if one pin is inside and the other pin is outside the design partition.

Different designers are expected to work in their respective areas. By default, Concurrent Layout sets edit mode to *Only Select Inside Partition*, which is a moderate level of restriction. The level of restriction varies with different edit modes in the following way:

Edit mode	Level of editing allowed	Description
Off	No restrictions	You can create and edit inside and outside the current design partition.
Only Select Inside Partition	Moderate	You can create objects outside the current design partition but cannot select any object outside your design partition.
Only Edit Inside Partition	Restrictive	You can create, select, and edit only inside the current design partition.

Interactive wire editing supports and respects the above edit modes.

The behavior of automatic routing also varies based on which edit mode is enabled in conjunction with Layout XL or Layout EXL tiers. You can use different settings to achieve intended results.

Edit mode	Layout XL	Layout EXL
Only Select Inside Partition	Routes freely outside the current design partition	Routes only between the pins that are inside the current design partition. Virtual or temporary pins are not generated. Automatic routing is done between the pins that are inside a design partition, but nets that cross the current design partition are not routed.

Edit mode	Layout XL	Layout EXL
Only Edit Inside Partition	Routes freely outside current design partition	Routes only inside the current design partition for pins inside and outside design partition. Virtual pins are generated at the edge of the design partition for outside pins. These virtual pins are a placeholder for the remaining connection outside the design partition. You can achieve automatic routing to route partially if one pin is inside the current design partition and the other pin lies outside the design partition. Layout EXL is needed to enable the Congestion Analysis feature, which is used to analyze the full net connection irrespective of the source and location of the target pin and then generate virtual pins at the edge of the design partition for those nets which are crossing the design partition. Automatic routing is performed between the actual pin and virtual pins inside the design partition.

Related Topics

Design Partition Area-Based Routing Video

Performing Automatic Routing for an Area-based Design Partition

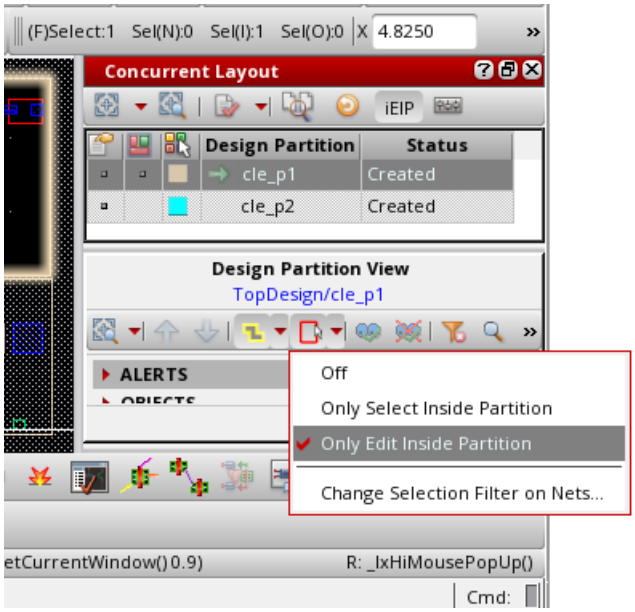
Design Partition Options in Designer Mode

Design Partition Options in Manager Mode

Performing Automatic Routing for an Area-based Design Partition

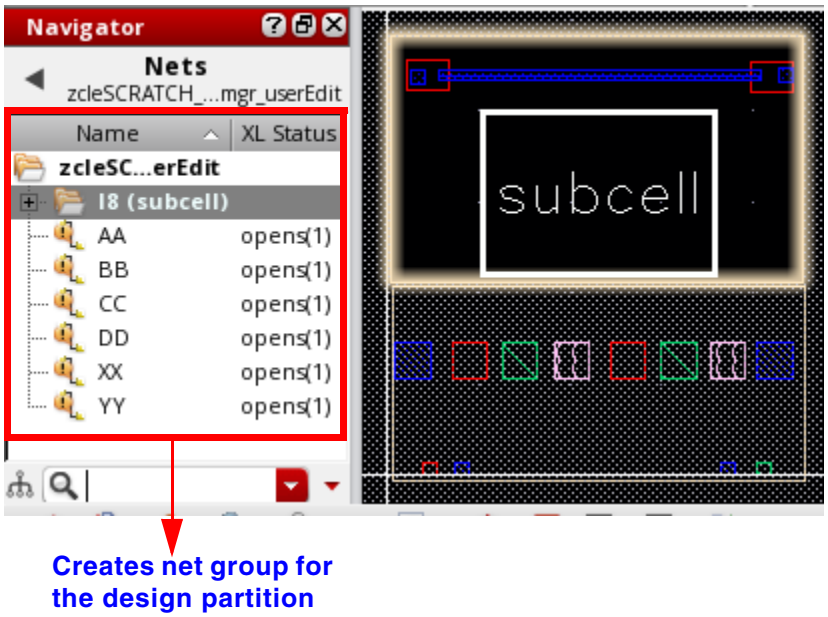
The following example considers two area-based design partitions, `cle_p1` and `cle_p2`, added to a design.

1. Open the area-based design partition `cle_p1` from Library Manager in Layout XL.
2. Set edit mode to *Only Edit Inside Partition*.



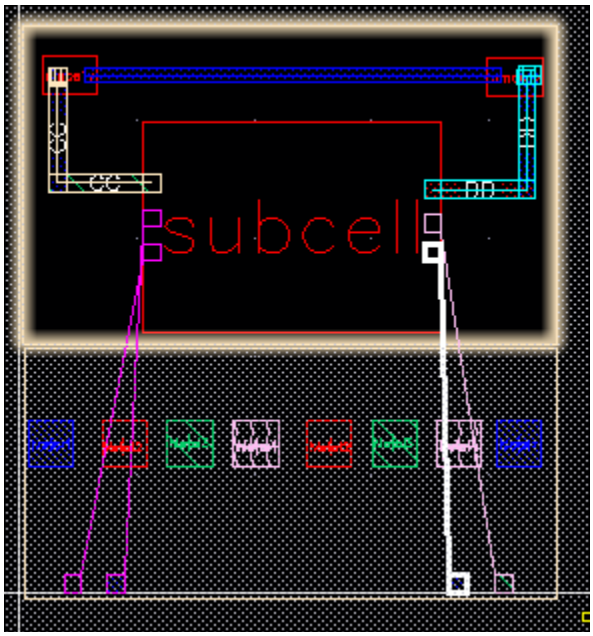
3. Right-click the design partition in the Concurrent Layout assistant and select *Add Design Partition Net Set*.

A net group containing all the nets in the design partition is created in the Navigator.



4. Select all nets in the Navigator, right-click, and then choose *Route With Default Lookup* for Virtuoso space-based routing.

   The space-based router routes only the pins that are inside the design partition `cle_p1`.



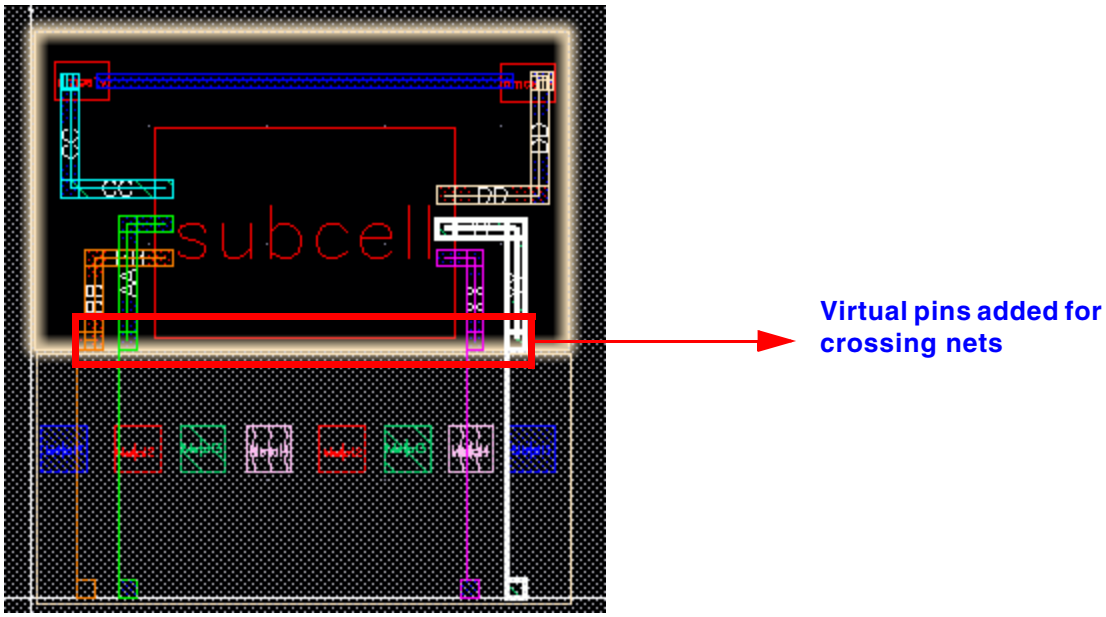
5. Select *Launch – Layout EXL* from the menu bar.

In Layout EXL with edit mode set to *Only Edit Inside Partition*, the router attempts to route between pins:

- inside the design partition.
- both inside and outside the design partition by creating virtual pins at the design partition boundary for outside pins.

6. Select all nets in the Navigator, right-click, and then choose *Route With Default Lookup* for Virtuoso space-based routing.

   The space-based router routes completely within the design partition. Virtual pins are added at the partition boundary to partially route nets outside the design partition.



   Note: Virtual pins are removed automatically when the *Clear All Design Partitions* command is used to delete the existing design partitions. You can also remove them manually any time during editing by using the *Remove Temporary Objects* command.

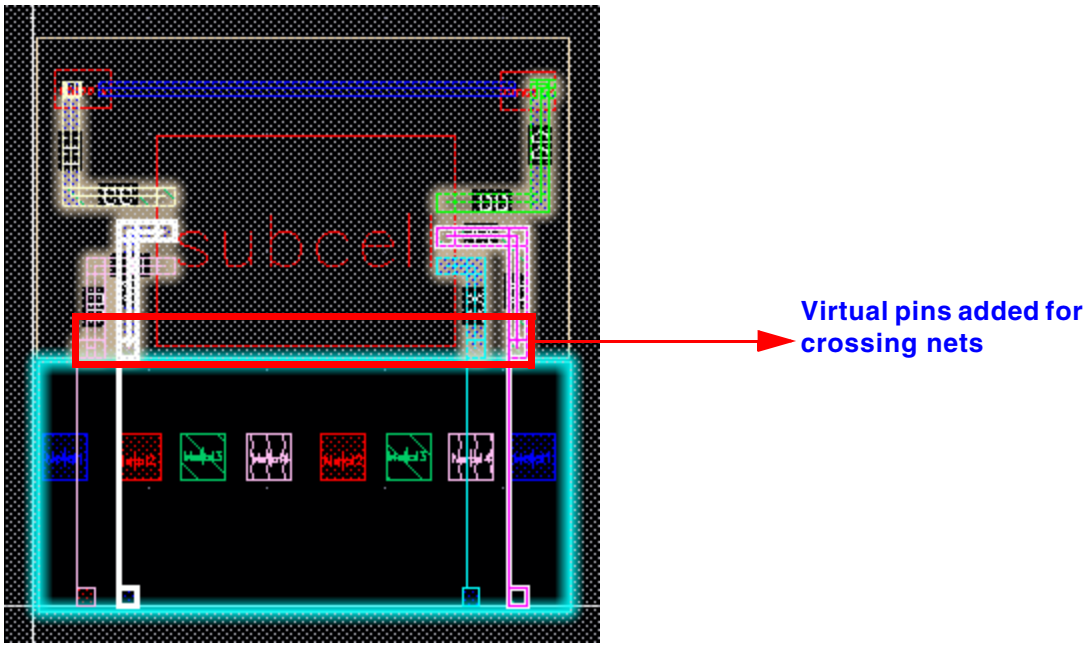
7. Save and exit Layout EXL.
8. Open design `cle_p2` in Layout EXL from Library Manager.

   The Import Peer Design Partition form is displayed.

9. Click *Import*.
10. Ensure that edit mode is set to *Edit Inside Design Partition*.
11. Right-click the design partition `cle_p2` in the Concurrent Layout assistant and select *Add Design Partition Net Set*.

12. Select all nets in the Navigator, right-click, and then choose *Route With Default Lookup* for Virtuoso space-based routing.

The space-based router partially routes the nets that are crossing the design partition.



Related Topics

Area-Based Design Partition Routing Video

Design Partition Options in Designer Mode

Automatic Routing in a Layer-Based Design Partition

In a layer-based design partition, the scope of edit is defined in terms of a range of layers. When you perform routing inside a layer-based design partition, you can route fully between the pins that are between the layers in the design partition.

Different designers are expected to work in their respective set or range of layers. By default, Concurrent Layout offers to keep the edit mode to *Only Select Inside Partition*, which is a moderate level of restriction. The level of restriction varies with different edit modes in the following way:

Edit mode	Level of editing allowed	Description
Off	No restrictions	You can create and edit objects on any layer.
Only Select Inside Partition	Moderate	You can only create and edit objects on layers that are included in the current design partition. However, you can use vias that are outside the range of layers in the current design partition.
Only Edit Inside Partition	Restrictive	You can only create and edit objects on layers including the vias that are inside the current design partition.

Constraint Groups in a Layer-based Design Partition

When you create a layer-based design partition, two constraint groups dedicated to it are also created automatically. These constraint groups are applied according to the Edit Scope settings to enable the layer constraint while routing.

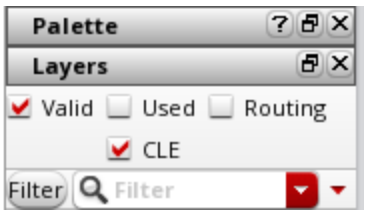
The following table shows these two constraint groups associated with a design partition. The *Type 1* constraint group uses the same name as the design partition, and the *Type 2*

constraint group adds `_res_` to its name denoting that it restricts valid vias based on the design partition definition.

Design Partition	Constraint Group Type	Constraint Group Name	Process Rules	Via Availability	Edit Scope
`cle_p1`	Type 1	`dsn:cle_p1`	Valid Layers	Keep all valid vias inherited from the parent constraint group.	*Only Select Inside Partition*
	Type 2	`dsn:cle_res_p1`	Valid Layers Valid Vias	Restrict valid vias by removing those outside the design partition definition from the parent constraint group.	*Only Edit Inside Partition*

When you open a layer-based design partition, the Layer Palette, the Default Wire Constraint Group, and the Default Via Constraint Group change according to the Edit Scope.

The *Only Select Inside Partition* option is enabled by default, and when this option is active, the *CLE* filter is available in the *Layer* Palette.



The *CLE* filter is selected by default and lets you see only those layers that are available in the current layer-based design partition. Even if you deselect this filter to show all layers, the layers outside the design partition definition cannot be selected. The Default Wire Constraint Group and the Default Via Constraint Group change to the *Type 1* constraint group. When you create or modify a via for which the cut layer is outside the current design partition definition, a warning glyph is displayed. Sign off these edits in the assistant to retain them.

Enabling the *Only Edit Inside Partition* option enables the *CLE* filter in the *Layer* Palette and applies the *Type 2* constraint group.

If you change the status of Edit Scope to *Off*, the *CLE* filter in the *Layer* Palette is disabled and hidden and you can see and use all layers. The Default Wire Constraint Group and the

Default Via Constraint Group are reset. You must sign off all intentional edits that are outside the current design partition.

Based on the edit mode, the constraint groups are defined in the following way:

- *Only Select Inside Partition*: Sets the constraint group with the valid layer-purpose pair constraint mapped to the layer-purpose pair of the design partition but the valid vias constraint includes all the vias.
- *Only Edit Inside Partition*: Sets the constraint group with valid layer-purpose pair and valid via constraint mapped to layer-purpose pair and via of the current design partition only.

Related Topics

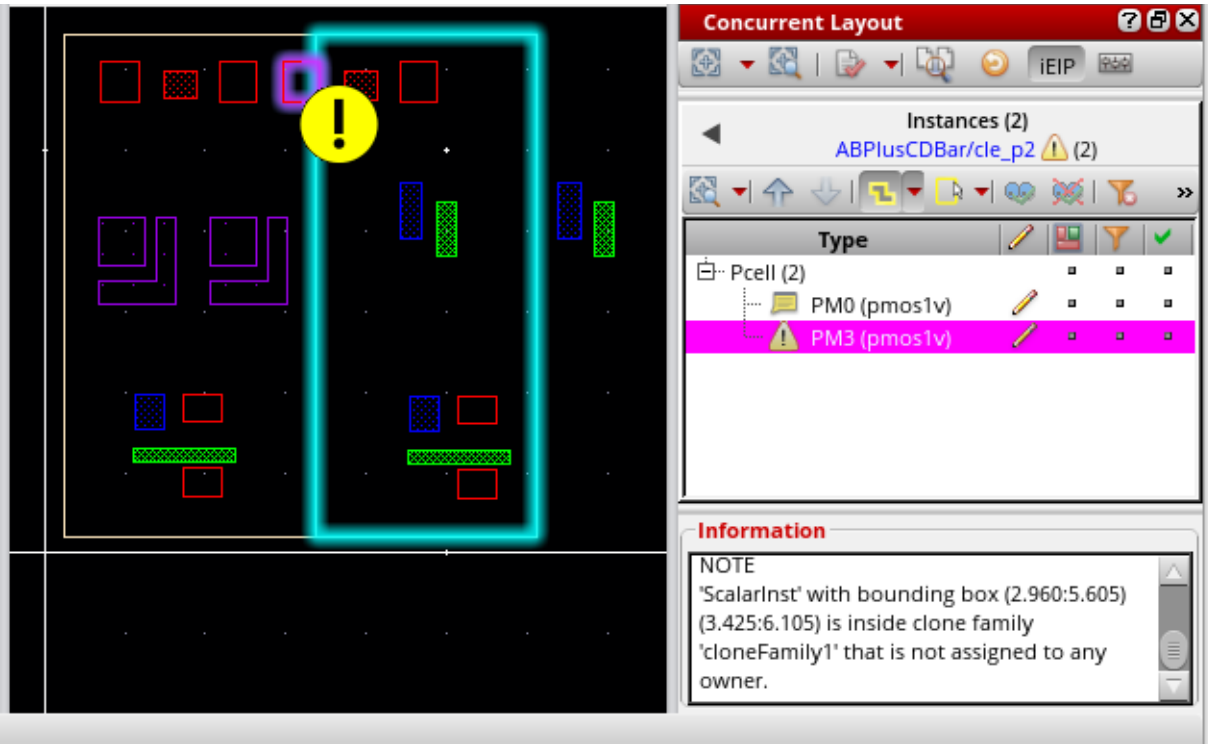
Layer-Based Design Partition Routing Video

Defining a Layer-Based Design Partition

Rules for Editing Clones in Design Partitions

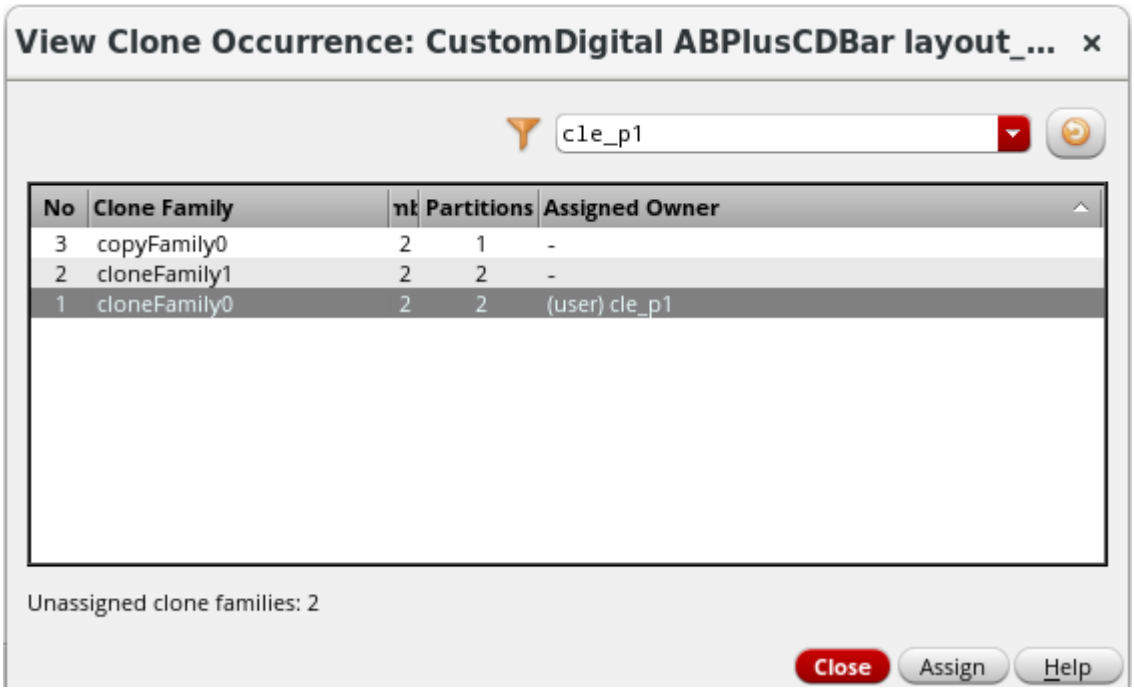
The following rules are followed when editing clones:

- Only owner of a clone family is allowed to edit a clone. If the clone family has a clone that is outside the design partition and editing introduces an out-of-area alert, it is automatically signed-off.
- You cannot edit a clone inside a design partition that is not the owner of the clone. A message is displayed informing that you cannot edit the clone because it belongs to a clone family that has a different design partition as the owner.
- When you try to edit an unassigned clone, a message informing that you are editing an unassigned clone is displayed. You can continue to edit but a note is added to the edited shapes and is displayed in the Information pane.



You will have to merge design partitions with edits in an unassigned clone before reassigning unassigned clones. If you try to assign a clone without merging the changes, a message is displayed that this may result in edit conflicts.

- You can use the *View Instance/Clone Occurrence* Design Partition options command in the Concurrent Layout assistant to display the View Clone Occurrence form to view occurrences of a clone in the design.



Related Topics

Rules for Editing Clones in Design Partitions

Design Partition Options in Designer Mode

Concurrent Layout Options Form

Assign Owner to Clone Family Form

View Clone Occurrence Form

Clone Source Selection and Target Search and Generation

Reviewing Updates after Concurrent Layout Editing

To review the updates you have made:

➡ Right-click the design partition and select *Show Detailed Changes*.

Updates made to the design are highlighted in the canvas. Make sure that updates are as needed, otherwise, make the required edits.

Related Topics

Editing in a Design Partition

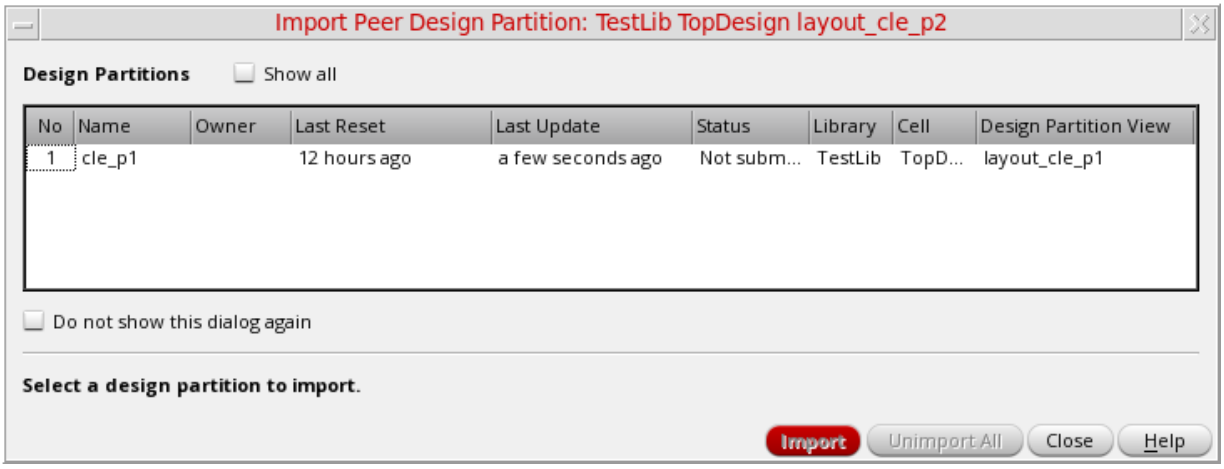
Design Partition Options in Manager Mode

Importing a Peer Partition after Concurrent Layout Editing

To import changes made to the peer design partitions and view the updated design as a whole:

1. Right-click the design partition and click *Import Peer Design Partitions* or choose *Concurrent – Import Peer Design Partitions*

   The Import Peer Design Partition form appears.



2. Select *Show All* to display all edited peer design partitions.
3. Select the design partitions to import.
4. Click *Import*.

Updates from the selected design partitions will be imported for your reference. You cannot submit these changes for merge or make any further edits.

In constraint-aware editing, when a new wire with net is imported from a peer partition, to prevent wire commands from changing this wire and prevent edit loss, Concurrent Layout automatically sets the wire to locked. This triggers Constraint Manager to create a locked constraint on the wire's net that, in turn, prevents designers from moving the wire, preventing edit loss. This constraint appears only when such peer partition is imported.

Unimporting Peer Design Partition Updates

You can remove the imported information related to the updates made in the peer design partitions from the current design partition:

1. Right-click the design partition and click *Import Peer Design Partitions* or choose *Concurrent – Import Peer Design Partitions.*

   The Import Peer Design Partition form appears.

2. Click *Unimport All*.

   All imported updates will be removed from the current design partition.

Related Topic

Import Peer Design Partition Form

Checking All Edits after Concurrent Layout Editing

To check your edits after importing peer designs:

➡ Right-click the design partition in the assistant and choose *Post-Edit Check All Edits*.

This command lets you check all objects modified by you to check for any new violations. Any warning or alerts related to violations and edit conflicts are reflected in the Summary Pane and Details Pane of the Concurrent Layout assistant.

Related Topics

Summary Pane

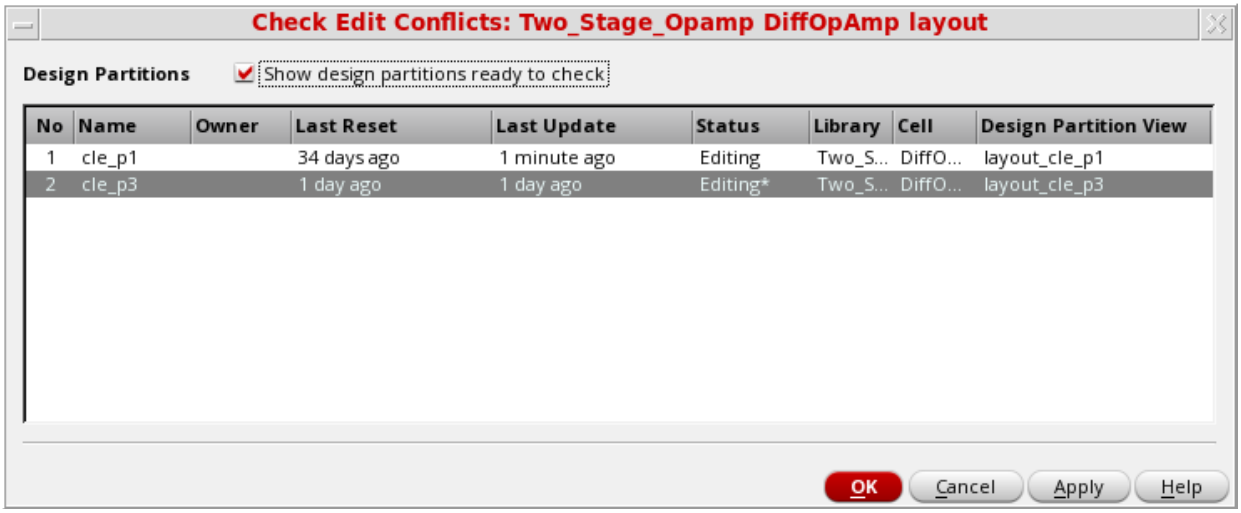
Details Pane

Checking and Resolving Edit Conflicts after Concurrent Layout Editing

To check the log of all conflicts:

1. Right-click on the design partition and then click *Check Edit Conflicts*.

   The Check Edit Conflicts form is displayed.



   Use this form to identify even those edit conflicts that were undetected by the assistant alert system including hierarchical edits. You can use this form to thoroughly check for conflicts between the selected design partitions and the top design.

2. Click *OK*.

   The design is checked for edit conflicts, the *Edit Conflicts Summary* report is displayed, and the form is closed.

   You should either resolve or sign off edit conflicts before submitting your design for merge. You can view alerts and warnings and then either resolve or sign-off these conflicts from the Summary Pane and Details Pane of the Concurrent Layout assistant.

There are certain measures you can take to avoid edit conflicts. For example:

- Avoid running block-level commands, such as automatic placement and routing, floor planning, pin optimization and, recolor all because this may generate several edit conflicts if they run in two design partitions.
- Ensure that *Generate Selected From Source* does not pick the same objects for two different design partitions.

Related Topics

Check Edit Conflicts Form

Editing in a Design Partition

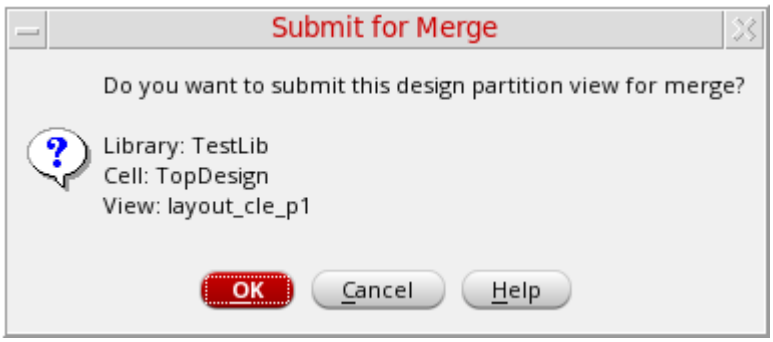
Summary Pane

Details Pane

Submitting a Design Partition for Merge

To merge a design partition with the top design:

1. Click the *Submit for Merge* button on the *Concurrent Layout* toolbar in the Concurrent Layout assistant or choose *Concurrent – Submit for Merge / Recall*.
2. Click *Yes* to save the design if the Save Changes dialog box is displayed.
3. Review the details in the Submit for Merge dialog box and click *OK*.



The status of the design partition changes to *Submitted* and the *Submit for Merge button* on the *Concurrent Layout* toolbar changes to *Recall*.

Saving many changes in a design partition view may slow down the open and save process, therefore, it is recommended to merge periodically (> 10k updates), or save the design partition view as a full design partition view to speed up these processes.

Related Topics

Concurrent Layout Toolbar in Designer Mode

Merging a Submitted Design Partition

Recalling a Design Partition

To recall a design partition submitted for merge:

1. Click the *Recall* button on the *Concurrent Layout* toolbar in the assistant or choose *Concurrent – Submit for Merge / Recall*.
2. In the Recall Submission dialog box, click *OK*.

   The design partition will be recalled and the status will change to *Editing*.

Important

You can recall a design partition only if the manager has not yet merged it.

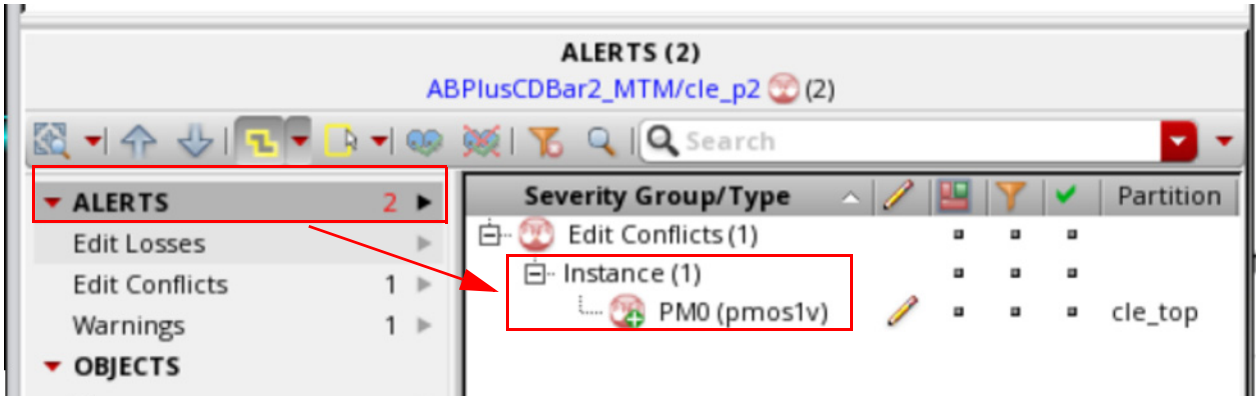
Related Topic

Concurrent Layout Toolbar in Designer Mode

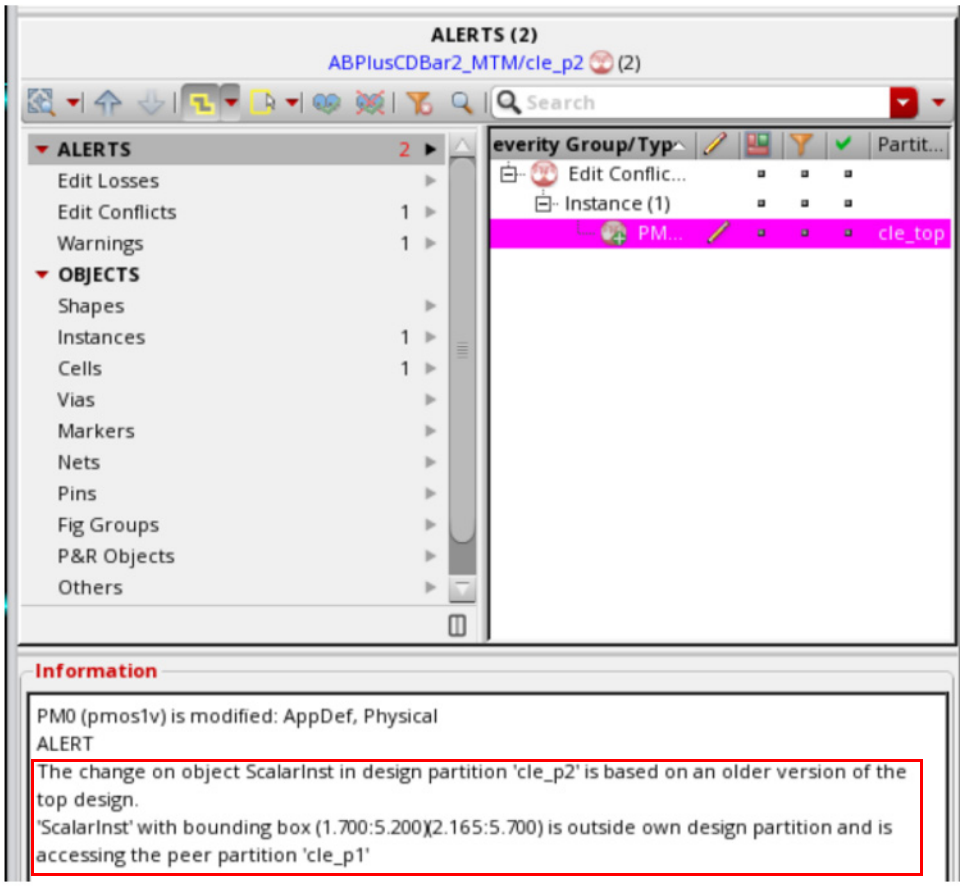
Consolidated Alerts

Alerts in Concurrent Layout are consolidated by default. This means that if an object has multiple edit conflicts, only the most severe conflict will be shown in the *ALERTS* section of the Summary pane in the Concurrent Layout assistant. The + icon is added to represent multiple alerts.

Consider an example where you move an instance `PM0` in the design partition `cle_p2` outside of the design partition area. This will introduce an outside area warning. Return to the top design and move the instance `PM0` in the top design and save the top design. This will introduce an edit conflict against the design partition `cle_p2`. Now, when you edit in the design partition `cle_p2`, you will see two alerts, both associated with `PM0`, consolidated into one entry in the *ALERTS* section.



You can select each alert node to view details related to all alerts associated with the same object in the *Information* pane.



Related Topics

consolidateAlerts

ALERTS Section

4

Concurrent Layout Editing for Hierarchical Designs

Hierarchical editing in the CLE flow lets multiple designers concurrently Edit In Place (EIP) into hierarchical subcells. The edit scope is retained in both area and layer-based design partitions. In area-based design partitions, area boundaries defined at the top design partition are pushed down the hierarchy. In layer-based design partitions, edit scope is limited to the layers available in the top design partition.

Related Topics

Editing in a Design Partition

Editing a Hierarchical Design

Modes in Concurrent Hierarchical Editing

Concurrent hierarchical editing has two modes, Regular and Incremental. Concurrent Layout automatically detects the case and enables one of the following modes for hierarchical editing.

- **Regular mode**

  The main cellview is edited, and only one designer can edit at a time. This implies that concurrent editing of a hierarchical subcell is not possible in this mode. Additionally, it is not possible to undo any changes after they are saved. Hierarchical editing is done in regular mode when one of the following is true:

  - The design partition is open in read-only mode
  - The subcell is being concurrently edited for another task.
  - The *iEIP* button on the assistant is disabled.

- The hierarchical subcell has one or more occurrences and they are all in a single design partition.

- The hierarchical subcell has one or more occurrences and they are in two or more design partitions.

Note: The Concurrent Layout assistant is disabled in regular mode.

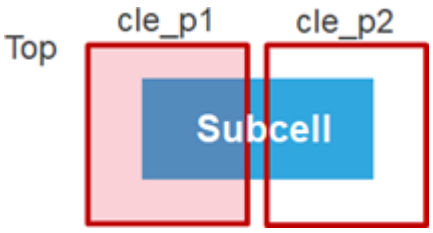
Incremental mode

The original hierarchical subcell is not modified. Hierarchical design partition views are created when you descend into the design.

In layer-based design partitions, the edit scope of the hierarchical subcell is limited to the layers available in the top design partition.

In area-based design partitions, area boundaries from the parent top design partition are pushed down to retain the edit scope in the concurrently edited hierarchical subcell. This mode is enabled when the following conditions are true:

- The subcell straddles two or more design partitions.
- There is only one occurrence of this subcell in the top design.



To avoid performance-related issues, checking is performed only to the current display level or to the third level in the hierarchy.

Related Topics

Editing in a Design Partition

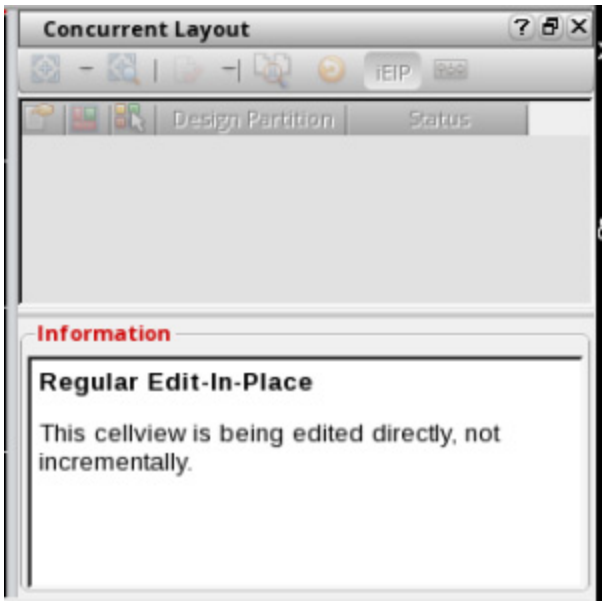
Verifying Incremental EIP Updates

Merging Incremental EIP Updates

Incremental EIP from a Read-Only Design Partition

Incremental EIP cannot be done from a read-only top design partition. Therefore, when you EIP from a read-only top design partition or if a subcell cannot be opened for editing, EIP is done in regular mode.

Information pane is used to inform you that you are editing in regular mode.



Related Topics

Incremental mode

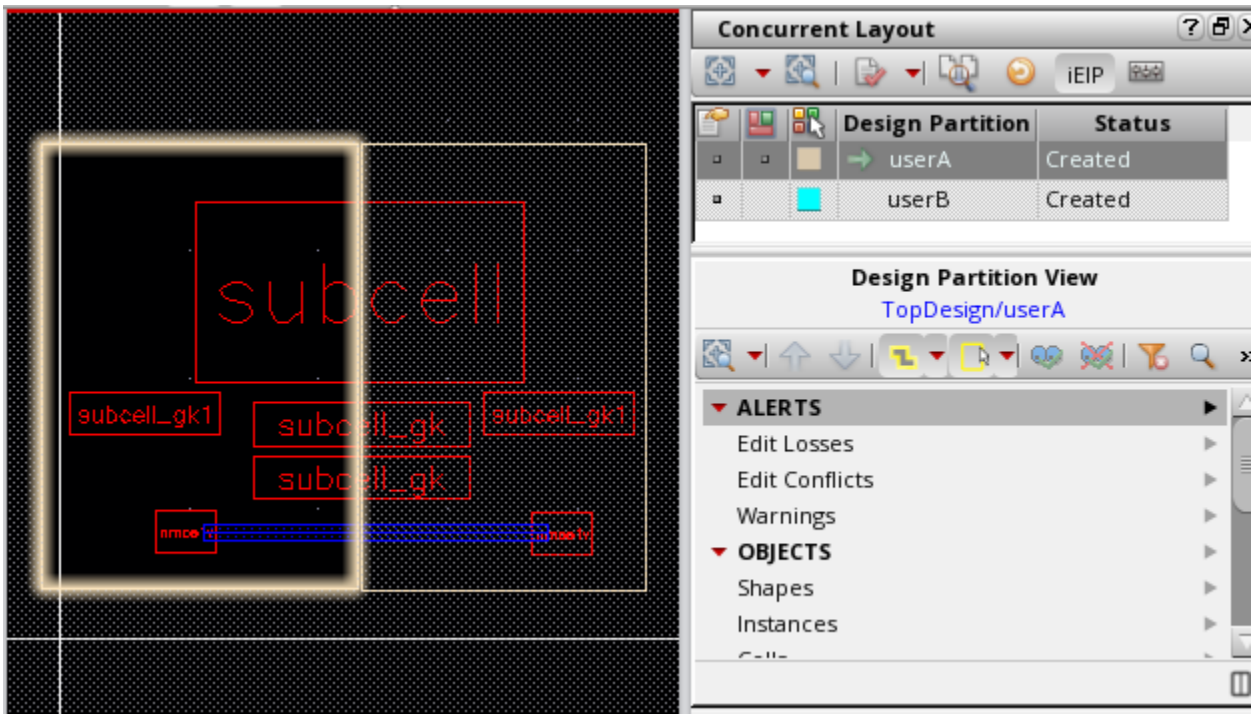
Hierarchical Edit Setup Form

Import Peer Design Partition Form

Editing a Hierarchical Design

To edit a hierarchical design:

1. Open the design partition view that you want to edit.



   Let's assume that the `userA` design partition view is the parent top-level design partition view.

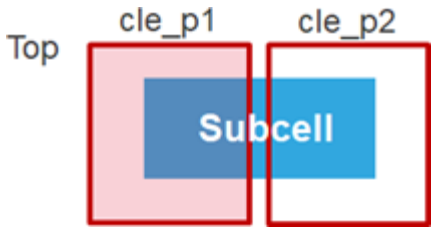
2. Choose *Edit – Hierarchy – Descend Edit* or press `x` to EIP.

3. Point to the subcell you want to EIP.

   If all conditions for editing in Incremental mode are met the Hierarchical Edit Setup Form is displayed with *Edit Mode* as *Incremental*.

This form is displayed in designer mode when you *Descend Edit or Edit In Place* into a subcell if top-level design partitions are layer-based, or if the top-level design partitions are area-based and the following conditions are all met:

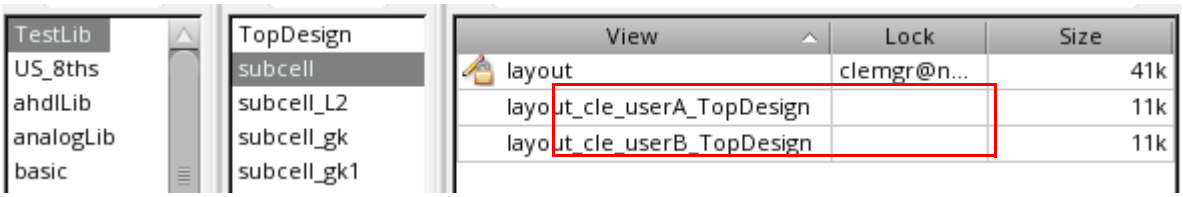
- The subcell straddles two or more design partitions
- There is only one occurrence of this subcell in the top design (for performance reason, checking is performed only to the display level or minimum 3).



Here,

- In *Hier. Partition* name, the suffix `(+1)` with the name indicates the number of hierarchical design partition views that will be created. In this case, two hierarchical design partition views will be created one for the current user `userA` and another one for the peer user `userB`.
- The *Hier. Partition View* name contains the name of the top design partition view, `userA`, and the name of the top design, `TopDesign`.

4. Click *OK* to create the hierarchical design partition views for the subcell.
5. (Optional) Check these views in Library Manager.



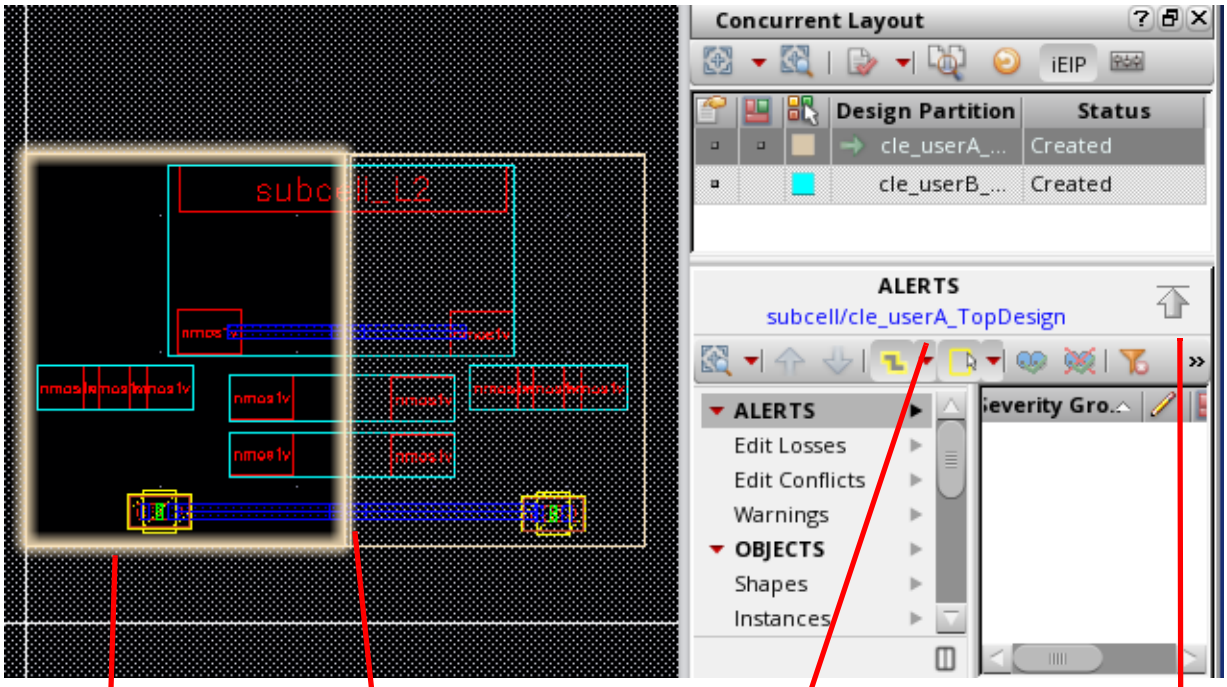
Here, `layout_cle_userA_TopDesign` is the incremental view for `userA` and `layout_cle_userB_TopDesign` is the incremental view for `userB`.

When you EIP into `layout_userB` hierarchical subcell from the top design partition view, you are automatically redirected into the incremental hierarchical partition view `layout_cle_userB_TopDesign`, which was created by the first peer designer `userA`. Therefore, Hierarchical Edit Setup Form will not be displayed again.

The *Hier. Partition View* (child) stores a reference back to the top-level design partition (parent) and all the incremental descend edits. The parent design partition area is now

pushed down to the child so the designer can continue to edit in the same design partition area across the hierarchy.

Note: When a hierarchical design partition is loaded into memory, it is also applied to the subcell in the virtual memory. This can affect other non-CLE cellviews if they refer to the same subcell.



6. Make some edits in the design.
7. Choose *File – Save* to save the changes.

   Note: Changes made to the EIP design partition are saved in the EIP design partition view.
8. Choose *Edit – Hierarchy – Return to Level* or click *Return to top partition* in the Concurrent Layout assistant.

   When doing incremental EIP, the top-level design partition view is at level `0`, whereas incremental EIP happens at level *n*, where *n* represents the level of the hierarchical subcell being edited.
9. Repeat the steps for peer design partition.

Related Topics

Incremental mode

Hierarchical Edit Setup Form

Import Peer Design Partition Form

Verifying Incremental EIP Updates

Merging Incremental EIP Updates

Verifying Incremental EIP Updates

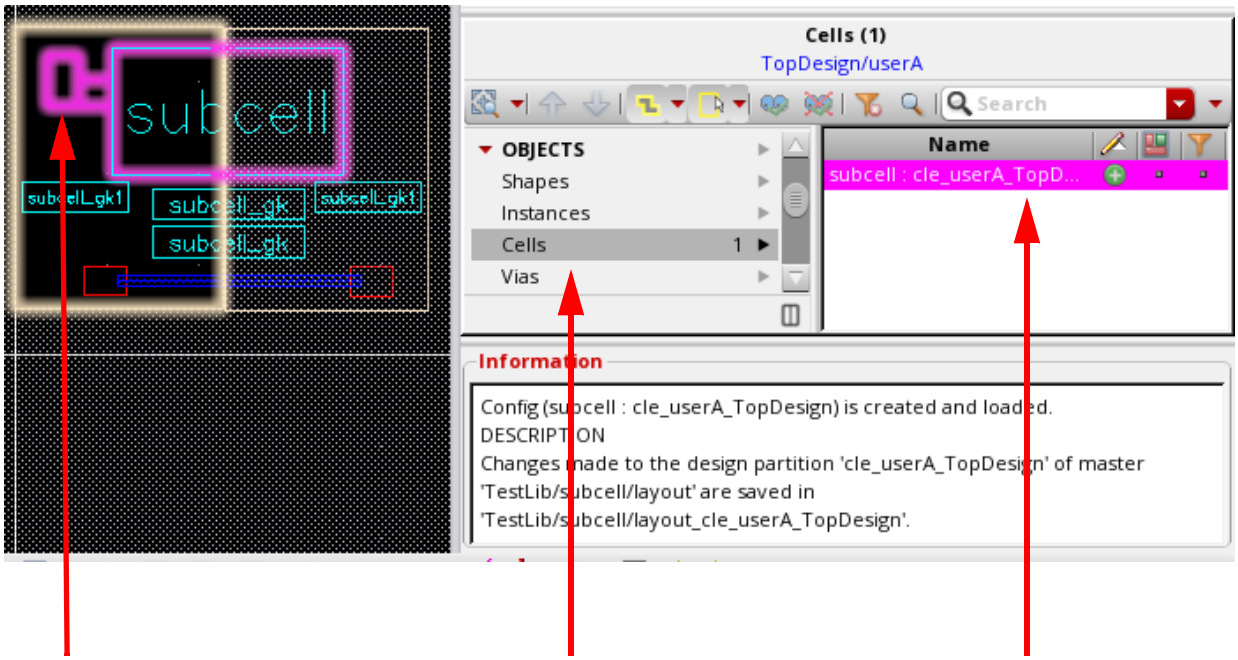
Changes made to the hierarchical design partition are saved in the hierarchical design partition view (child) pointed by a layout configuration. To verify incremental updates, you need to open or import a parent top-level design partition view with layout configuration. You can verify your updates, including all the changes in the child design partition view. These changes are applied to all occurrences of the subcell in the top-level design partition view.

To verify updates made in a hierarchical design partition view:

1. Right-click the hierarchical design partition view in the concurrent layout assistant and choose *Show Detailed Changes (EIP)* to view all changes made during incremental EIP.

   This will perform EIP in read-only mode. The object is shown in the *Cells* category in the *OBJECTS* section of the *Summary* Pane.

Note: Updates made in Regular mode are not displayed here.



Halo around the hierarchical subcell edited concurrently

Summary of the updated objects is shown under Cells

Summary of changes

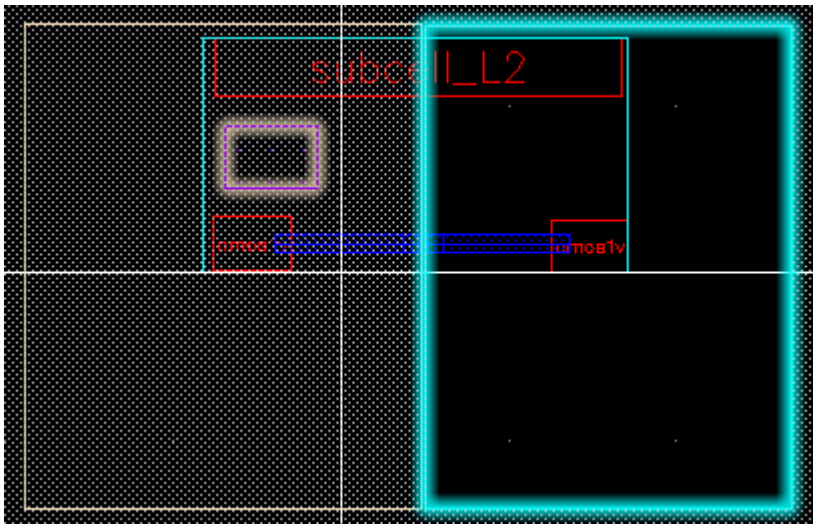
2. Click *File – Save* at the top-level design partition view to save this layout configuration, which is a reference to the child hierarchical design partition that you just edited.

3. Open a peer design partition.

   The Import Peer Design Partition form is displayed.

4. Click *Yes* or *No* based on whether you want to view changes made by the peer user.

   If you choose to import peer changes, the imported changes are marked by a halo in the canvas.

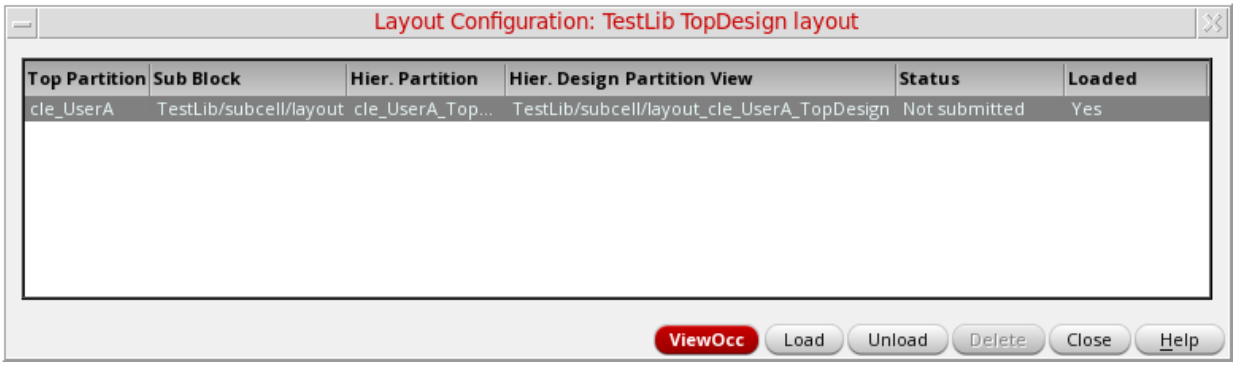


   You can now use the Layout Configuration form to load or unload the changes in the design hierarchy.

5. Choose Layout Configuration from the *Submit for Merge* drop-down list or choose *Concurrent – Layout Configuration.*

   The Layout Configuration form is displayed.

6. Click *Load* if the changes look fine in all occurrences of the subcell.



   The value `Yes` in the *Loaded* column indicates that the incremental changes have been imported to the subcell. The manager can see layout configurations in all design partitions and load them as needed. Layout configurations are loaded automatically for the designer, which means the subcell design in memory will contain the incremental

changes. However, if the designer opens the subcell cellview from the disk, the layout configuration is automatically unloaded and an *Unloaded Configurations* warning is displayed in the assistant.

7. Click the *Load* button after this subcell cellview is closed to refresh the selected layout configurations.

Related Topics

Incremental mode

Hierarchical Edit Setup Form

Import Peer Design Partition Form

Layout Configuration Form

Merging Incremental EIP Updates

Merging with the top design is easy because the parent and the child are in sync. For example, submitting the parent design partition view for merge automatically includes all child design partition views. Similarly, opening a submitted child design partition view for edit will automatically recall both the parent and child design partition views. Merging a parent will automatically load the children into the memory. To verify DRC, ensure to stream out the entire design hierarchy from VM.

To submit a hierarchical design partition for merge:

1. Return to the top-level design partition.
2. Click *Submit for Merge* on the Concurrent Layout toolbar in the Concurrent Layout assistant or choose Concurrent – *Submit for Merge* or *Recall* to submit updates made in the subcell.

   The top-level design partition is submitted for merge.

In case you have already exited without submitting for merge:

1. Open the top-level design partition view from *Library Manager*.
2. Select top design partition to merge in the Concurrent Layout assistant.
3. Click *Submit for Merge* on the Concurrent Layout toolbar in the Concurrent Layout assistant or choose Concurrent – *Submit for Merge / Recall*.

Submit for Merge dialog box is displayed.

4. Click *OK.*
5. Close the top-level design partition view.
6. Open the top design cellview.
7. Click the *Merge* button on the *Concurrent Layout* toolbar in the Concurrent Layout assistant or choose Concurrent – *Merge* to merge the top-level design partition with the top design.
8. Check the message box for successful merge of all design partition views and automatic loading of layout configurations.

Related Topics

Concurrent Layout Toolbar in Designer Mode

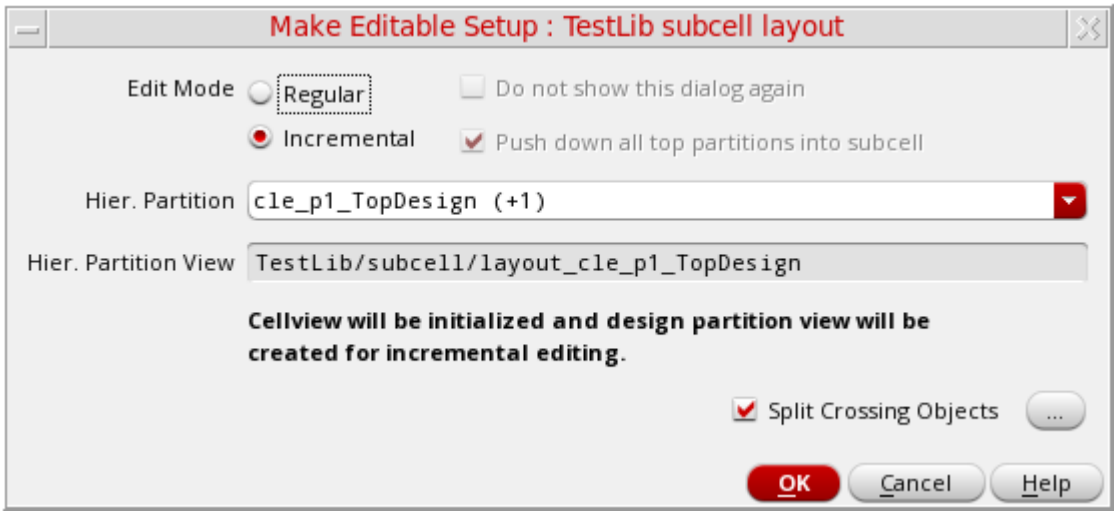
Submitting a Design Partition for Merge

Editing a Subcell Incrementally After Descending In Read Mode

To edit a hierarchical subcell in Regular or Incremental mode after you descend in read mode:

1. In the Layout XL or Layout EXL window, choose *File – Make Editable*.

   The Make Editable Setup form is displayed. (See Hierarchical Edit Setup Form)



2. Choose *Regular* or *Incremental* to start editing the hierarchical subcell.

   If you choose the *Incremental* option, then the hierarchical design partition views are created.

   You can now start editing the hierarchical subcell.

Related Topics

Hierarchical Edit Setup Form

Editing a Hierarchical Design

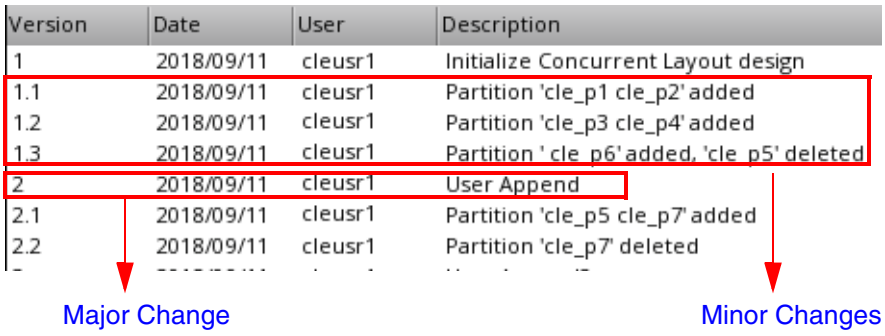
A

Virtuoso Concurrent Layout Forms

This appendix describes the Virtuoso Concurrent Layout forms as they appear in the GUI.

Append History Form

Adds the description specified by the manager in the *Description* field to the *History* box. Managers use this form to inform designers about important changes made to the top design. For example, nets being deleted or new partitions being added.

Field	Description
History	This table displays information regarding the various updates.
Version	The version number of the change consisting of major and minor revisions. For example, a major revision can be to ask a designer to verify the design partition view against the latest top design, while a minor revision is just a record of the design partition change. 
Date	The date on which the change was made.
User	The user name who made the change as a manager.
Description	A brief description of the change that was made. The number displayed before the description depicts the version number that will be assigned to the input description when appended. Managers can specify additional description of the change in the *Description* field. Designers can view this information in the View History form. When designers open a design after a major change, they can be asked to verify the design partition view against the top design. This is indicated by an asterisk (*) on the partition status. After the design partition view is verified, saved, and the major revision is synchronized with the top design, the designers will not be asked to repeat this activity when the design is opened the next time.

Related Topics

View History Form

Concurrent Layout Toolbar in Manager Mode

Assign Owner to Clone Family Form

Assigns the owner design partition for an unassigned clone family in the top design.

Field	Description
	Specifies the design partition to filter and display the clone families that are straddling or assigned to it.
	Refreshes the clone ownership table and assigns the owner for the unassigned clone family.
Clone Family	Displays the name of the clone families.
Members	Displays number of members in the clone family.
Partitions	Displays the number of design partitions in which the clones in the clone family exist. The value `free` means there are clones that do not belong to any design partition.
Assigned Owner	Displays the name of the design partition that is the owner of a clone family.
Owner Partition	Specifies the owner design partition for the selected clone family. This option is available in the dialog box that opens when you click a clone family in clone ownership table.

Related Topics

Assigning Clones in Concurrent Layout

Clone Source Selection and Target Search and Generation

Design Partition Options in Manager Mode

Concurrent Layout Options Form

View Clone Occurrence Form

Rules for Editing Clones in Design Partitions

Attach / Detach Areas Form

Adds or removes area boundaries from the selected design partition. The currently attached areas are highlighted in blue and the selected areas are highlighted in brown.

Field	Description
Attached	Lists the area boundaries currently attached to the design partition.
Available	Lists the area boundaries that can be attached to the selected design partition.
Right arrow	Moves the area boundaries selected in the *Attach* box to the *Available* box. These area boundaries are detached from the selected design partition.
Left arrow	Moves the area boundaries selected in the *Available* box to the *Attach* box. These area boundaries are attached to the selected design partition.

Related Topic

Defining an Area-Based Design Partition

Attach / Detach Nets Form

Attaches listed nets to the selected design partition and detaches everything else.

Field	Description
Net Names	Specifies one or more nets to be added or removed.
Design Partition	Lists the nets to be attached to the specified design partition.
Add To List	Adds the nets specified in the *Net Names* field to the list.
Remove From List	Removes the nets selected in the *Design Partition* box or the nets specified in the *Net Names* field from the list.
Remove All	Removes all the attached nets from the attached nets list and detaches them from the selected design partition.
Add Selected Nets	Adds nets to the list. You can select the nets in the *Navigator* assistant or from the canvas. This option can be used when a large number of nets need to be added to the list and manual typing in the *Net Names* field is time consuming.

Related Topic

Defining an Area-Based Design Partition

Attach / Detach Objects Form

Adds or removes objects from the selected design partition. The currently attached objects are contained in a figure group highlighted in green. If you only see the name and outline of the figure group but want to see the details, you can increase the display level, or press `Shift + F`.

Field	Description
Design Partition	Specifies the design partition to which you want to attach or detach objects.
Attach figures	Attaches all figures in the selected set or by the area boundary.
Detach figures	Detaches all figures in the selected set.
Transfer figures to	Moves all figures to the design partition specified in the drop-down list given below.
Method	Specifies how the objects need to be selected.
By selection set	Attaches or detaches the objects selected in the canvas. Concurrent Layout can automatically expand the object set to include more related objects.
By area boundary	Selects objects from the attached area boundary. This is determined by Selection Options – Area Selection Controls – Full mode – Enclosed figures, Crossed figures or both.

Related Topic

Defining an Area-Based Design Partition

Change Design Partition View Form

Generates the associated design partition view, and the status changes from *Defined* to *Created*. This is done automatically while saving the top design. When you reset, all edits in the design partition view are cleared. The status changes to either *Created* or *Reset* (if this design partition view was merged before). If the design partition status is *Error*, see the tooltips for the reason and you may fix it by resetting. Deleting removes the selected partition from the existing design partition view but retains the partition. When you delete a partition, the status changes to defined.

Field	Description
Show design partitions without design partition views	Displays those design partitions that do not have associated design partition views. The option is deselected by default.
Design Partitions	Lists the currently available design partitions.
Name	Specifies the name of the design partition.
Owner	Specifies the owner of the design partition. This information is not mandatory.
Last Reset	Shows when the partition was reset the last time.
Last Update	Shows when the partition was last updated.
Status	Specifies the current status of the design partition. Valid values are *Created*, *Editing*, *Submitted*, *Merged*, *Defined*, *Reset*, and *Rejected*.
Library	Specifies the name of library of the design partition view.
Cell	Specifies the cell name of the design partition view.
Design Partition View	Specifies the view name of the design partition view.

Related Topics

Defining an Area-Based Design Partition

Concurrent Layout Toolbar in Manager Mode

Change Selection Filter on Nets Form

Changes the selection filter on nets. Default filter is the currently set net, however, that can be changed.

Field	Description
Net Names	Specify one or more nets to be added or removed.
Design Partition	Lists the nets that can be cross-selected in the *Navigator* and the canvas.
Add To List	Adds net names specified in the *Net Names* field or selected in the *Navigator to* nets list.
Remove From List	Removes the nets selected in the Design Partition box or specified in the *Net Names* field from the nets list.
Remove All	Removes all the nets listed in the Design Partition box.
Save to Cellview	Saves the specified net filter to the cellview.
Load From Cellview	Loads the net filter from the cellview.
Delete From Cellview	Removes the selected net filter from the cellview.

Related Topics

Select Net Form

Design Partition View Toolbar

Check Edit Conflicts Form

Checks the selected design partitions and the top design to identify issues prior to merge. Using this form, you can identify even those edit conflicts that were undetected by the assistant alert system including hierarchical edits.

Field	Description
Show design partitions ready to check	Displays design partitions views that can be checked for edit conflicts. This option is selected by default, which means that design partitions with unmerged edits such as *Submitted*, *Editing*, and *Rejected* status are displayed. Status of empty design partitions view can be *Created*, *Merged*, *Reset*, and *Error*.
Design Partitions	Lists the currently available design partitions.
Name	Specifies the name of the design partition.
Owner	Specifies the owner of the design partition. This information is not mandatory.
Last Reset	Shows when the partition was reset the last time.
Last Update	Shows when the partition was last updated.
Status	Specifies the current status of the design partition. Valid values are *Created*, *Editing*, *Submitted*, *Merged*, *Defined*, *Reset*, and *Rejected*.
Library	Specifies the name of library of the design partition view.
Cell	Specifies the cell name of the design partition view.
Design Partition View	Specifies the view name of the design partition view.

Related Topics

Checking All Edits after Concurrent Layout Editing

Design Partition Options in Designer Mode

Clear All Design Partitions Form

Removes the existing design partition views from the top design so the design can be edited without using Concurrent Layout. You are notified if any design partition view contains unmerged edits.

Field	Description
Keep design partition definitions	Lets you retain design partition definitions and areas attached to the design partitions when the *Clear All Design Partitions* command is run. This option is deselected by default, which means that design partition definitions are deleted when all design partitions are cleared. **Note:** This option is available only for area-based design partitions. Environment Variable: autoDeletePartitionView
Keep design partition areas	Lets you retain the design partition areas created using Define Design Partition form. This option is deselected by default, which means that design partition areas are deleted when all design partitions are cleared. The option is enabled only when *Keep design partition definitions* option is selected. **Note:** When design partition information is retained while clearing all design partitions, the information can be reused while creating new design partitions from the Define Design Partition Form form.

Related Topics

Clearing a Design Partition in Manager Mode

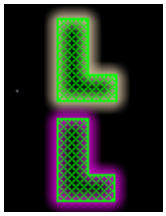
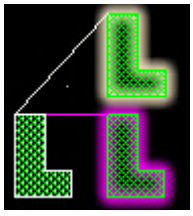
Define Design Partition Form

Concurrent Layout Toolbar in Manager Mode

Concurrent Layout Options Form

Modifies the configuration settings related to the *Concurrent Layout* assistant and for opening, saving, and merging the design partition views.

Field	Description
Assistant	This section provides options to customize the *Concurrent Layout assistant*.
Preview	Lets you specify the following preview options: ■ *Highlight modified figures* highlights all modified figures on the canvas. This option is selected by default. Environment variable: highlightModifiedFigPreview ■ *Dim display of unmodified figures* dims the display of the figures that have not been modified. This option is deselected by default. Environment variable: dimNotModifiedFigPreview ■ *Hide original figures of changes not imported* hides the original figures changed in the peer design partition, the changes are visible in preview, but are not imported. This option is selected by default, which means that in preview you will only see the modified shape because the original shape is hidden. If a shape is modified in more than one partition, in preview you will see several shapes without knowing whether there is an edit conflict. When this option is deselected, the original shape is also displayed along with a flightline pointing to the modified version so you can see an edit conflict. The following example, shows how the figures are displayed when this option is enabled or disabled.

Field	Description
	 When this option is selected, the relation between the two changes is not visible.  When this option is deselected, you can see how a figure was moved in two design partitions Environment variable: hideOrignalFigPreview
Tracking	Provides the following options to configure the editing and alert information shown on the *Concurrent Layout* assistant and in the canvas. ■ *Show marker changes* displays the number of markers in the *Summary* pane and the marker details in the *Details* pane of the *Concurrent Layout* assistant. This option is deselected by default, which means that the markers are not displayed in the assistant. This option applies to the *OBJECTS* and *MODIFICATIONS* sections only. Markers in the *ALERTS* section are always displayed. Environment variable: showMarkerChanges ■ *Display warning glyph* shows a yellow warning glyph in the canvas whenever a change is being made outside the design partition. Such changes increase the chance of edit conflicts and you may want to revert them immediately. Clicking on the glyph will take you to the alert pane for more details. This option is selected by default and does not affect other types of glyph such as the red colored error glyph. Environment variable: displayWarningGlyph ■ *Auto highlight alerts* highlights an alert automatically when it is added to the alert pane of Concurrent Layout assistant. This option is selected by default Environment variable: autoHighlightAlerts

Field	Description
Edit Scope	Sets the edit mode inside the current partition. ■ *Off* disables the edit mode settings. ■ *Only Select Inside Partition* lets you select only those objects that are inside the current partition. Objects that are fully or partially inside or have been temporarily moved outside the current partition for editing are also selectable. ■ *Only Edit Inside Partition* lets you edit only those objects that are inside current partition. When you specify this option, all edit commands are restricted to the specified design partition. You cannot edit objects outside this design partition. ■ Supported commands are: *Create – Shapes*, *Create – Instance*, *Create – Pin*, *Create – Label*, *Create – Fluid Guard Ring,Create – Wiring – Wire, Create – Via, Edit – Move, Edit – Copy, Edit – Stretch, Edit – Delete, Edit – Quick Align, Edit – Advanced – Reshape*. Environment variable: cleEditMode
Hierarchical Edit Mode	Specifies the mode for hierarchical editing. ■ *Regular* disables the display of the Hierarchy Setup form and hierarchical editing is not done using concurrent layout. ■ *Incremental* displays the Hierarchy Setup form and lets you do hierarchical editing of area partitions using concurrent editing. Environment variable: cleHierEditMode

Field	Description
Open Design Partition View	This section provides options to configure the actions that occur when you open a design partition view.
Import Peers	Specifies actions to take when importing updates made in peer design partitions. ■ *Prompt* displays a message to confirm whether you want to import updates made in peer design partitions. ■ *Always* imports all peer partition updates. ■ *Never* lets you work in isolation and the peer partition updates are never imported. You may still preview these changes in the foreground cellview. The default is *Prompt*. Environment variable: importPeerAtOpen
Filter changes for objects not owned	Filters updates to the objects you do not own. This option is applicable only for object-based partitions and is deselected by default. Environment variable: importFilter
View log of edit conflicts	Specifies whether to display the log of edit conflicts while opening design partition views. This option is deselected by default, which means that the edit conflict log is not displayed when a design partition view opens. Environment variable: importPeerViewLog

Field	Description
Error Action	Specifies the action to take when errors are found while opening a design partition view. ■ *Continue* Continues to open the design partition view even in the case of error. ■ *Stop* Stops import of a design partition view in case of error. ■ *StopOnID* Stops import of a design partition view for the specified error message IDs. The default is *Continue*. Environment variable: importActionForError
Message IDs	Specifies the error message IDs for which the import of a design partition view is stopped. This option is available only when the *Error Action* is specified as *StopOnID.*Environment variable: importBlockErrorID
Treat warnings as errors	Increases the severity of warnings to the same level as errors so the specified error action can apply to them equally. This option is available only when the *Error Action* is specified as *StopOnID.*
Save Design Partition View	This section provides options to configure actions to take when saving a design partition view
Filter changes for objects not owned	Specifies whether to filter changes for objects that the user does not own while saving a design partition view. This option is applicable only for object-based partitions. This option is deselected by default, which means that the changes made to the objects not owned by the user are not filtered and are saved in the design partition view. Environment variable: exportFilter

Field	Description
Warn when Object Count Exceeds	Displays a warning to merge the design partition view when the number of objects being modified in the design partition view exceeds the specified value. You can disable this warning by setting the value to `0`. Environment variable: mergeSizeReminder
Manager Only	This section provides options that can be set in the manager mode.
Only select outside partition area	Specifies whether edits in manager mode should be allowed only outside design partition areas. The check box is deselected by default, which means that users can edit the top design from inside any design partition area. When selected, users cannot edit any object inside design partition area. Environment variable: onlySelectOutsidePartition
Auto delete design partition view	Deletes design partition views when *Clear All Design Partitions* or *Delete* command is run. When deselected, the design partition views are reset to be reused when these commands are run. The check box is deselected by default. Environment variable: autoDeletePartitionView
Create partition views to check area overlaps	When *Create* is clicked on the Define Design Partition Form form, checks the design partitions for area overlaps and reports them in CIW. The check box is deselected by default. Environment variable: createPartcheckAreaOverlap
Include non-maskable layers	Adds the non-maskable layer column on the Partition Layers Form form and lets you can include non-maskable layers in layer-based design partitions. Environment variable: includeNonMaskableLayers
Prompt when entering manager mode	Displays a message when a cellview opens in manager mode. Environment variable: promptManagerOpen
Prompt to assign clone owner	Displays a message when creating design partitions to assign any unassigned clone in the top design. Environment variable: promptAssignCloneOwner

Field	Description
DM Mode	Specifies whether DM Mode should be enabled. DM Mode ensures all users are in a consistent design environment. ■ Set DM Mode to *Off* if the current design environment does not have data management software enabled. ■ Set DM Mode to *Exclusive Workarea* when the data management software is enabled for the current design environment. ■ Set DM Mode to *Shared Workarea* when DSS Cache is enabled in the current design environment and users in the design environment can view design changes immediately after a peer saves them, without checking in or updating the workarea. If a DM is detected, name of the DM is displayed in the form.  If no DM is detected, the label says *(DM not detected)*. 
DM Sanity Checker	Displays the DM Sanity Checker form that lets you check the compatibility of your DM system with Virtuoso Concurrent Layout. See DM Sanity Checker.
Merge Design Partition View	This section provides options to configure the actions that occur when you merge a design partition view.
Reset on disk after commit	Resets a design partition view on the disk after the changes are committed. Status of the design partition view changes to *Reset*, instead of *Commit*. Environment variable: commitResetPartitionView
Trigger Post-Edit Check (Max)	Specifies the number of objects that perform post-edit checks after a design partition view is merged. Objects exceeding this limit are skipped and a warning is displayed. The default is 50000 objects. Environment variable: mergePostEditCheckLimit

Field	Description
Add Changes to Selection Set (Max)	Specifies the number of objects to add to the selection set when a design partition view is merged. The default is 50000 objects. Environment variable: addMergedObjsToSelSetLimit
Connectivity Name Conflict Action	Specifies the action to take when conflicts are found while merging design partition views. This option is used to resolve issues with connectivity objects with duplicate names. ■ *Skip* Merges the first object and skips the next object. ■ *Replace* Replaces the previous or the first object with the second object. ■ *Rename* Renames the second object and retains both. You can set this option for *Net*, *Term*, and *Pin* by selecting the respective check boxes. Environment variable: conflictRenameNet, conflictRenamePin, conflictRenameTerm ■ *Error* An error is reported when duplicate entries are found. The default is *Skip*. Environment variable: conflictMergeAction
Load / Save	The section lets you specify the path to the Concurrent Layout configuration file. You can use this file to save or load the current Concurrent Layout configuration.
File	Specifies the path to the Concurrent Layout configuration file.

Related Topics

Concurrent Layout Assistant

Concurrent Layout Editing in Manager Mode

Merging a Submitted Design Partition

Importing a Peer Partition after Concurrent Layout Editing

Edit Scope of a Design Partition

Define Design Partition Form

Adds design partitions, creates area boundaries or specifies a top/bottom layer range, and attaches areas, objects, and nets to the selected design partition.

Field	Description
Design Partitions	Displays the details of the currently defined or newly added design partitions.
	Click on a design partition to select it and then perform additional tasks related to it. To deselect a design partition, either click in an empty area or `Ctrl`+click on the selected design partition.
	Selecting a design partition highlights the attached areas, highlight the bounding box of attached objects, and probe the attached nets in the Navigator. This helps in identifying attached objects.
Name	Specifies the name of the design partition.
Areas	Summarizes the number of areas attached to the design partition.
Layers	Displays the top and bottom layer range for each design partition.
Objects	Summarizes the number of objects attached to the design partition. The count also includes invisible objects.
	This column is available only when an object-based partition exists or if cleEnableAdvPartitionType is set to `t`.
Nets	Summarizes the number of nets attached to the design partition.
	This column is available only when an net-based partition exists or if cleEnableAdvPartitionType is set to `t`.
Status	Specifies the current status of the design partition. Valid values are *Created*, *Not Submitted*, *Submitted*, *Reuse*, *Merged*, *Defined*, *Reset*, and *Rejected*.
	The status, *Reuse*, is used for retired design partitions that can be used create new design partitions.
Library	Specifies the name of library of the design partition view.

Field	Description
Cell	Specifies the cell name of the design partition view.
Design Partition View	Specifies the view name of the design partition view.
Partition Name	Displays the name for the selected design partition. You can also type in a different name.
Add	Adds a default design partition named with the value specified in *Partition Name*. When the design partition is selected, you can change the value in *Partition Name* and then click *Update* to apply the change.
Update	Updates the selected design partition view with a new name specified in *Partition Name*, or updates the changes made to area boundaries.
Delete	Removes the selected design partition and all associated design partition views in the hierarchy. When you select this option, a message is displayed to confirm the deletion of the listed top and hierarchical design partition views. An indicator (*) is used to identify the design partition views with unmerged changes. Changes in these design partition views are lost if you continue to delete the design partition.
Areas	Creates new area boundaries and attach or detach selected area boundaries from the selected design partition.
New	Creates a new area partition in the canvas. **Note:** If you select a design partition and click the *New* button to create area boundaries on the canvas, the area boundaries are attached to the selected design partition when you click *Update*.
Attach	Attaches preselected area boundaries on the canvas. You can also click the *Attach* button and then select area boundaries on the canvas to attach. For further assistance, press `F3` to display the Attach / Detach Areas form.
Detach	Detaches preselected area boundaries on canvas. You can also click the *Detach* button and then select area boundaries on the canvas to detach. For further assistance, press `F3` to display the Attach / Detach Areas form. **Note:** Clicking *Update* applies these changes on the area boundaries of the selected design partition.

Field	Description
Layers	Specifies the range of layers to be included in a design partition. You can use the drop-down lists to specify the top and bottom layers.
All	Selects all layers in the selected area. This is selected by default.
Layers Preview	Displays the Partition Layers form. This form lets you select the layers you want to keep in the design partition. You can also use this from to import other visible layers from the *Palette*. **Note:** This is the browse button next to the *Layers* field.
Objects	Lets you select objects to attach or detach from the selected design partition.
	Note: These options are available only when an object-based partition exists or if cleEnableAdvPartitionType is set to `t`.
Attach	Attaches preselected objects on canvas. You can also click the *Attach* button and then select objects on the canvas to attach. For further assistance, press `F3` to display the Attach / Detach Areas form.
Detach	Detaches preselected objects on canvas. You can also click the *Detach* button and then select objects on the canvas to detach. For further assistance, press `F3` to display the Attach / Detach Areas form.
Select	Selects objects to perform additional tasks, such as *Fit to Selected*. Here, objects are not limited to shapes and instances. They can also be a container, such as a figure group or a route. The partition can be adjusted at any time. However, a modified object is locked to its partition until the change is merged with the top design.
Nets	Selects nets to attach or detach from the selected design partition.
	Note: These options are available only when an object-based partition exists or if cleEnableAdvPartitionType is set to `t`.

Field	Description
Attach	Attaches preselected nets from the *Navigator*. You can also click the *Attach* button and then select nets from the *Navigator* to attach. For further assistance, press `F3` to display the Attach / Detach Areas form.
Detach	Detaches preselected nets from the *Navigator*. You can also click the *Detach* button and then select nets from the *Navigator* to detach. For further assistance, press `F3` to display the Attach / Detach Nets form.
Select	Selects objects to perform additional tasks, such as *Fit to Selected*. For further assistance, press `F3` to display the Select Net form.
Split Crossing Objects	Splits path segments automatically when a design partition view is created. This option is selected by default. Select the button next to this option to display the Split Crossing Objects Options form that lets you specify how objects that are part of multiple design partitions are split across design partitions.

Related Topics

Defining an Area-Based Design Partition

Defining a Layer-Based Design Partition

Generating a Temporary Pin in Designer Mode

Attach / Detach Areas Form

Attach / Detach Nets Form

Attach / Detach Objects Form

Partition Layers Form

Create Area Boundary Form

Select Net Form

Split Crossing Objects Options Form

Define Design Partition View Form

Specifies the *Library*, *Cell*, and *View* for the associated design partition view. By default, it is created under the same cell as the top design and the view is named after the design partition name. The manager must have write permission to either create this cellview or reuse it.

Related Topics

Define Design Partition Form

Edit in Design Partition Form

Lets you edit in a selected design partition view.

Field	Description
Select the design partition to edit	Selects the design partition you want to start editing. **Note:** If the top design is not saved, the Edit In Design Partition form displays a message informing you about it, and you are asked whether you want to save it before switching to the design partition editing.

Related Topic

Editing in a Design Partition

Hierarchical Edit Setup Form

Initializes the cellview for incremental editing. You can perform incremental Edit In Place (EIP) and save the changes to a design partition view in the sub hierarchy.

Field	Description
Edit Mode	Specifies the editing mode in which the hierarchy opens the configuration.
Regular	Opens a design in regular mode. All updates are saved in the subcell. In this mode, Concurrent Layout assistant is disabled.
Do not show this dialog again	Prevents the Hierarchy Setup form from being displayed next time your hierarchical editing.
Incremental	Opens the design in incremental mode. Incremental EIP postpones an update in the sub-hierarchy until it is verified in all designs referencing it. This is the default. After you return to top and save the design, this choice is remembered so that you do not have to choose it again the next time.
Push down partition into subcell	Pushes the area boundaries (in area-based design partitions) or the top and bottom layer range (in layer-based design partitions) of the top-level design partition into subcell. This option is available only in *Incremental* edit mode.
Hier. Partition	Specifies the hierarchical design partition name. The naming rule is `cle_<top_level_design_partition_name>_<top_cell_name>`. For example, it will be cle_p1_Top for the design partition `cle_p1` of the top design Top. This option is available only in *Incremental* edit mode.

Field	Description
Hier. Partition View	Specifies the hierarchical design partition view to be applied to the sub cell. The configurations are stored in top-level design partition view and are automatically loaded during open using Import Peer Design Partition form. You can view the configuration in the Layout Configuration form, which is available in both Designer and Manager mode. After they are loaded, the changes are applied to all occurrences of this subcell which can be outside of the current design partition. This option is available only for Incremental edit mode. Deleting a configuration just unloads the hierarchical design partition view while incremental changes are still retained in the sub-hierarchy. Merging at the top design is easy because merging a parent top-level design partition automatically loads the children heir. design partitions into memory. Additionally, committing the top design recursively merges the children hier. design partition views into subcells and commit.
Split Crossing Objects	Splits objects crossing hierarchical design partitions automatically when hierarchical design partition views are created. This option is selected by default. Select the button next to this option to display the Split Crossing Objects Options form that lets you specify how objects that are part of multiple design partitions are split across design partitions.

Related Topics

Editing a Hierarchical Design

Import Peer Design Partition Form

Layout Configuration Form

Split Crossing Objects Options Form

Import Peer Design Partition Form

Imports the updates made by peer designers in their respective design partitions. When you open the form, design partitions available for import are already selected.

Note: All new and edited wires are locked after they are imported in the current design partition.

If the form is displayed when you open the design partition view from Library Manager, closing the form continues the process without importing any design partitions.

However, the form and the command is canceled when you open the form by selecting the *Import Peer Design Partition* command from the *Design Partition Options* right-click menu in the Concurrent Layout assistant.

Field	Description
Design Partitions	Displays the peer design partitions you can import.
Show all	Lists all peer design partitions. This check box is deselected by default, which means that only design partitions with unmerged edits are displayed.
Name	Displays the name of the design partition.
Owner	Displays the name of the user who owns the design partition.
Last Reset	Displays when the partition was reset the last time.
Last Update	Displays when the partition was last updated.
Status	Displays the current status of the partition. Valid values are *Defined*, *Created*, *Editing*, Submitted, *Rejected*, *Merged*, and *Reset*. Design partitions can be imported if their status is *Editing*, *Submitted*, or *Rejected*.
Library	Displays the name of library in which the design partition is located.
Cell	Displays the name of cell in which the design partition view has been created.
Design Partition View	Displays the view name of the design partition view.
Import	Imports updates made in the selected design partitions to current design partition.
Unimport All	Removes information related to updates made in peer design partitions from the current design partition.

Field	Description
Do not show this dialog again	Disables importing peer design partitions when the design partition view is opened the next time. This option is displayed only when you open the design partition cellview from Library Manager. It is not displayed when you open the form by selecting the *Import Peer Design Partition* command from the *Design Partition Options* right-click menu in Concurrent Layout assistant.

Related Topics

Design Partition Options

Importing a Peer Partition after Concurrent Layout Editing

Design Partition Options in Designer Mode

Join Objects and Update Definition Form

Joins the crossing objects that have been split across hierarchical design partitions, detects definition differences for existing area or layer-based hierarchical design partitions, and lets the manager re-push the new definition down the whole hierarchy and update them.

Note: This form is displayed when the top design partition contains hierarchical design partitions.

Field	Description
Top design	Specifies the name of the top design that is initialized for Concurrent Layout editing.
Hierarchical designs	Shows the number of hierarchical subcells included in the top design partition. You can select the hierarchical subcells in which you want to join the objects crossing design partitions.

Related Topics

Editing in a Design Partition

Design Partition Options in Manager Mode

Layout Configuration Form

Loads or unloads layout configurations saved in a hierarchical design partition view. The loaded layout configuration is applied to the specified sub-hierarchy. Layout configurations can be inherited from a peer partition but they cannot be recursively inherited from the sub-hierarchy.

Field	Description
Top Partition	Displays the name of the top partition.
Sub Block	Displays the name of the sub-block associated with the top partition.
Hier. Partition	Displays the sub-partition for editing-in-place.
Hier. Design Partition View	Displays the name of the design partition view associated with the layout configuration.
Status	Displays the current status of the layout configuration. Valid values are *Editing*, *Peer, Init*, and *Inbound*.
Loaded	Shows whether the current layout configuration is loaded.
ViewOcc	Displays that View Instance Occurrence form in which occurrences up to display level three are displayed. Minimum value is 3.
Load	Loads the selected layout configuration.
Unload	Unloads the selected layout configuration.
Delete	Deletes the layout configurations that are not inherited.

Related Topics

View Instance Occurrence Form

Verifying Incremental EIP Updates

Concurrent Layout Toolbar in Manager Mode

Concurrent Layout Toolbar in Designer Mode

Make Opaque Form

Makes selected instances in a design partition opaque. An opaque instance keeps the same bounding box and retains merely basic connectivity for the extractor. It has no hierarchy to expand. When an instance is not relevant for your editing tasks, making it opaque can boost tool performance and make opening and editing of a design faster.

Field	Description
Convert selected instances to Opaque	Converts the instances selected in the design partition to opaque instances.
Invert Selection	Makes selected instances in a design partition opaque. An opaque instance keeps the same bounding box and retains merely basic connectivity for the extractor. It has no hierarchy to expand.

Related Topics

Revert Opaque Instances Form

Merge Form

Merges or rejects the design partition views submitted to be merged with the top design.

Field	Description
	Lets you refresh the list of design partitions available for merge and their current states. The option refreshes all information related to these partitions, such as Lock, and Status along with current states.
Design Partitions	This table displays the peer design partitions.
Name	Shows the name of the design partition.
Lock	Shows the name of the user that has locked the design partition view. If this check box is selected, it means that the user has locked the partition. You can lock a selected design partition by selecting the check box if it is currently deselected. When you deselect the check box for a locked design partition you own, it is unlocked.
Status	Shows the current status of the partition. Valid values are *Defined*, *Created*, *Editing*, *Submitted*, *Not Submitted*, *Rejected*, *Merging*, *Merged*, and *Reset*.
Merged	Indicates whether the design partition view has been merged with the top design. If the field shows *yes* it means that the partition has been merged.

Field	Description
Action	Lets you choose one of the following actions for the selected design partition. ■ *Merge* merges the selected partition. ■ *Unmerge* undoes the merge action. ■ *Remerge* merges the selected design partition again. ■ *Reject* rejects the request to merge the selected design partition. ■ *None* The action is executed when you click the *Apply* button. Click in the Action column of a design partition to view the list of actions. You can apply actions to multiple selected partitions. **Note:** You can select one or more design partitions and use the RMB menu to lock/unlock design partition views, choose an action, or open the Layout Configuration form.
Message	Displays the messages generated during the merge process. These messages provide you with more information related to the actions completed or issues faced during the merge process.
Apply	Applies the settings specified in the merge form.
Commit	Saves the merged partition to the top design. **Note:** When you commit your changes, a *Commit Failed* message is displayed to inform you about any issues that might exist and can cause issue during or after merge.
Discard	Discards the edits done in the current cellview and restores it from the disk.
Select	Selects the most recently merged objects.
Close	Exists the Merge form without saving any changes.

Related Topics

Merging a Submitted Design Partition

Concurrent Layout Toolbar in Manager Mode

Partition Layers Form

Managers can use the **Partition Layers** form to preview the layers included in the selected layer-based design partition.

Field	Description
All	Selects all layers.
Range	Selects a range of layers.
Layer count	Specifies the number of layers included in the design partition. The layers added to the design partition are listed. You can clear the check boxes for the layers that you do not want to include in the design partition.
Import Visible from Palette	Adds visible layers displayed in the Palette incrementally.

When the *Include non-maskable layers* option is selected in the Concurrent Layout Options form, a column for non-maskable layers is added in the Partition Layers form. This column lists the non-maskable layers. You can deselect the layers you do not want to add to the design partition.

Top-Bottom layers	If selected, incrementally adds visible and maskable layers displayed in the Palette when the *Import Visible from Palette* is clicked.
Non-maskable layers	If selected, incrementally adds visible and non-maskable layers displayed in the Palette when the *Import Visible from Palette* is clicked.
Wiring / Routing	Specifies the parent constraint group based on which all the Concurrent Layout constraint groups dedicated to each design partition are created.

Field	Description
Create design constraint groups based on	
	Specifies the parent constraint group based on which all the Concurrent Layout wire design constraint groups for different layer-based design partitions will be created. The Concurrent Layout wire design constraint groups assist in routing and interactive wire editing, and help you limit the editing only to those layers that are part of the current layer-based design partition. All Concurrent Layout wire design constraint groups inherit the same parent constraint group between the top cell and corresponding subcells. If you want to rebase the parent constraint group, all these wire design constraint groups will be rebuilt for the top cell and all its subcells.

Related Topics

Defining a Layer-Based Design Partition

Defining a Mixed Design Partition

Define Design Partition Form

Reject Submission Form

Use the **Reject Submission** form to provide the reason for rejecting a design partition view submitted by a designer to be merged with the top design.

Related Topics

Merging a Submitted Design Partition

Remove Changes from Design Partition View Form

Removes changes on the specified objects from the current design partition view. To specify an object, simply set the filter state next to it on the Concurrent Layout assistant.

A designer can use this form to remove simple changes on selected objects from the current design partition view. A change is simple, if it involves only one object. For example, stretching an MPP is not simple as it involves several shapes; in such cases, Concurrent Layout does not search for the additional changes that are needed to be removed together, so you might get a partial result.

You can open and save the backup file as the design partition view to replace it and revert the changes. The backup retains all the filter state settings. If you are a manager and want to exclude an update from merge, you can switch your role to a designer, remove the updates from the design partition view, and submit for merge.

Field	Description
Backup before removal	Specifies whether a backup file should be created for the objects being removed. Cadence recommends that you enable this feature because undoing the changes might not be simple.
Library, Cell, View	Type in or browse to specify the name of the cellview where you want to save the backup information.
Do not show this dialog box again until cellview close	Disables the display of the Remove Changes from Design Partition View form.

Related Topics

Editing in a Design Partition

Design Partition View Toolbar

Revert Opaque Instances Form

Reverts the selected opaque instances into normal instances.

Field	Description
Total	Specifies the total number of opaque instances in the selected cell and the number of currently selected instances in the form.
	Filters the instances for the selected cell.
Name	Name of the instance.
Library	Name of library for the instance.
Cell	Cell name for the instance.
View	View name of for the instance.
Nets to extract	Name of nets associated with the instance.
Level to extract	Depth level of the instance.
Cross Highlight in the Canvas	Instances selected in the form are highlighted in the design.
Cross Select in the Canvas	Instances selected in the form are selected in the design.
Zoom to Selected Instance	Zooms to the instance currently selected in the form.

Related Topics

Make Opaque Form

Save a Copy Form

Saves a copy of your design partition view.

Field	Description
Library	Specifies the name of library of the design partition.
Cell	Specifies the top cell name of the design partition.
View	Specifies the view name of the design partition.

Related Topic

Editing in a Design Partition

Save as Design Partition View Form

Saves updates only for the specified design partition view.

The option to open this form is available only when you open the cellview in full design view. Full design view of a design partition can be saved using the Save As Full Partition View form.

Field	Description
Library	Specifies the name of library of the design partition.
Cell	Specifies the top cell name of the design partition.
View	Specifies the design partition view name of the design partition.

Related Topics

Save As Full Partition View Form

Defining an Area-Based Design Partition

Defining a Layer-Based Design Partition

Save As Full Partition View Form

Saves the full design partition view of the specified cellview.

Saving several changes in a specific design partition view can slow down the open and save processes. Cadence recommends merging the design partition views periodically, ideally not exceeding 10,000 changes per save. You can also speed up the save process by saving as a full partition view.

Another benefit of saving a full partition view is for tools that cannot read directly from the memory. Saving as a full partition view with all changes allows these tools to read the cellview as a regular cellview.

Type in the *Library*, *Library*, and full partition *Library* name of the cellview where you want to save the design as a full partition view.

Related Topic

Save as Design Partition View Form

Concurrent Layout Toolbar in Designer Mode

Save Figures for Comparison Form

Use the Save Figures for Comparison form to:

- Save those figures from the original design that have been modified in the reference design partition view to another design partition view.
- Save the original and unmodified versions of the figures from the original design, in a *cle_diff* partition view. *cle_diff* retains the original state of these figures before they were modified in the reference design partition view.

If the top design is modified and causes conflicts, you can preview the unmodified figures in the saved `cle_diff` partition by using the *Synchronized Preview* command in Concurrent Layout assistant.

For example, if a changed object is deleted in the top design it will lead to edit conflicts. In this case to sign off the conflict, you might want to check how the design looked originally before the change. You can use the *Save Figures for Comparison* command to preview the original figure for reference.

Field	Description
Original Design	Specifies the original cellview. Type in or browse to specify the *Library*, *Cell*, and *View* name of the original cellview.
Reference Design Partition View	Specifies the library/cell/view of the design partition view where modified figures are saved. Type in or browse to specify the *Library*, *Cell*, and *View* name of the reference cellview.
Save to Design Partition View	Specifies the library, cell, and view of the design partition view where unmodified figures from the original design are saved. Type in or browse to specify the *Library*, *Cell*, and *View* name of the cellview where unmodified figures are saved.

Related Topic

Design Partition Options in Designer Mode

Select Net Form

Lets you select the nets that are attached to the selected design partition in the Navigator.

Field	Description
Design Partition	Lets you select a design partition.
Sort	Sorts the nets in the *Ascending* or *Descending* order.
	List of nets lets you select or deselect the listed nets.
Select All	Selects all nets.
Deselect All	Deselects all nets.

Related Topics

Define Design Partition Form

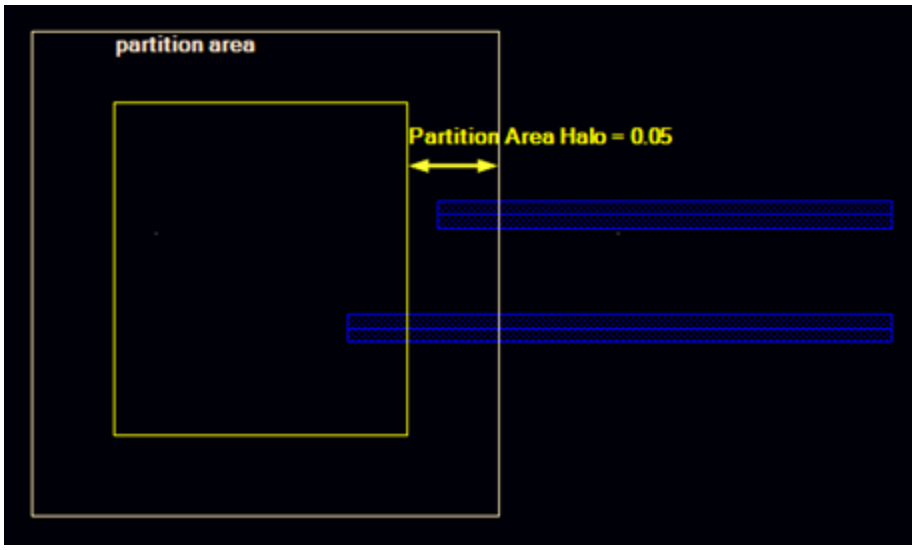
Concurrent Layout Toolbar in Designer Mode

Split Crossing Objects Options Form

Specifies how to split the objects that are part of single or multiple design partitions. All settings implemented in this form are also applied to hierarchical editing.

Note: The settings in this form are also applied during hierarchical editing.

Field	Description
Object Types	Splits all objects crossing single or multiple partitions by object type. You can select one or more of the following objects: ■ PathSegs ■ Paths ■ Rectangles ■ Polygons Environment Variable: autoSplitObjTypes
Split Criteria	Sets the criteria for splitting the objects. Environment Variable: autoSplitObjCrossingPartition
Split Objects	Specifies which objects need to be split across partitions. ■ *Crossing at least one partition* splits the objects that cross one or more design partitions at the area boundary of each partition. When this option is selected, all objects that cross at least one design partition are split. ■ *Crossing multiple partitions* splits the objects that cross multiple design partitions at the area boundary of each partition. When this option is selected, objects crossing a single design partition are not split. Diagonal objects and the objects that have been edited in a design partition are not split.

Field	Description
Partition Area Halo	Objects are not split if the crossing part is inside the halo of design partition area. For example, in the following screenshot, the upper path is not split because the crossing part of the path is not larger than the design partition area halo. 

Related Topic

Define Design Partition Form

Split Objects Crossing Design Partitions Form

Specifies how to split the objects that are part of single or multiple design partitions in the top design partition. All settings implemented in this form are also applied during hierarchical editing.

Field	Description
Split Mode	Specifies the mode in which you want to split crossing objects. Valid values are: *Split Objects by Type, Selected from Canvas*, and *Select by Net.*
Select Object by Type	Splits all objects crossing single or multiple design partitions by object type. The following options are available when *Split Mode* is *Select Object by Type*.
	You can select one or more of the following objects: ■ PathSegs ■ Paths ■ Rectangles ■ Polygons Paths with round ends or paths or path segments that can be converted to polygons are not split and are not reported as failed. Environment Variable: autoSplitObjTypes
Split Criteria	Sets the criteria for splitting the objects. Environment Variable: autoSplitObjCrossingPartition

Field	Description
Split Objects	Specifies which objects need to be split across design partitions. ■ *Crossing at least one partition* splits the objects that cross one or more design partitions at the area boundary of each design partition. When this option is selected, all objects that cross at least one design partition are split. ■ *Crossing two or more partitions* splits objects that cross multiple design partitions at the area boundary of each design partition. When this option is selected, objects crossing a single design partition are not split.
Partition Area Halo	Objects are not split if the crossing part is inside the halo of design partition area.
Override Split Crossing Objects Option	Overrides the *Split Crossing Objects* configuration set in the Define Design Partition form for the top design partition and subcell in which you want to split the objects. **Note:** The updates made in the Split Objects Crossing Design Partition form are not saved to the design by default. To save these changes, you should first enable *Override Split Crossing Objects Option* in the assistant.
Split Objects in Existing Hierarchical Partition Views	Splits the objects crossing area boundaries in the hierarchical design partition views. This option is useful if you did not enable the *Split Crossing Objects* option while creating the design partitions. You can also use this option when there are some new or modified objects or area boundary changes in the top design. **Note:** If you choose to split new or modified objects at hierarchical level, Cadence recommends that you first join all objects and then split them. When this option is selected, clicking *OK* or *Apply*, displays the Split Objects Crossing Partitions form. **Note:** This option is available only when the top design partition contains hierarchical design partitions.

Field	Description
Selected from Canvas	Splits the crossing objects selected from the canvas. This option is available when Split Mode is *Selected from Canvas*.
Select by Net	Splits the crossing nets selected from the Navigator or canvas. The following options are available when Split Mode is *Selected by Net*.
Add Selected Nets	Adds the nets selected in the Navigator or canvas to the list of nets to be split across design partitions.

Related Topic

Design Partition Options in Manager Mode

Split Objects Crossing Partitions Form

Splits the crossing objects across hierarchical design partitions.

This form is displayed when the top design partition contains hierarchical design partitions. .

Field	Description
Top design	Specifies the name of the top design that is initialized for Concurrent Layout editing.
Hierarchical designs	Shows the number of hierarchical subcells included in the top design partition. You can select the check boxes listed below to specify the hierarchical subcells for which you want to split the objects crossing design partitions.

Related Topic

Concurrent Layout Editing for Hierarchical Designs

View Clone Occurrence Form

Checks the occurrences of clones belonging to a clone family in different design partitions. When you select a clone family in this table, related clones are highlighted in the canvas.

Field	Description
	Specifies the design partition to filter and display the clone families that are straddling or assigned to it.
	Refreshes the table and lets you view the clone families in the selected design partition.
Clone Family	Displays the name of clone families.
Members	Displays number of members in a clone family.
Partitions	Displays the number of design partitions in which the clones in the clone family exist. The value `free` means there are clones that do not belong to any design partition.
Assign Owner	Displays the name of the design partition that is the owner of a clone family.
Assign	Returns to the top design to let you assign owner to the unassigned clone families. You can use the *Make Incremental* shortcut menu command to return to the design partition.

Related Topics

Assigning Clones in Concurrent Layout

Clone Source Selection and Target Search and Generation

Design Partition Options in Designer Mode

Assign Owner to Clone Family Form

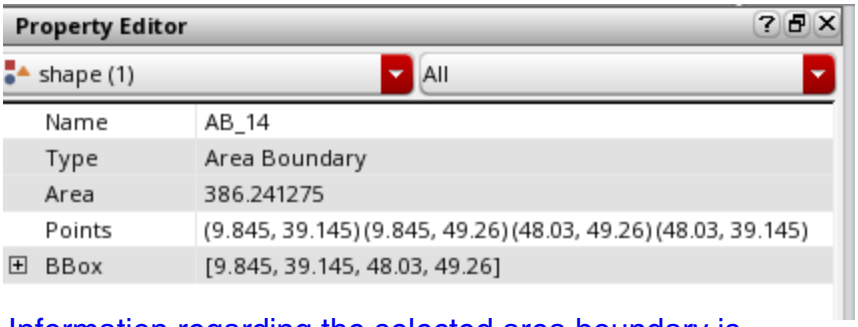
Concurrent Layout Options Form

Rules for Editing Clones in Design Partitions

View Design Partition Form

Checks the area or layer-based design partition definitions. It helps in identifying attached areas or layers and to check information related to them in the Property Editor.

Field	Description
Partition Type	Specifies the type of design partition.
Area	Displays information for area-based design partitions.
Layer	Displays information for layer-based design partitions.
The following information regarding the existing area-based design partitions is visible in the form:	
Name	Specifies the name of the design partition.
Owner	Specifies the owner of the design partition. This information is not mandatory.
Areas	Specifies the number of areas attached to the design partition.
Objects	Specifies the number of objects attached to the design partition. The count also includes invisible objects. **Note:** This column is available only when an object-based partition exists or if cleEnableAdvPartitionType is set to `t`.
Nets	Specifies the number of nets attached to the design partition. **Note:** This column is available only when a net-based partition exists or if cleEnableAdvPartitionType is set to `t`.
Status	Specifies the current status of the design partition. Valid values are *Created*, *Editing*, *Submitted*, and *Merged*.
Library	Specifies the name of library of the design partition.
Cell	Specifies the cell name of the design partition.
Design Partition View	Specifies the design partition view name of the design partition.

Field	Description
Select	Select a design partition, and then click *Select* for *Areas*, *Objects*, or *Nets* to view the related information in the *Property Editor*.  Information regarding the selected area boundary is displayed in the *Property Editor*. Selecting a design partition highlights the attached areas and the bounding box of the attached objects. You can probe the attached nets in the Navigator. When you click *Select* for *Nets*, the Select Net form is also displayed. This form lets you select the net for which you want to view the information.
Check	Lets you check for area overlaps in partitions and creates markers for any overlaps found.
The following options are available when *Partition Type* is *Layer*.	
Name	Specifies the name of the design partition.
Layers	Specifies the layer range included in the design partition, and the total number of layers included. If all layers in the range are not included, the number of layers that are actually included is shown, followed by a slash and the number of total layers in the range.
Status	Specifies the current status of the design partition. Valid values are Created, Editing, Submitted, and Merged.
Library	Specifies the name of library of the design partition.
Cell	Specifies the cell name of the design partition.
Design Partition View	Specifies the design partition view name of the design partition.

Field	Description
View Partition Definition	Displays the top and bottom layer name included in the selected design partition. Clicking the Layers Preview button in the Layers field displays the Partition Layers form.

Related Topics

Defining an Area-Based Design Partition

Defining a Layer-Based Design Partition

View History Form

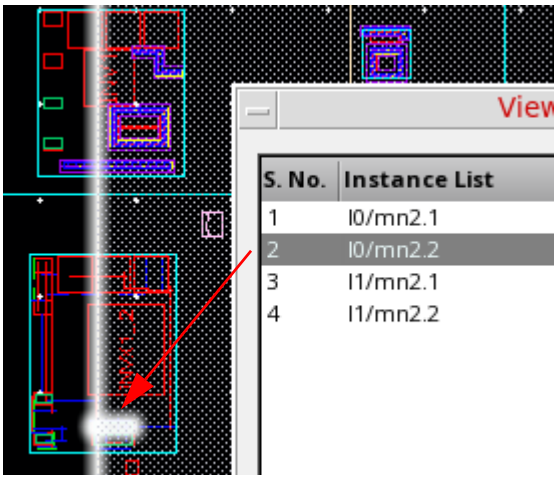
Designers can use the **View History** form to check information about important changes made to the top design. For example, nets being deleted or new partitions being added.

Related Topics

Append History Form

View Instance Occurrence Form

Lets you view the instance occurrences up to a specific display level. The minimum value is `3`.

Field	Description
Master	Displays the library, cell, and view information of the selected instance, and the number of occurrences of the master cellview.
Instance List	Displays all instance occurrences of the selected subblock in the hierarchy. When you select an instance listed in the form, its occurrence in the design is highlighted.  **Note:** If an instance is selected in the canvas, the View Instance Occurrence form is displayed with the information on this instance. If more than one instance is selected in the canvas, the form shows the first instance and deselects all other instances.
Zoom to Selected Occurrence	Zooms into the selected instance in the canvas. **Note:** This option is available only when you open the form by clicking the *ViewOcc* option in the Layout Configuration form.

Related Topics

Layout Configuration Form

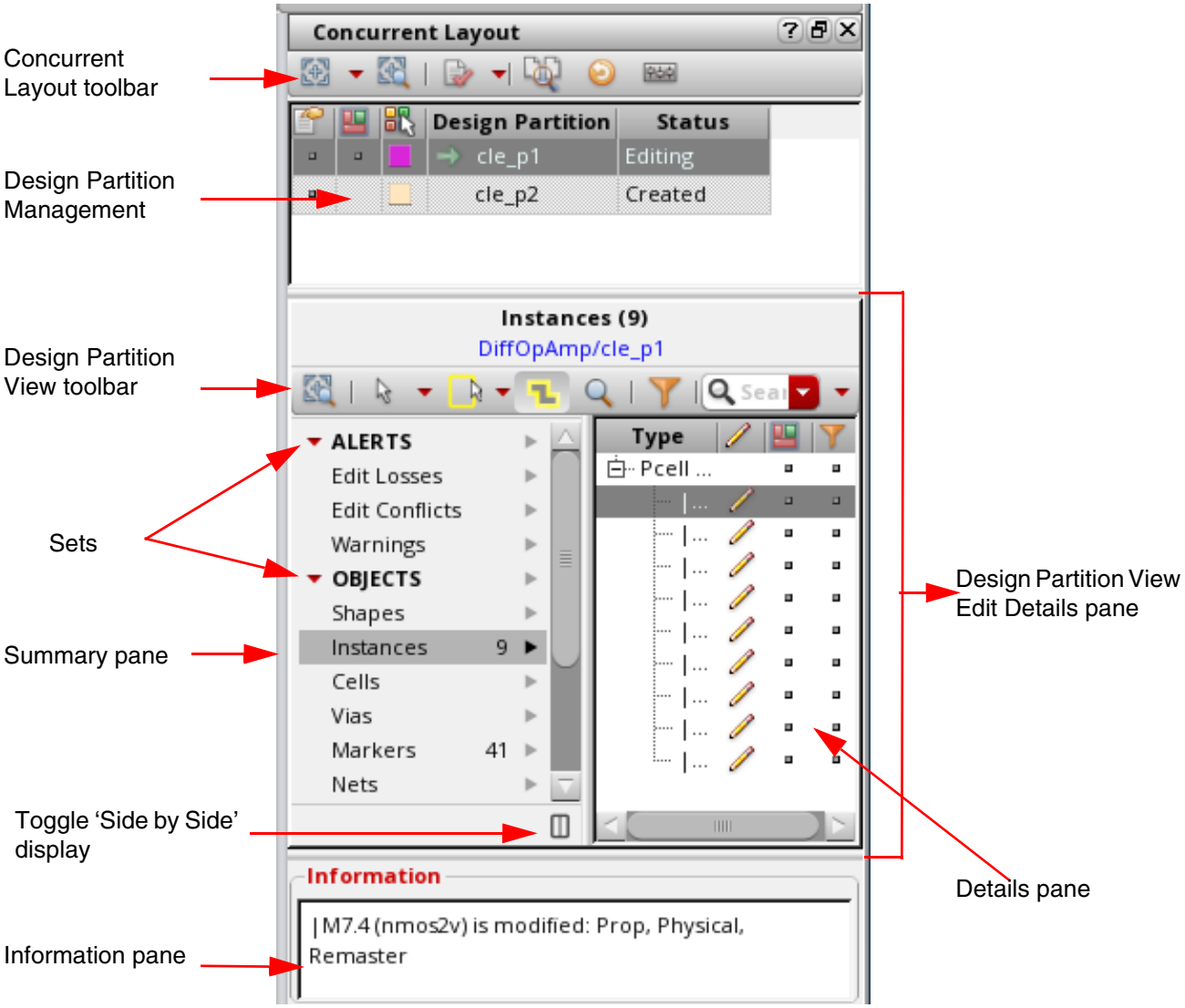
Verifying Incremental EIP Updates

B

Concurrent Layout Assistant

The Concurrent Layout assistant is a dockable assistant pane that provides various options that let you perform tasks related to concurrent layout editing. The assistant also displays alerts and other information about the design partition you are updating.

The following screenshot shows different toolbars and panes in the Concurrent Layout assistant.



Options in the Concurrent Layout assistant depend on the mode in which the design is open. These modes are:

- **Manager mode**
  Define the design partition for each designer and merge the respective design partition views back to the top design.
- **Designer mode**
  Edit the design in the assigned design partition view and then submit these changes for merging with the top design.

Related Topics

Concurrent Layout Assistant in Manager Mode

Concurrent Layout Assistant in Designer Mode

Concurrent Layout Flow

Concurrent Layout Assistant in Manager Mode

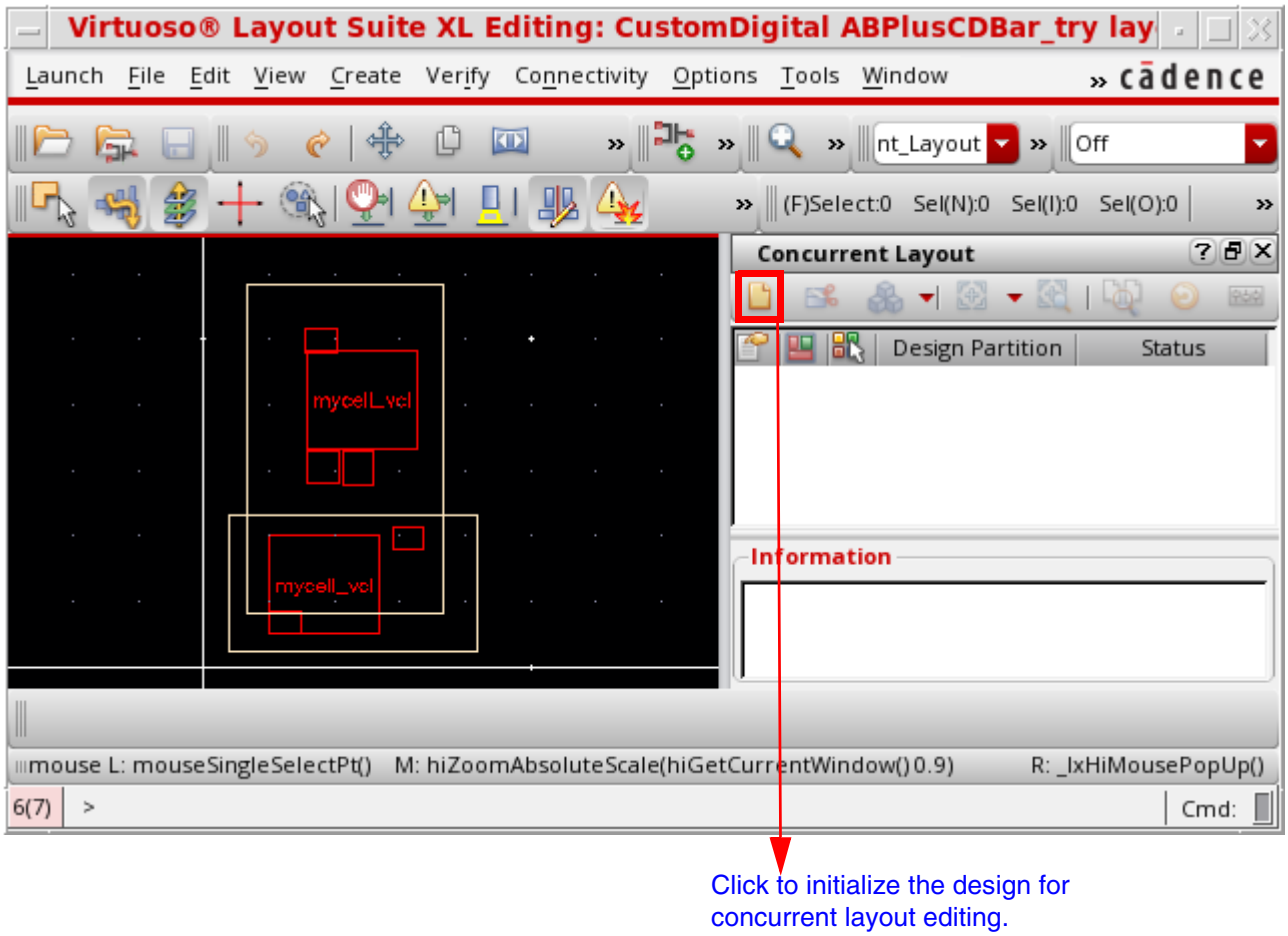
This section discusses the following manager mode Concurrent Layout options.

- Concurrent Layout Toolbar in Manager Mode
- Design Partition Management Pane in Manager Mode
- Preview Options
- Display Additional Columns
- Design Partition Options in Manager Mode

Concurrent Layout Toolbar in Manager Mode

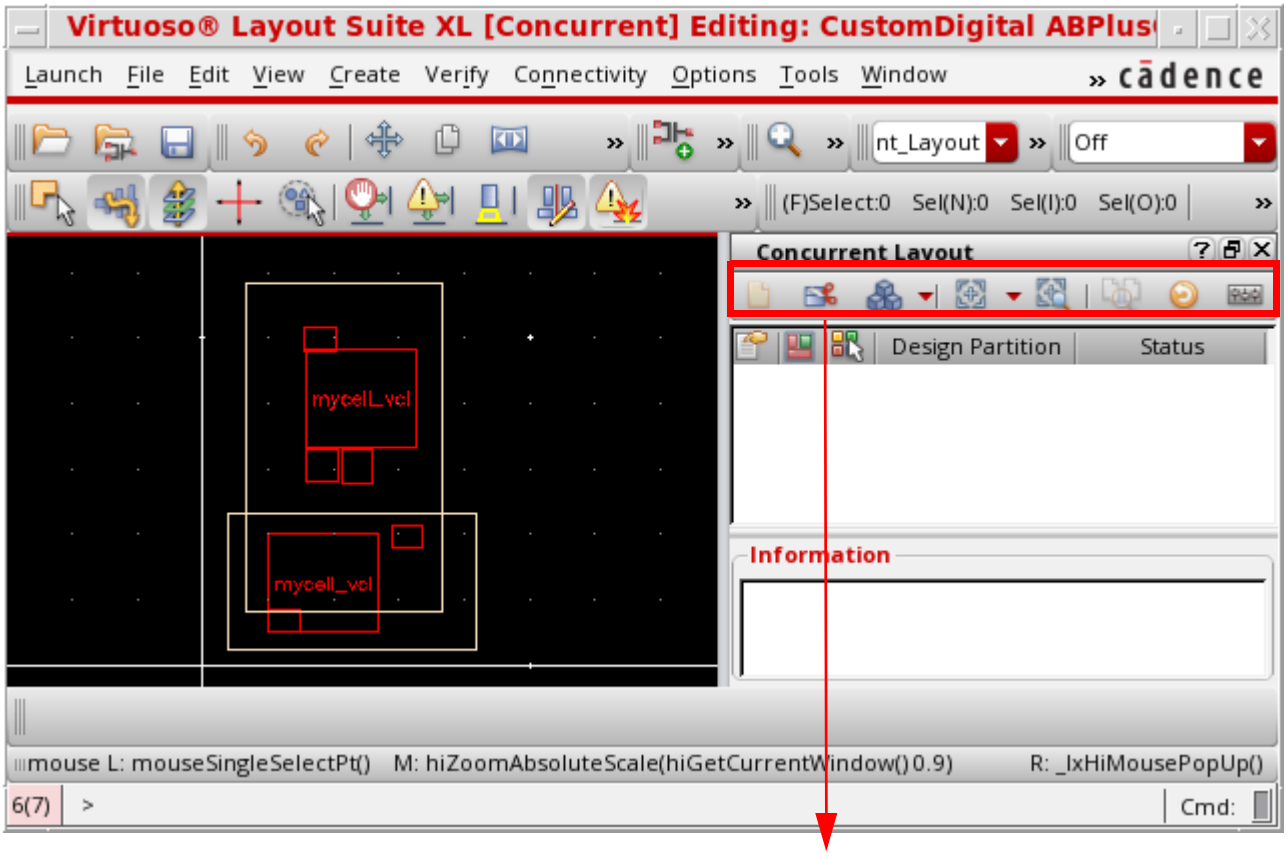
To perform concurrent layout editing, you first need to initialize the design to make it ready for concurrent editing. Therefore, when you start the Concurrent Layout assistant for the first time for a design, only the *Initialize* button is available on the Concurrent Layout toolbar.

Click *Initialize* to make the design ready for the concurrent editing. This annotates the design so that it opens in the Concurrent Layout environment next time.



Note: This step cannot be undone and will disable *Connectivity - Generate All From Source.* If needed, use this command before you initialize the cellview for Concurrent Layout editing.

After you initialize the design, remaining buttons on the Concurrent Layout toolbar are enabled in manager mode.



After the design is initialized, other manager mode options become enabled on the toolbar.

The following table lists the functions of the different buttons on the Concurrent Layout assistant toolbar:

Icon	Command	Description
	*Initialize*	Initializes the design for concurrent editing.
	*Define Design Partition*	Displays the Define Design Partition Form form that lets you create and configure design partitions.

Icon	Command	Description
	Merge/Un-Merge	Displays the Merge Form form that lets you merge or reject design partition views that have been submitted to be merged with the top design.
	*Close Design Partitions*	Cancels checkout of design partition views. This should be the last step of merge after the top design is checked-in. *Important* This option is available only in the design management environment.
	Commit (Save)	Saves the merged partition to the top design.
	Change Design Partition View	Displays the Change Design Partition View Form form that lets you change existing design partition views.
	Layout Configuration	Displays the Layout Configuration Form form that lets you load or unload layout configurations in design partition views.
	Append History	Displays the Append History Form form that lets managers inform designers about important changes made to the top design.
	Clear All Design Partitions	Clears all design partitions defined for the cellview. **Note:** Use this command if you want to open your design in a mature node release such as IC6.1.8.
	*Auto Zoom*	Toggles zoom to selected object.
	*Auto zoom mode and scale*	Sets *Fixed* or *Minimal* scale for auto zoom.
	*Zoom To Selected Partition*	Zooms to the selected or the current design partition.
	*Synchronized Preview*	Compares design before and after you update it by placing them side-by-side.

Icon	Command	Description
	*Refresh Data From Disk*	Reloads design partition views or the top design from the disk.
	*Options*	Displays the Concurrent Layout Options Form form.

Related Topics

Design Partition Management Pane in Manager Mode

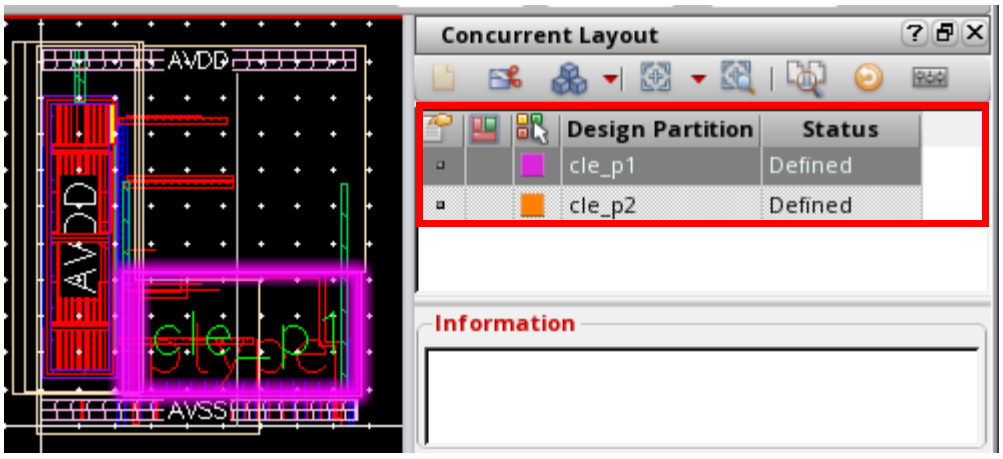
Preview Options

Display Additional Columns

Design Partition Options in Manager Mode

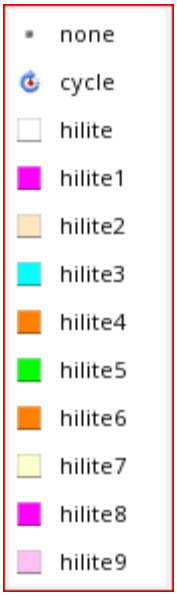
Design Partition Management Pane in Manager Mode

The Design Partition Management pane shows the information regarding the design partitions that have been created in the top design.



The following table lists the functions of the different options on the title bar of the Design Management pane:

Icon	Command	Description
	*Partition Definition State*	Shows and sets the definition state to highlight the area boundary of the design partition or the bounding box of the figure group of the partition. Click the column header to change the state for all design partitions. Ctrl + Click on this option to sort the partitions by definition states.
	*Preview*	Shows and sets the preview state to see the partition changes in the foreground cellview. Click the column header to change the state for all design partitions. Ctrl + Click on this option to sort design partitions by preview states. Right-click to view preview options. For more information, see Preview Options.

Icon	Command	Description
	*Preview Highlight Color*	Specifies the color to highlight the selected design partition or individual changes in the canvas. 
	*State*	Displayed if partition definition state or preview is enabled.

Related Topics

Concurrent Layout Toolbar in Manager Mode

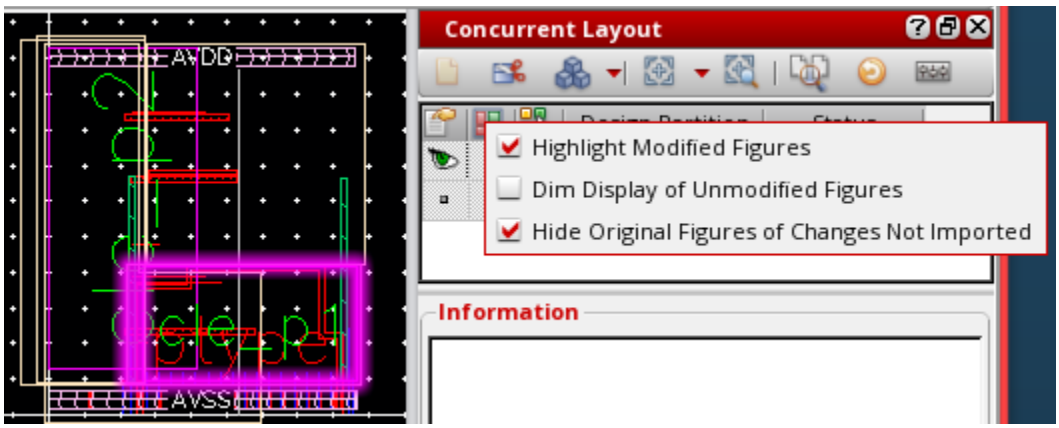
Preview Options

Display Additional Columns

Design Partition Options in Manager Mode

Preview Options

Additional preview options are displayed when you right-click the *Preview* option on the title bar of the Design Management pane.



The following table lists the functions of commands on the right-click menu of the *Preview* option:

Command	Description
Highlight Modified Figures	Highlights the updated figures in the selected design partition. Default value: Selected
Dim Display of Unmodified Figures	Dims the color of figures that have not been modified. Default value: Deselected
Hide Original Figures of Changes Not Imported	Hides the figures for which changes have not been imported. Default value: Selected

Related Topics

Concurrent Layout Toolbar in Manager Mode

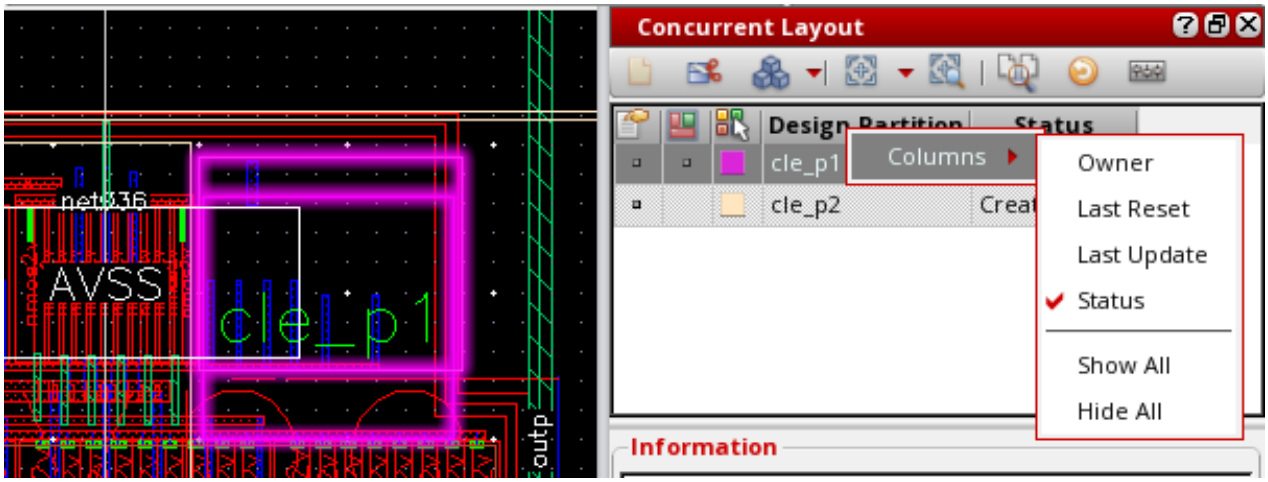
Design Partition Management Pane in Manager Mode

Display Additional Columns

Design Partition Options in Manager Mode

Display Additional Columns

When you right-click on the table header of the Design Partition Management pane, you will see options that let you display additional columns in this table.



These columns are:

Command	Description
Owner	Displays the owner of each design partition.
Last Reset	Shows when the partitions were reset the last time.
Last Update	Show when the partitions were updated the last time.
Status (selected by default)	Shows the status of each design partition. Valid values: Created, Editing, Submitted, Merged, Defined, Reset, and Rejected
Show All	Shows all columns.
Hide All	Hides all columns.

Related Topics

Concurrent Layout Toolbar in Manager Mode

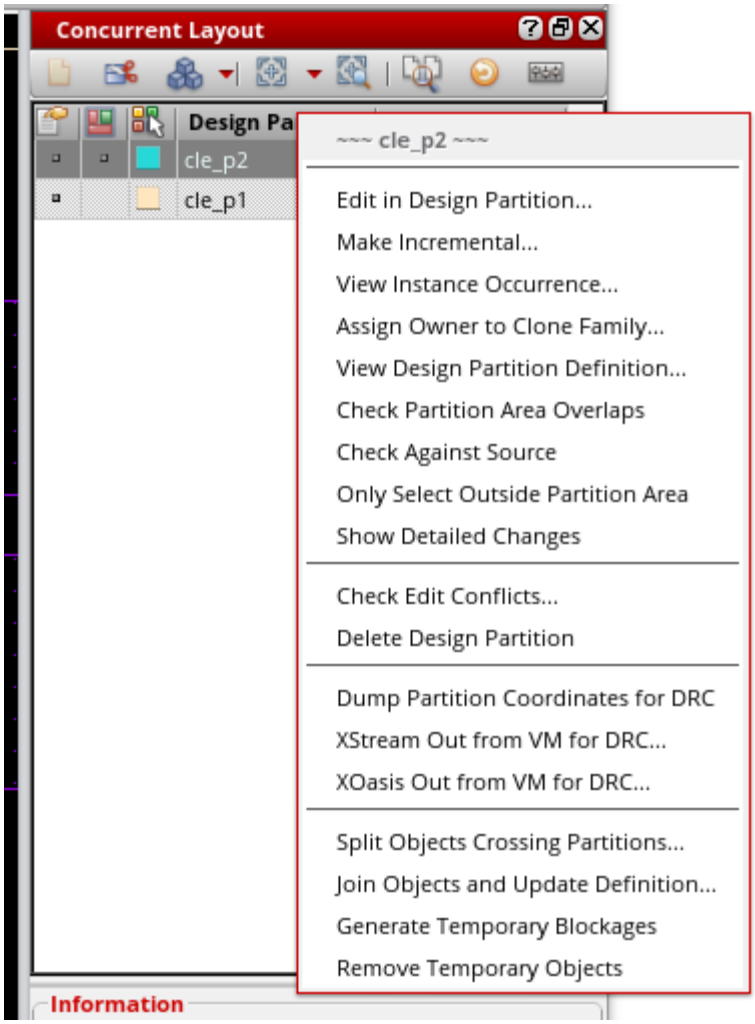
Design Partition Management Pane in Manager Mode

Preview Options

Design Partition Options in Manager Mode

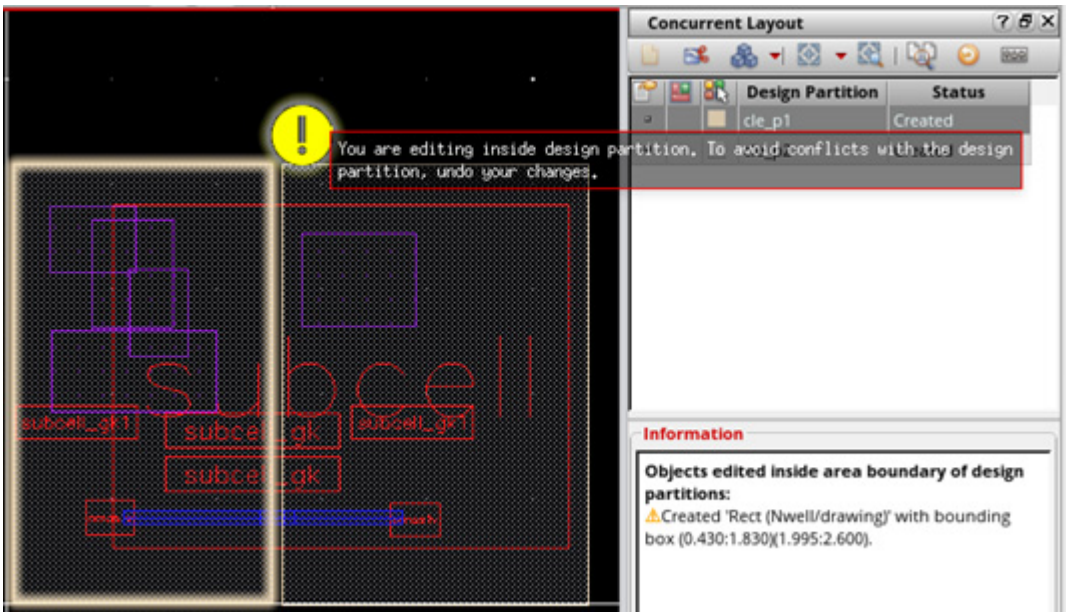
Design Partition Options in Manager Mode

The following options are displayed when you right-click the selected design partition in the Design Partition Management pane in manager mode:



Command	Description
Edit in Design Partition	Displays the Edit in Design Partition Form form that lets you edit in a selected design partition view.

Command	Description
Make Incremental	Opens a subcell in incremental mode. This command is available when a subcell is opened in regular EIP mode from the top design partition.
View Instance Occurrence	Displays the View Instance Occurrence Form form that lets you view occurrences of an instance in the design hierarchy.
Assign Owner to Clone Family	Displays the Assign Owner to Clone Family Form form that lets you assign the owner design partition for an unassigned clone family in the top design.
View Design Partition Definitions	Displays the View Design Partition Form form that lets you check design partition definitions.
Check Partition Area Overlaps	Checks for area overlaps in partitions and creates markers for any overlaps found. Messages are displayed in CIW to provide further information about the overlaps.
Check Against Source	Runs the Layout XL command *Check Against Source* for all instances in the current design partition.

Command	Description
Only Select Outside Partition Area	Toggles whether manager should be allowed to edit objects in a design partition after it is created and saved. When this option is selected, if the manager makes an edit inside the area boundaries of a design partition, a warning glyph is displayed on the canvas and the corresponding warning message is displayed in the Information pane.
	
Show Detailed Changes	Highlights the updated information in the design.
Check Edit Conflicts	Displays the Check Edit Conflicts Form form that lets you conduct a more thorough checking among the selected design partitions for identifying issues prior to merge.

Command	Description
Delete Design Partition	Deletes the selected design partition. This option deletes the selected design partition and all associated design partition views in the hierarchy. When you select this option, a message is displayed to confirm the deletion of listed top and hierarchical design partition views. An indicator (*) is used to identify the design partition views with unmerged changes. Changes in these design partition views are lost if you continue to delete the design partition.
Dump Pegasus/PVS Window Rule for DRC	Restricts the batch Pegasus or PVS window rule file to check only within the design partition area.
XStream Out from VM for DRC	Translates the current design partition view to a stream file from virtual memory for running DRC checks.
XOasis Out from VM for DRC	Translates the current design partition view to an OASIS file from virtual memory for running DRC checks.
Split Object Crossing Partitions	Displays the Split Crossing Objects Options Form that lets you specify how to split the objects that are part of multiple partitions.
Join Objects and Update Definition	Joins all split objects crossing hierarchical and non-hierarchical design partitions. If manager adds, resizes, or deletes design partitions, use this command to manually join currently split objects. The objects can split again when new or updated design partitions are created. If the design partitions has hierarchical design partitions, the Join Objects and Update Definition Form is displayed. Use this form to join the crossing objects that have been split across hierarchical design partitions, detect definition differences for existing area or layer-based hierarchical design partitions, and let the manager re-push the new definition down the whole hierarchy and update them.

Command	Description
Generate Temporary Blockages	Adds blockages over design partition area boundaries. As a result, the Virtuoso Space-based Router connects to Concurrent Layout pins generated in designer mode, only at the area boundary. No routing takes place within the design partitions.
Remove Temporary Objects	Deletes temporary objects, such as virtual pins created by Virtuoso Space-based Router (VSR) for routing inside area boundaries of the design partition.

Related Topics

Concurrent Layout Toolbar in Manager Mode

Design Partition Management Pane in Manager Mode

Preview Options

Display Additional Columns

Concurrent Layout Assistant in Designer Mode

This section discusses the Concurrent Layout options available in designer mode.

Options in designer mode are available when you are editing a design partition view. You can either directly open a design partition view for editing, or in manager mode right-click on a design partition view in the Design Partition Management pane and choose *Edit in Design Partition*.

- Concurrent Layout Toolbar in Designer Mode
- Preview Options
- Display Additional Columns
- Design Partition Options in Designer Mode
- Design Partition View Contents Section in Designer Mode

Concurrent Layout Toolbar in Designer Mode

The following table lists the functions of the different options on the Concurrent Layout assistant toolbar in designer mode:

Icon	Command	Description
	*Auto Zoom*	Toggles zoom to selected object.
	Auto zoom mode and scale	Sets *Fixed* or Minimal scale for auto zoom.
	*Zoom To Selected Partition*	Zooms to the selected or the current design partition.
	*Submit for Merge*	Submits the updated design partition view for merge. If you have submitted a design for merge, then you can use this command to recall the design and change the design status to Editing.
	Recall	Lets you recall a design submitted for merge. This changes the status of the design to *Not Submitted*.
	Reset Design Partition View	Clears all the edits in the design partition view. The status changes to either Created or Reset (if this design partition view was merged before). If the design partition status is Error, see the tooltips for the reason and you could fix it by resetting.
	Layout Configuration	Displays the Layout Configuration Form form that lets you load or unload layout configurations in design partition views.
	View History	Displays the View History Form form that lets you check information about important changes made to the top design.
	Save As Full Partition View	Displays the Save As Full Partition View Form form that lets you save the full design partition view of the specified cellview.

Icon	Command	Description
	*Synchronized Preview*	Compares the design before and after you update it by placing them side-by-side.
	*Refresh Data From Disk*	Reloads design partition views or the top design from the disk.
	*Incremental EIP*	Enables incremental Edit In Place (EIP) and displays the Hierarchical Edit Setup Form that lets you perform incremental EIP when you Descend Edit or Edit In Place into a hierarchical subcell and meets the required conditions. Edit In Place is performed in regular mode when you disable incremental EIP. After you complete hierarchical edit setup for a subcell, you will EIP this hierarchical subcell in incremental mode regardless the state of this button.
	*Options*	Displays the Concurrent Layout Options Form form.

Related Topics

Preview Options

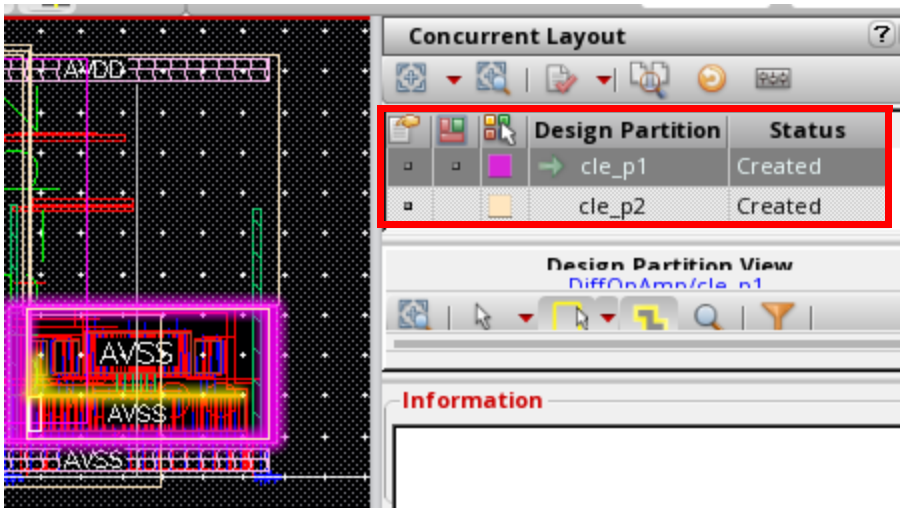
Display Additional Columns

Design Partition Options in Designer Mode

Design Partition View Contents Section in Designer Mode

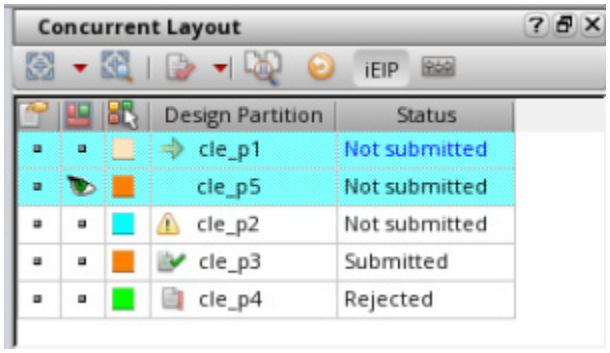
Design Partition Management Pane in Designer Mode

The Design Partition Management pane shows the information regarding the design partitions that have been created in the top design.



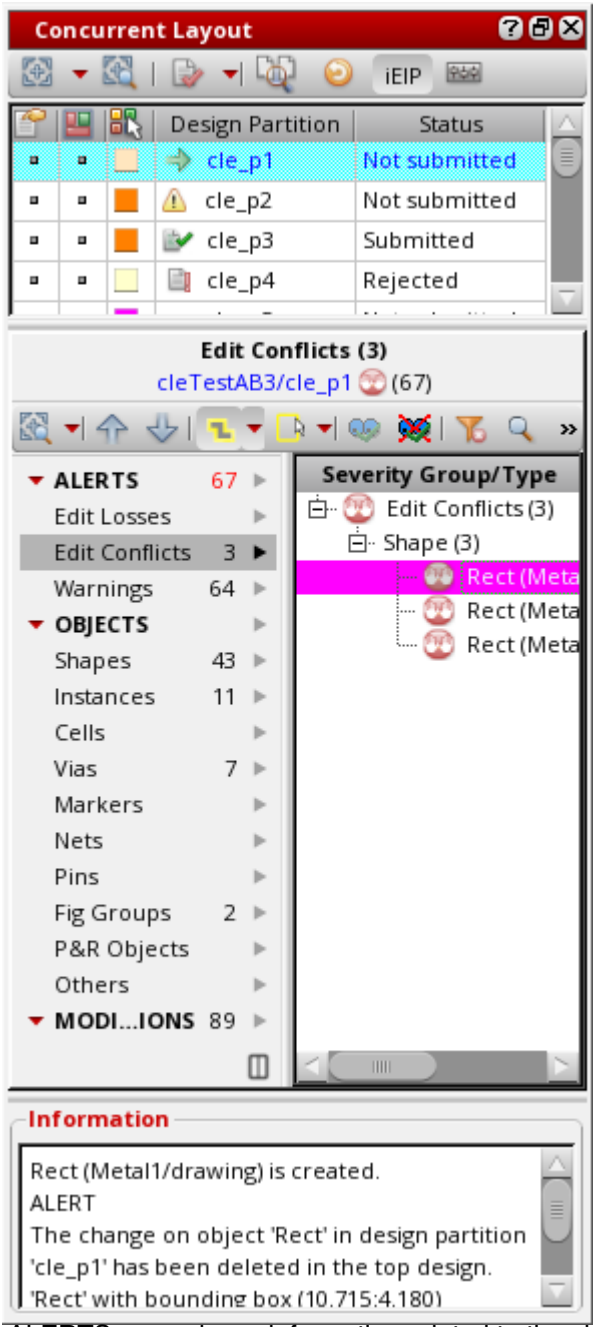
The functions of options on the title bar of the Design Partition Management pane are the same as manager mode. See Design Partition Management Pane in Manager Mode.

The following table describes the meaning of different colors and icons in the Design Partition Management pane.



	Description	Available in
	Row with blue background and blue font in the *Status* column implies that this design partition is being edited.	Designer mode only
	Row with blue background and black font in the *Status* column implies that this design partition was imported.	Designer mode only

	Description	Available in
	Details for the design partition marked with a green arrow are being displayed in the ALERTS and Information panes, as shown below:	Both Manager and Designer modes



ALERTS pane shows information related to the cle_p1 partition which is marked with a green arrow in the Design Partition

	Description	Available in
	Design partition marked with the exclamation mark icon implies that it is invading the current design partition.	Designer mode only
	Design partition marked with green check mark icon implies that this design partition was submitted for merge.	Both Manager and Designer modes
	Design partition marked with the document with exclamation mark icon implies that this design partition was rejected.	Both Manager and Designer modes

Related Topics

Preview Options

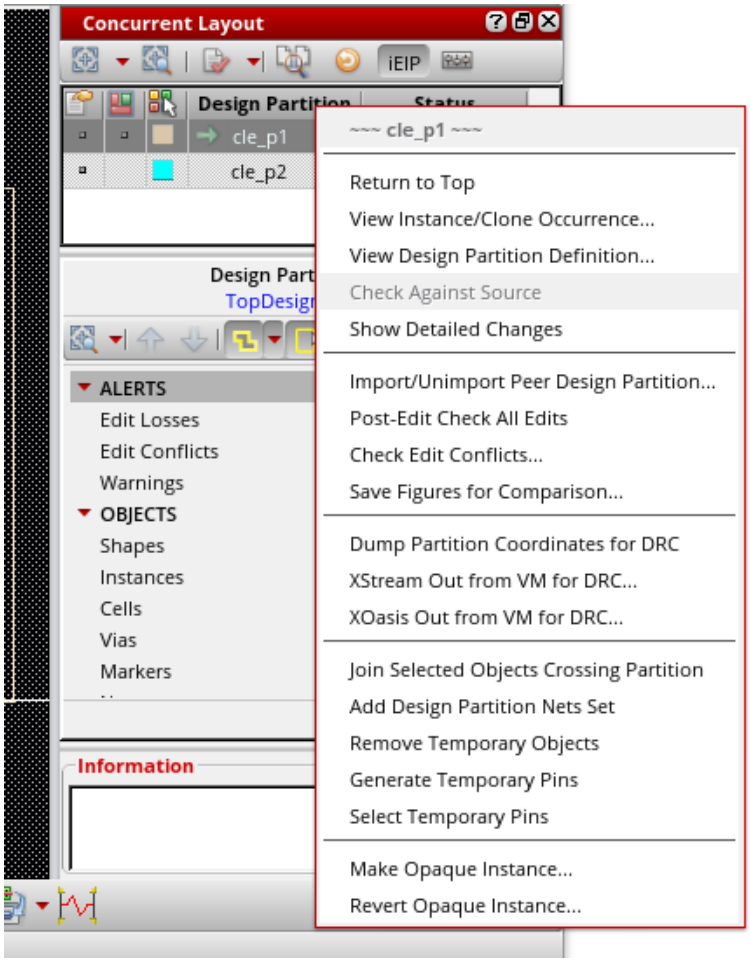
Display Additional Columns

Design Partition Options in Designer Mode

Design Partition View Contents Section in Designer Mode

Design Partition Options in Designer Mode

The following design partition options are available:



Command	Description
Return to Top	Saves the edits made and returns to the top design. This option is available after you choose *Edit in Design Partition* from the top design.
View Instance/Clone Occurrence	Displays the View Instance Occurrence Form or View Clone Occurrence Form that lets you view occurrences of an instance or a clone in the design hierarchy.

Command	Description
View Design Partition Definition	Displays the View Design Partition Form that lets you check design partition definitions.
Return to Design Partition	Returns to edit in the figure group of an object-based design partition. The option is available when you return from the figure group of the design partition to the top level. **Note:** You can also click on the blue Alert icon to return.  *Important* This option is available only for object-based design partitions.
Show Detailed Changes	Highlights the updated information in the design.
Import Peer Design Partition	Displays the Import Peer Design Partition Form form that lets you import updates made by a peer designer in your Design Partition view.
Post-Edit Check All Edits	Touches all changed objects to allow the interactive checkers, such as post-edit DRD or connectivity extraction, to verify these edits. **Note:** This option is not available after you have imported peer partitions.
Check Edit Conflicts	Displays the Check Edit Conflicts Form form that lets you view a log file that lists any edit conflicts that might have occurred due to changes made in the selected design partition.
Save Figures for Comparison	Displays the Save Figures for Comparison Form form that lets you specify the views that you want to save and compare the updates made.
Dump Pegasus/PVS Window Rule for DRC	Generates the window rule file to restrict the batch Pegasus or PVS to check only within the design partition area.
XStream Out from VM for DRC	Translates the current design partition view to a stream file from virtual memory for running DRC checks.

Command	Description
XOasis Out from VM for DRC	Translates the current design partition view to an OASIS file from virtual memory for running DRC checks.
Add Design Partition Nets Set	Switches to the Navigator assistant and displays the list of nets crossing or inside the current design partition under the *CONCURRENT LAYOUT* category.
Remove Temporary Objects	Deletes temporary objects, such as virtual pins created by Virtuoso Space-based Router (VSR) for routing inside area boundaries of the design partition.
Generate Temporary Pins	Generates temporary pins at the area boundaries of the design partitions.
Select Temporary Pins	Selects all temporary pins for deleting or cross-selecting their nets.
Make Opaque Instance	Displays the Make Opaque Form that lets you convert instance selected in the design to opaques instances.
Revert Opaque Instance	Displays the Revert Opaque Instances Form that lets you convert selected opaque instances into normal instances.

Related Topics

Concurrent Layout Toolbar in Designer Mode

Preview Options

Display Additional Columns

Design Partition View Contents Section in Designer Mode

Design Partition View Contents Section in Designer Mode

The Design Partition View Contents section becomes available when you are editing a design partition view.

This section comprises three main components:

- Design Partition View Toolbar

- Summary Pane
- Details Pane
- Information Pane

Each of these components is described in detail below.

Design Partition View Toolbar

The following table lists the functions of the different options on the Design Partition View toolbar:

Icon	Command	Description
	*Zoom to Selected*	Zooms to the selected object in the summary pane.
	Auto Zoom	Zooms automatically into selected design partition or selected changes.
	*Previous Node*	Lets you move to the previous entry in the Details pane.
	*Next Node*	Lets you move to the next entry in the Details pane.
	*Cross Highlight in Canvas*	Toggles the display of halo over the edited object in the canvas. When enabled, the selected objects in the Details pane are haloed in the canvas
	Select All	Selects all objects in the Details pane.
	Deselect All	Deselects all objects in the Details pane.
	Cross Select in the Canvas	Toggles the cross selection of objects in Details pane to the canvas
	*Select Inside Partition*	Toggles between *Off* and *Only Select Inside Partition* modes.

Icon	Command	Description
	Off	Toggles between *Off* and *Only Select Inside Partition* modes. When set to *Off*, there are no restrictions about creating or editing in the current design partition.
	Only Select Inside Partition	Prevents selecting objects that are fully outside and area-based design partition. Objects that are fully or partially inside or have been temporarily moved outside the current partition for editing are also selectable. This option is selected by default. In layer-based design partitions, the CLE filter is selected in the Layer Palette and only the valid layers are selectable. However there is no restriction on vias because the Create Via, Create Wire, and routing commands can use all vias. You need to sign off the out of partition warnings in the assistant.
	Only Edit Inside Partition	Lets you edit only within the current design partition. Supported commands are: *Create – Shapes*, *Create – Instance*, *Create – Pin*, *Create – Label*, *Create – Fluid Guard Ring, Create – Wiring – Wire, Create – Via, Edit – Move, Edit – Copy, Edit – Stretch, Edit – Delete, Edit – Quick Align, Edit – Advanced – Reshape*. In a layer-based design partitions, only valid layers and valid vias are selectable
	Change Selection Filters on Nets	Selects only those shapes that are unassigned or assigned to a net in the selection filter on nets, or have been modified.

Icon	Command	Description
		Pcell is selectable if at least one instance terminal is unassigned or assigned to one net in the net filter. Regular instances are always selectable to enable the user to Edit In Place (EIP) or Descend Edit. For a net-based design partition, the default filter is the net set.
	*Show Signed-Off Changes*	Show hidden signed off checks in the Details pane.
	*Hide Signed-Off Changes*	Hide signed off checks in the Details pane. The Summary pane shows a number, which are in the format visible or total, if there are hidden signed-off checks.
	*Find Object From Canvas*	Finds an object in assistant by clicking an object in the canvas without altering the canvas selection.
	*Remove Changes from Design Partition View*	Displays the Remove Changes from Design Partition View Form form that lets you remove the changes for which the filter state has been set from the current design partition view. You can set the filter state of a change from the *Filter State* option in the Details Pane.
	*Search*	Type the search keyword to filter the result in the Details pane. Use the drop-down menu to customize your search.

Related Topics

Concurrent Layout Toolbar in Designer Mode

Preview Options

Display Additional Columns

Design Partition Options in Designer Mode

Summary Pane

Details Pane

Information Pane

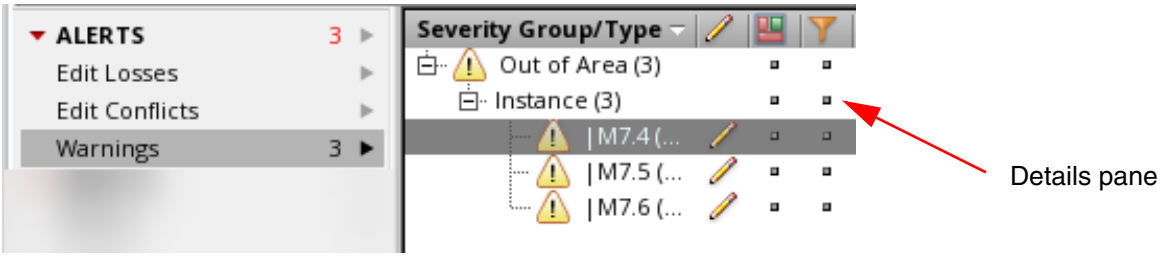
Summary Pane

The Summary pane has three sections:

- ALERTS Section
- OBJECTS Section
- MODIFICATIONS Section

ALERTS Section

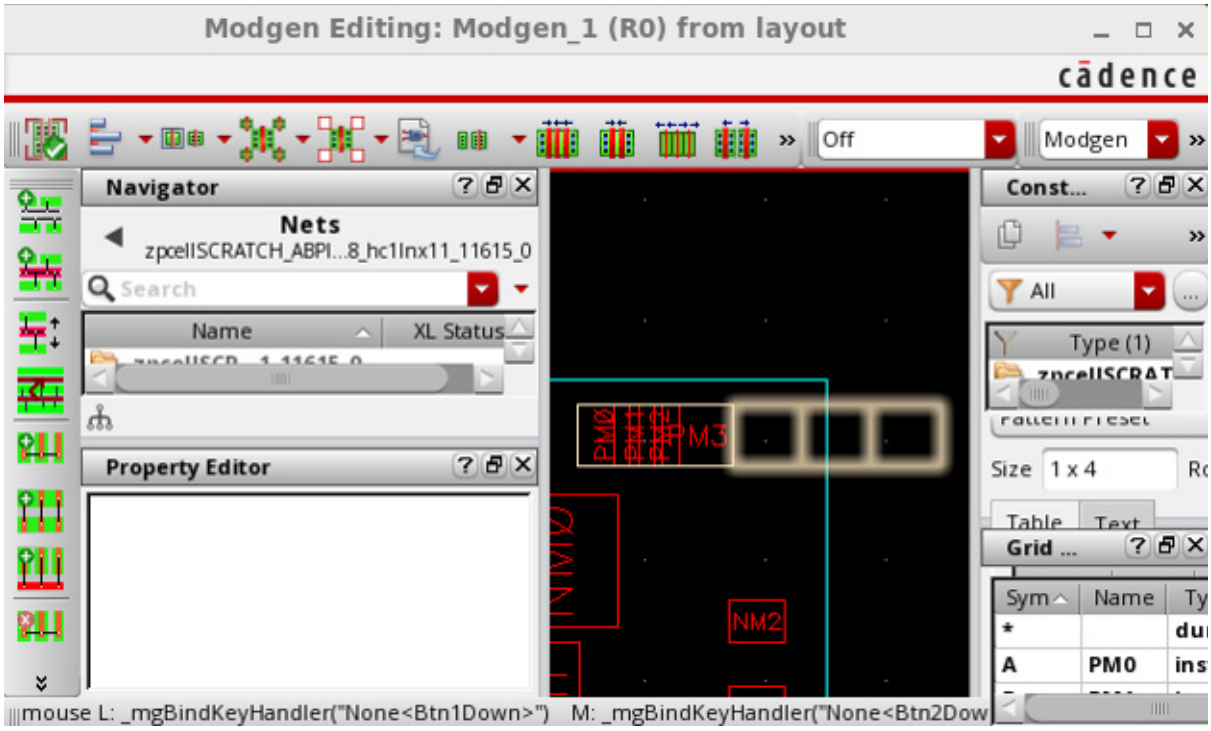
This section informs you about any issues that might arise when you edit in your design partition.



The alerts are reported under three categories:

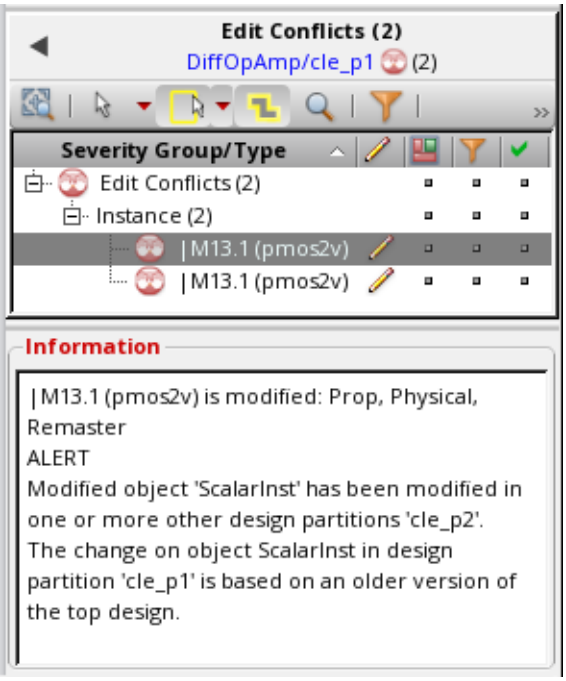
Type of Alert	Description
Edit Losses	Edit losses occur when you edit a constraint, such as MODGEN or an object that has been created in an imported peer partition. Warnings are displayed in the assistant and a message box displays asking you to undo the changes because they can result in edit loss. If you ignore the warning and save without undoing the edits, the edited object might be in an inconsistent state due to data loss. The following image shows MODGEN inconsistency due to data loss:

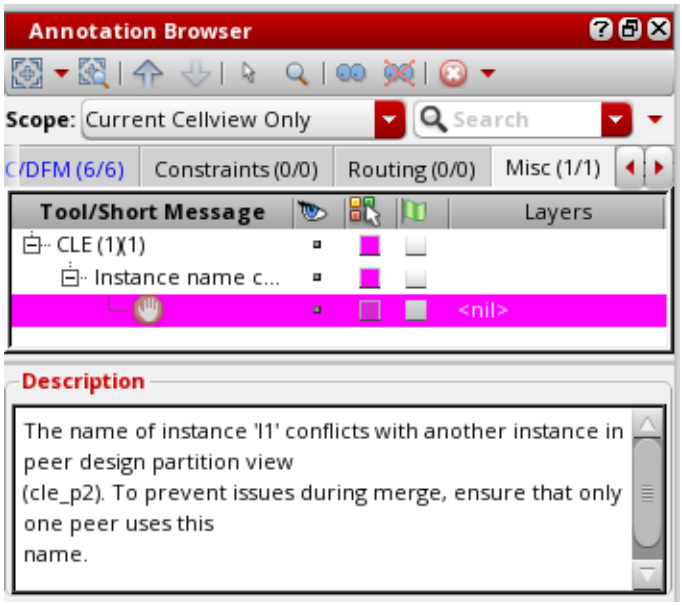
Type of Alert	Description

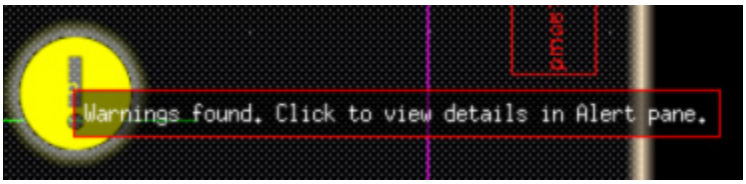
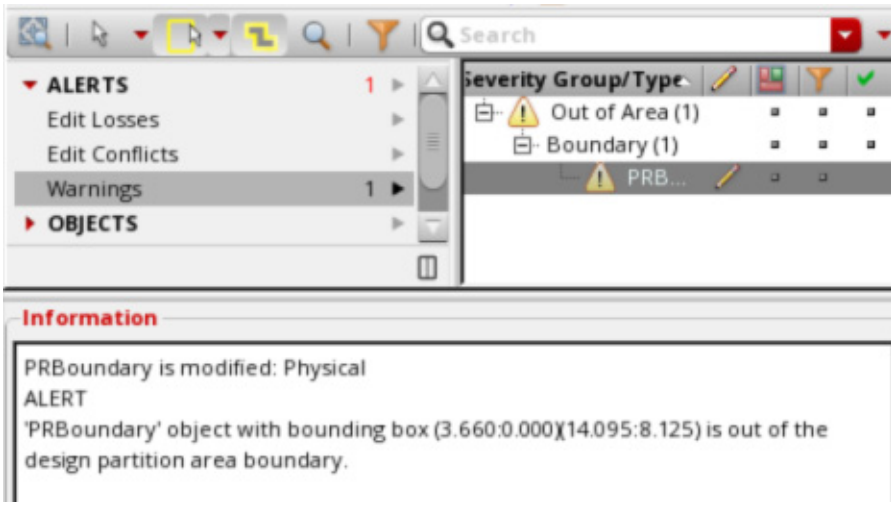


You can work around this issue by editing constraints and objects imported from peer partitions in full partition view. Although edits are lost when you create a design partition view, the geometries are retained.

Type of Alert	Description
Edit Conflict	Editing in Concurrent Layout is done offline, therefore the manager or designer might edit the same object leading to the edit conflict. The assistant immediately shows an alert and cross-highlights it in canvas. Edit conflicts can cause issues during the merge or import process because when two changes conflict, only one can be considered and the other is lost. You can do the following to prevent or resolve edit conflicts: ■ Partition the design carefully and if an edit conflict is detected at runtime, undo the reported change. ■ Edit conflicts can lead to name conflicts because the two objects are given the same name. OpenAccess accepts only unique names, therefore after open, a temporary name with a marker is given to one of the conflicting objects. The user needs to manually rename it.



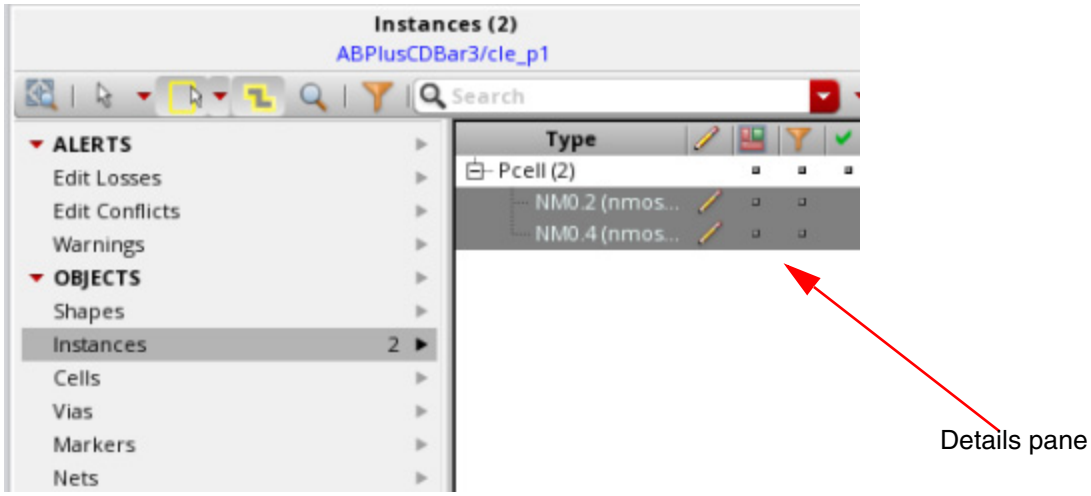


Type of Alert	Description
Warnings	Concurrent Layout does not stop you from editing outside the current design partition. This is because most SKILL scripts and commands are not partition-aware. However, a warning is displayed to inform you that you are editing outside the partition. It is important to avoid such edits because they can cause edit conflicts when you try to merge or import the current design partition.  A warning glyph is displayed in the canvas to show the location of the issue being reported.  Details of the warning can be viewed in the *Details* and *Information* panes of the assistant. Warning is not displayed when: ■ Two partitions overlap and you are editing inside the overlap because it is still compliant. ■ A partition has mixed types and all the requirements of concurrent editing are met. ■ AppDef, marker, or property changes are done.

Type of Alert	Description
	If all partitions are object-based partitions, each partition contains an exclusive object ownership for a designer to edit or delete objects. Therefore, the designer who creates an object also owns it. These objects are enclosed by a figure group and can be edited by using the edit-in-group (EIG) option. If you do not want to remove edits for objects you do not own, select the *Filter changes for objects not owned* option in the Concurrent Layout Options Form form.

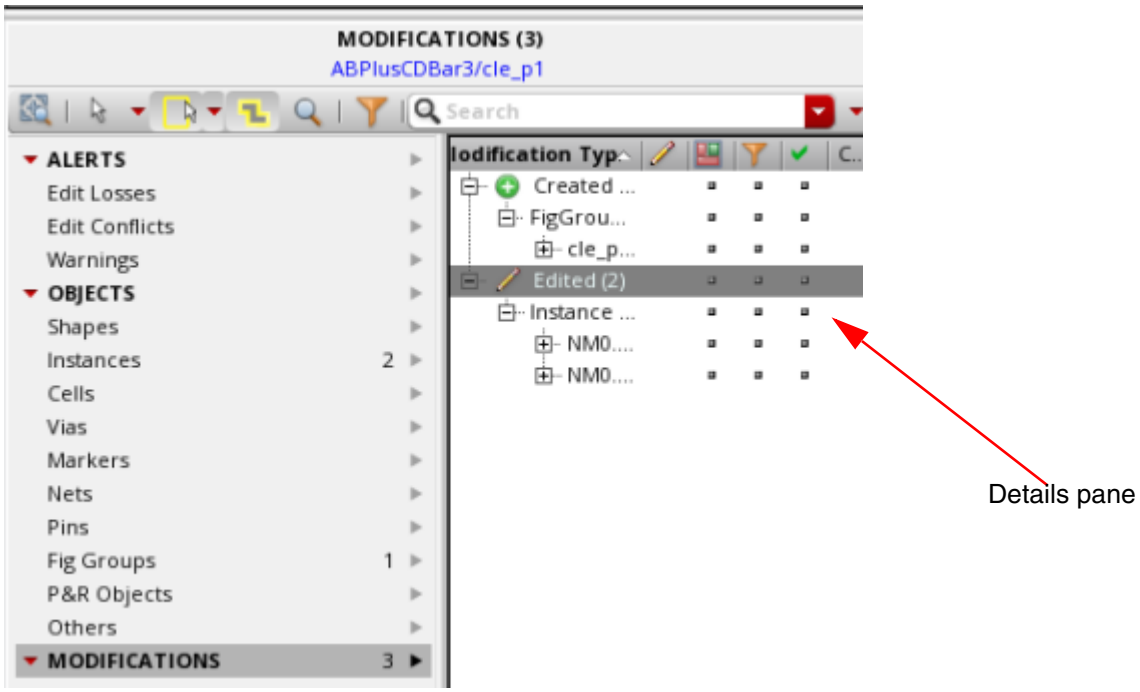
OBJECTS Section

This section lists all the objects you have updated in the selected design partition. When you select an object here, details for it are displayed in the Details Pane.



MODIFICATIONS Section

This section lists the number of updates made in the selected design partition. Unlike the OBJECTS section, one entry is added per change. Details of the updates can be checked in the Details Pane.



Related Topics

Details Pane

Design Partition View Contents Section in Designer Mode

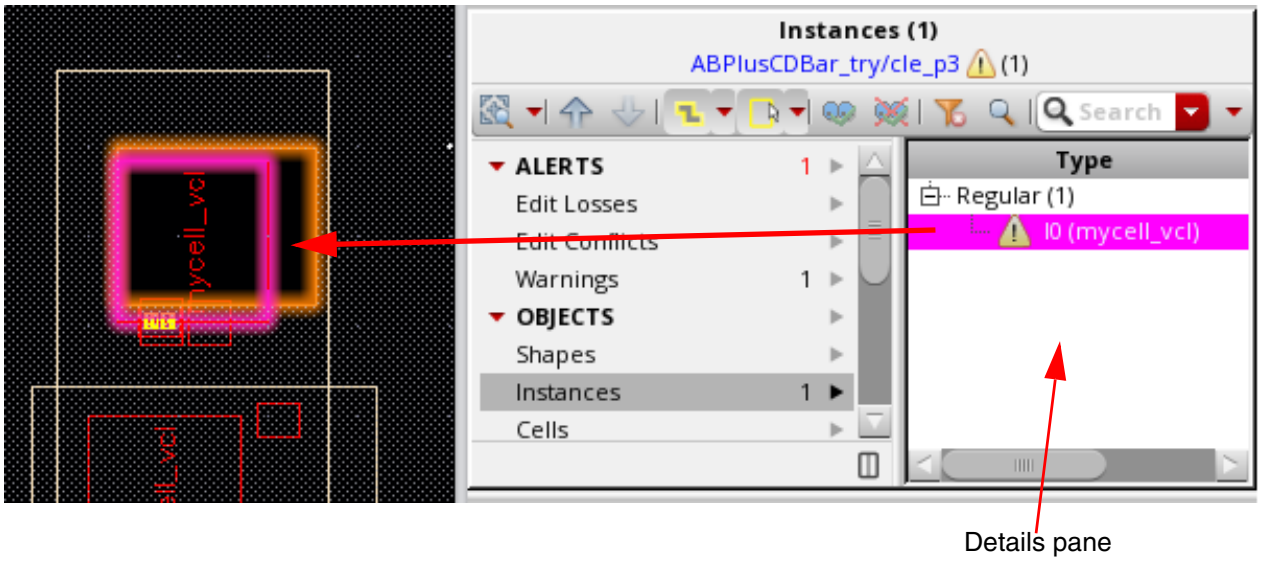
Concurrent Layout Assistant

Consolidated Alerts

consolidateAlerts

Details Pane

The Details pane shows the contents of the set selected in the Summary pane, and lets you navigate the changes individually. You may select an object and auto zoom to it in the canvas, or see additional information regarding the change on it.

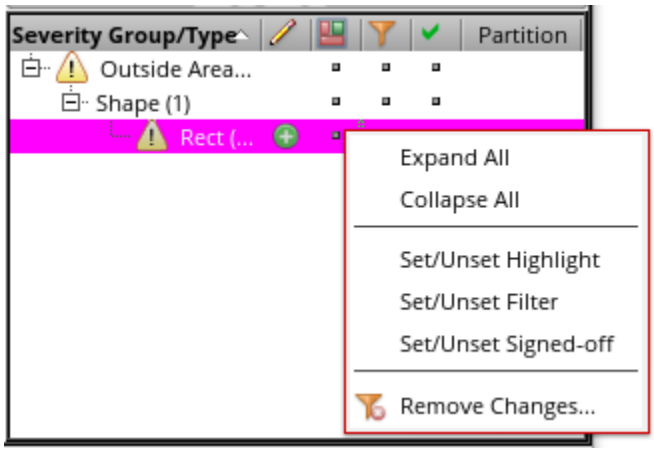


The following table lists the functions of the different options in the Details pane:

Icon	Command	Description
Type	*Type*	Displays the type of object.
	*Modification*	Shows details of the type of modification that has been done. Valid values: Created, Deleted, Edited
	*Highlight State*	Sets or unsets the highlight states. Ctrl + Click on this option to sort the design partitions by highlight states.

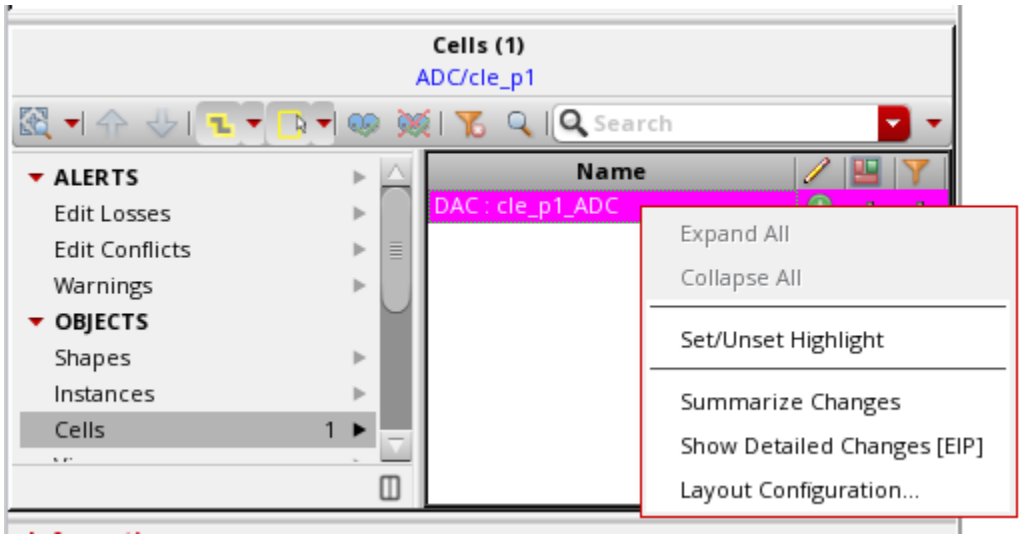
Icon	Command	Description
	*Filter State*	Sets or unsets the filter states. You can use the *Remove Changes from Design Partition View* command in the *Design Partition View* toolbar to remove the changes for which the filter state is set. Ctrl + Click on this option to sort design partitions by filter states.
	*Sign-off State*	Lets you sign off edit conflict alerts with the top design in red, or sign off warning/non-alert in green. You can use the *Hide Signed-off Changes* command on the D*esign Partition View* toolbar to hide the green signed-off changes in all panes. You can use the *Show Signed-off Changes* command to show them again. An alert stays until you either sign it off using this option or discard it by using the R*emove Changes from Design Partition View* command. ■ Edit loss or edit conflict with peer cannot be signed-off ■ Edit loss cannot be signed-off or removed from the design partition view. ■ All warning should be signed off before submitting a design partition view for merge. ■ Ctrl + Click on this option to sort design partitions by sign-off states.
Change	*Select in Partition*	Shows the type of change that was done. This option is available only for the *Modifications* section.

Right-click on the column header of the Details pane to view options to customize its display.



Command	Description
Expand All	Expands all tree nodes listed in the *Details* pane.
Collapse All	Collapses all tree nodes if they are expanded
Set/Unset Highlight	Sets or unsets highlights of selected objects in the canvas. The highlight is persistent in the canvas until it is unset.
Set/Unset Filter	Sets or unsets filter state of selected objects.
Set/Unset Signed-off	Sets or unsets signed-off state of selected objects.
Remove Changes	Displays the Remove Changes from Design Partition View form.

Right-click the subcell edited under iEIP to view the options related to it.



Command	Description
Expand All	Expands all tree nodes listed in the *Details* pane.
Collapse All	Collapses all tree nodes if they are expanded
Set/Unset Highlight	Sets or unsets highlights of selected objects in the canvas. The highlight is persistent in the canvas until it is unset.
Summarize Changes	Displays the summary of changes of a subcell in CIW without entering the subcell.
Show Detailed Changes [EIP]	EIP to a subcell in read-only mode to show the changes made.
Layout Configuration	Displays the Layout Configuration Form form that lets you load or unload layout configurations in design partition views.

Related Topics

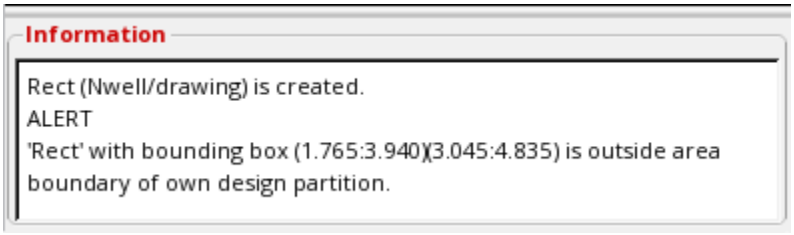
Summary Pane

Design Partition View Contents Section in Designer Mode

Concurrent Layout Assistant

Information Pane

The information pane shows additional details about the changes on a selected object. For example, if an object is moved then the change type is Physical, or if it is assigned to a net then the type is Logical. In case the change causing an alert, the additional information lets you identify the issues with your edits and then take necessary steps to resolve them.



Related Topics

Design Partition View Contents Section in Designer Mode

Concurrent Layout Assistant

C

Concurrent Layout Environment Variables

This appendix provides information on the names, descriptions, and graphical user interface equivalents for the Virtuoso Concurrent Layout environment variables.

All environment variables related to the Concurrent Layout are used to set default values for various Concurrent Layout options. You can set them either from CIW or load from cdsenv file through a SKILL function. For example, `envLoadFile("~/.cdsenv")`.

Note: Only the environment variables documented in this chapter are supported for public use. All other Concurrent Layout environment variables, regardless of their name or prefix, and undocumented aspects of the environment variables described below, are private and are subject to change at any time.

List of Concurrent Layout Environment Variables

- commitOlderVersion
- commitResetPartitionView
- conflictMergeAction
- conflictRenameNet
- conflictRenamePin
- conflictRenameTerm
- consolidateAlerts
- createPartcheckAreaOverlap
- dimNotModifiedFigPreview
- displayWarningGlyph
- enableGDM
- exportFilter
- filterMarkerOutOfArea
- hideOrignalFigPreview
- highlightModifiedFigPreview
- importActionForError
- importBlockErrorID
- importFilter
- importPeerAtOpen
- importPeerViewLog
- importWarnAsError
- mergeLogFile
- mergePostEditCheckLimit
- mixedRoute
- mergeSizeReminder
- nameGenerator
- onlySelectOutsidePartition

- promptManagerOpen
- saveNonCommittable
- showMarkerChanges
- splitObjFilterByPalette

addMergedObjsToSelSetLimit

```
layout.cle addMergedObjsToSelSetLimit int 0_to_any_positive_integer
```

Description

Specifies the number of objects to add to the selection set when a design partition view is merged. The default is 50000 objects.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Add Changes to Selection Set (Max)*

Examples

```
envGetVal("layout.cle" "addMergedObjsToSelSetLimit")
envSetVal("layout.cle" "addMergedObjsToSelSetLimit" 'int 10000)
```

Related Topics

Concurrent Layout Options Form

List of Concurrent Layout Environment Variables

autoDeletePartitionView

```
layout.cle autoDeletePartitionView boolean { t | nil }
```

Description

Automatically deletes design partition views, when set to `t`, when the *Clear All Design Partitions* command or *Delete* command is run.

When set to `nil`, the design partition views are reset to be reused when these commands are run. The default is `nil`.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Auto delete design partition view*

Examples

```
envGetVal("layout.cle" "autoDeletePartitionView")
envSetVal("layout.cle" "autoDeletePartitionView" 'boolean t)
envSetVal("layout.cle" "autoDeletePartitionView" 'boolean nil)
```

Related Topics

Clear All Design Partitions Form

Concurrent Layout Options Form

Clearing a Design Partition in Manager Mode

List of Concurrent Layout Environment Variables

autoHighlightAlerts

```
layout.cle autoHighlightAlerts boolean { t | nil }
```

Description

Highlights an alert automatically when it is added to the alert pane of the Concurrent Layout assistant. The default is `t`.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Auto highlight alerts*

Examples

```
envGetVal("layout.cle" "autoHighlightAlerts")
envSetVal("layout.cle" "autoHighlightAlerts" 'boolean t)
envSetVal("layout.cle" "autoHighlightAlerts" 'boolean nil)
```

Related Topics

Summary Pane

Concurrent Layout Options Form

List of Concurrent Layout Environment Variables

autoSplitObjCrossingPartition

```
layout.cle autoSplitObjCrossingPartition cyclic { "Off" | "single" | "multiple" }
```

Description

Sets whether objects crossing single or multiple design partitions should be split at the boundary of each design partition. The default is `"single"`.

GUI Equivalent

Command:	*Concurrent – Define Design Partition – Split Crossing Objects (...)*
Field:	*Split Criteria*

Examples

```
envGetVal("layout.cle" "autoSplitObjCrossingPartition")
envSetVal("layout.cle" "autoSplitObjCrossingPartition" 'cyclic "Off")
envSetVal("layout.cle" "autoSplitObjCrossingPartition" 'cyclic "single")
envSetVal("layout.cle" "autoSplitObjCrossingPartition" 'cyclic "multiple")
```

Related Topics

Split Crossing Objects Options Form

Defining an Area-Based Design Partition

List of Concurrent Layout Environment Variables

autoSplitObjTypes

```
layout.cle autoSplitObjTypes string { "pathSeg" | "path" | "rect" | "polygon" |
     "mppPath" | "mppGuardring" }
```

Description

Specifies the object types to be split when design partitions are created or are pushed down to hierarchical sub cells. The default is `"pathSeg"`.

GUI Equivalent

Command:	*Concurrent – Define Design Partition – Split Crossing Objects (...)*
Field:	*Object Types*

Examples

```
envGetVal("layout.cle" "autoSplitObjTypes")
envSetVal("layout.cle" "autoSplitObjTypes" 'string "pathSeg")
envSetVal("layout.cle" "autoSplitObjTypes" 'string "path")
envSetVal("layout.cle" "autoSplitObjTypes" 'string "rect")
envSetVal("layout.cle" "autoSplitObjTypes" 'string "polygon")
envSetVal("layout.cle" "autoSplitObjTypes" 'string "mppPath")
envSetVal("layout.cle" "autoSplitObjTypes" 'string "mppGuardring")
```

You can specify multiple objects types in the following way:

```
envSetVal("layout.cle" "autoSplitObjTypes" 'string "rect polygon mppGuardring")
```

Related Topics

Split Crossing Objects Options Form

Defining an Area-Based Design Partition

List of Concurrent Layout Environment Variables

categoryName

```
layout.cle categoryName string  "category_name"
```

Description

Specifies the category name created in the Library Manager for the concurrent layout designs. When set to `""` no category is created.

GUI Equivalent

None

Examples

```
envGetVal("layout.cle" "categoryName")
envSetVal("layout.cle" "categoryName" 'string "concurrent_layout")
```

Related Topics

Concurrent Layout Editing in Manager Mode

List of Concurrent Layout Environment Variables

checkLogFile

`layout.cle checkLogFile string "`*`check_log_file_path`*`"`

Description

Specifies the path for the check log file. The default path is used if not specified.

The default path is `cle_check_%LIB_%CELL_%VIEW.log`.

GUI Equivalent

None

Examples

```
envGetVal("layout.cle" "checkLogFile")
envSetVal("layout.cle" "checkLogFile" 'string "cle_check.log")
```

Related Topics

Checking All Edits after Concurrent Layout Editing

List of Concurrent Layout Environment Variables

cleEditMode

```
layout.cle cleEditMode cyclic { "Off" | "Only Select Inside Partition" | "Only Edit
     Inside Parition" }
```

Description

Sets the edit mode inside the current partition.

- `Off`
  Disables the edit mode settings.
- `Only Select Inside Partition`
  Lets you select only those objects that are inside the current partition.
- `Only Edit Inside Partition`
  Lets you edit only those partitions that are inside current partition.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Edit Scope*

Examples

```
envGetVal("layout.cle" "cleEditMode")
envSetVal("layout.cle" "cleEditMode" 'cyclic "Off")
envSetVal("layout.cle" "cleEditMode" 'cyclic "Only Select Inside Partition")
envSetVal("layout.cle" "cleEditMode" 'cyclic "Only Edit Inside Partition")
```

Related Topics

Edit Scope of a Design Partition

Concurrent Layout Options Form

List of Concurrent Layout Environment Variables

cleEnableAdvPartitionType

```
layout.cle cleEnableAdvPartitionType boolean { t | nil }
```

Description

Enables buttons, labels, and column headers related on object-based and net-based partitions on the Define Design Partition form. Status of this environment variable is checked when the Define Design Partition form is opened.

GUI Equivalent

Command:	*Concurrent – Define Design Partitions*
Field:	*Objects, Nets*

Examples

```
envGetVal("layout.cle" "cleEnableAdvPartitionType")
envSetVal("layout.cle" "cleEnableAdvPartitionType" 'boolean t)
envSetVal("layout.cle" "cleEnableAdvPartitionType" 'boolean nil)
```

Related Topics

Define Design Partition Form

Defining an Area-Based Design Partition

List of Concurrent Layout Environment Variables

cleEnvFilePath

```
layout.cle cleEnvFilePath string "filepath"
```

Description

Specifies the file path for the Concurrent Layout configuration file. The default is `""`.

GUI Equivalent

None

Examples

```
envGetVal("layout.cle" "cleEnvFilePath")
envSetVal("layout.cle" "cleEnvFilePath" 'string "cle.cfg")
```

Related Topics

Layout Configuration Form

List of Concurrent Layout Environment Variables

cleHierEditMode

```
layout.cle cleHierEditMode cyclic { "Regular" | "IncrByArea" }
```

Description

Specifies the action to take during hierarchal editing.

- `Regular`
  Disables the display of the Hierarchy Setup form and hierarchical editing is not done using concurrent layout.
- `IncrByArea`
  Displays the Hierarchy Setup form and lets you do hierarchical editing of area partitions using concurrent editing. GUI Equivalent.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Hierarchical Edit Mode*

Examples

```
envGetVal("layout.cle" "cleHierEditMode")
envSetVal("layout.cle" "cleHierEditMode" 'cyclic "Regular")
envSetVal("layout.cle" "cleHierEditMode" 'cyclic "IncrByArea")
envSetVal("layout.cle" "cleHierEditMode" 'cyclic "IncrNoArea")
```

Related Topics

Concurrent Layout Options Form

Concurrent Layout Editing for Hierarchical Designs

List of Concurrent Layout Environment Variables

commitOlderVersion

```
layout.cle commitOlderVersion boolean { t | nil }
```

Description

In a DM environment, lets you commit design partition views that are not the latest version in the DM vault. If you do not commit the latest version of a design partition view, the design partition resets in the memory when it is opened the next time but it is not reset on the disk regardless of the value of the environmental variable `commitResetPartitionView`. The `commitOlderVersion` environment variable also allows committing a merged design partition view which is locked by others.

The default is `nil`, which means that the older version is not committed.

GUI Equivalent

None

Examples

```
envGetVal("layout.cle" "commitOlderVersion")
envSetVal("layout.cle" "commitOlderVersion" 'boolean t)
```

Related Topics

commitResetPartitionView

Merging a Submitted Design Partition

List of Concurrent Layout Environment Variables

commitResetPartitionView

```
layout.cle commitResetPartitionView boolean { t | nil }
```

Description

Resets a design partition view in the memory and the physical file on the disk after the changes are committed. The default is `nil`, which means that the design partition will be reset in the memory when opened the next time.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Reset on disk after commit*

Examples

```
envGetVal("layout.cle" "commitResetPartitionView")
envSetVal("layout.cle" "commitResetPartitionView" 'boolean t)
```

Related Topics

Concurrent Layout Options Form

Merging a Submitted Design Partition

List of Concurrent Layout Environment Variables

conflictMergeAction

```
layout.cle conflictMergeAction cyclic { "Skip" | "Replace" | "Rename" | "Error" }
```

Description

Specifies the action to take when conflicts are found while merging design partition views. This environment variable is used to resolve issues with objects having duplicate names.

- `Skip`
  Merges the first object and skips the next object.
- `Replace`
  The second object replaces the previous or the first object.
- `Rename`
  Renames the second object and retains both.
- `Error`
  An error is reported when duplicate entries are found.

The default is `Skip`.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Conflict Action*

Examples

```
envGetVal("layout.cle" "conflictMergeAction")
envSetVal("layout.cle" "conflictMergeAction" 'cyclic "Skip")
envSetVal("layout.cle" "conflictMergeAction" 'cyclic "Rename")
envSetVal("layout.cle" "conflictMergeAction" 'cyclic "Error")
```

Related Topics

Concurrent Layout Options Form

Merging a Submitted Design Partition

List of Concurrent Layout Environment Variables

conflictRenameNet

```
layout.cle conflictRenameNet boolean { t | nil }
```

Description

Specifies whether conflicting nets should be renamed during merge. The default is `t`, which means that conflicting nets are renamed.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Net*

Examples

```
envGetVal("layout.cle" "conflictRenameNet")
envSetVal("layout.cle" "conflictRenameNet" 'boolean t)
envSetVal("layout.cle" "conflictRenameNet" 'boolean nil)
```

Related Topics

Concurrent Layout Options Form

Merging a Submitted Design Partition

List of Concurrent Layout Environment Variables

conflictRenamePin

```
layout.cle  conflictRenamePin boolean { t | nil }
```

Description

Specifies whether conflicting pins should be renamed during merge. The default is `t`, which means that conflicting pins are renamed.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Pin*

Examples

```
envGetVal("layout.cle" "conflictRenamePin")
envSetVal("layout.cle" "conflictRenamePin" 'boolean t)
envSetVal("layout.cle" "conflictRenamePin" 'boolean nil)
```

Related Topics

Concurrent Layout Options Form

Merging a Submitted Design Partition

List of Concurrent Layout Environment Variables

conflictRenameTerm

```
layout.cle  conflictRenameTerm boolean { t | nil }
```

Description

Specifies whether conflicting terminals should be renamed during merge. The default is `t`, which means that conflicting terminals are renamed.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Term*

Examples

```
envGetVal("layout.cle" "conflictRenameTerm")
envSetVal("layout.cle" "conflictRenameTerm" 'boolean t)
envSetVal("layout.cle" "conflictRenameTerm" 'boolean nil)
```

Related Topics

Concurrent Layout Options Form

Merging a Submitted Design Partition

List of Concurrent Layout Environment Variables

consolidateAlerts

```
layout.cle consolidateAlerts boolean { t | nil }
```

Description

Consolidates alerts into one node per object. The default is `t`, which means that the alerts are consolidated.

To change the default behavior, add the following command to `.cdsinit` and restart Virtuoso.

```
envSetVal("layout.cle" "consolidateAlerts" 'boolean nil)
```

GUI Equivalent

None

Examples

```
envGetVal("layout.cle" "consolidateAlerts")
envSetVal("layout.cle" "consolidateAlerts" 'boolean nil)
```

Related Topics

Consolidated Alerts

ALERTS Section

List of Concurrent Layout Environment Variables

createPartcheckAreaOverlap

```
layout.cle createPartcheckAreaOverlap boolean { t | nil }
```

Description

Checks design partitions for area overlaps and reports them in CIW. The default is `nil`.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Net*

Examples

```
envGetVal("layout.cle" "createPartcheckAreaOverlap")
envSetVal("layout.cle" "createPartcheckAreaOverlap" 'boolean t)
envSetVal("layout.cle" "createPartcheckAreaOverlap" 'boolean nil)
```

Related Topics

Concurrent Layout Options Form

Defining an Area-Based Design Partition

List of Concurrent Layout Environment Variables

dimNotModifiedFigPreview

```
layout.cle dimNotModifiedFigPreview boolean { t | nil }
```

Description

Dims the display of the figures that have not been modified. The default is `nil`, which means unmodified figures are dimmed in the canvas.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Dim display of unmodified figures*

Examples

```
envGetVal("layout.cle" "dimNotModifiedFigPreview")
envSetVal("layout.cle" "dimNotModifiedFigPreview" 'boolean t)
envSetVal("layout.cle" "dimNotModifiedFigPreview" 'boolean nil)
```

Related Topics

Concurrent Layout Options Form

Editing in a Design Partition

List of Concurrent Layout Environment Variables

displayWarningGlyph

```
layout.cle     displayWarningGlyph boolean { t | nil }
```

Description

Shows a yellow warning glyph in the canvas whenever a change is being made outside the design partition. Clicking on the glyph will take you to the alert pane for more details. The default is `t`.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Display warning glyph*

Examples

```
envGetVal("layout.cle" "displayWarningGlyph")
envSetVal("layout.cle" "displayWarningGlyph" 'boolean t)
envSetVal("layout.cle" "displayWarningGlyph" 'boolean nil)
```

Related Topics

Concurrent Layout Options Form

Editing in a Design Partition

List of Concurrent Layout Environment Variables

enableGDM

```
layout.cle enableGDM boolean { t | nil }
```

Description

Enables GDM support in Concurrent Layout.

GUI Equivalent

None

Examples

```
envGetVal("layout.cle" "enableGDM")
envSetVal("layout.cle" "enableGDM" 'boolean t)
envSetVal("layout.cle" "enableGDM" 'boolean nil)
```

Related Topic

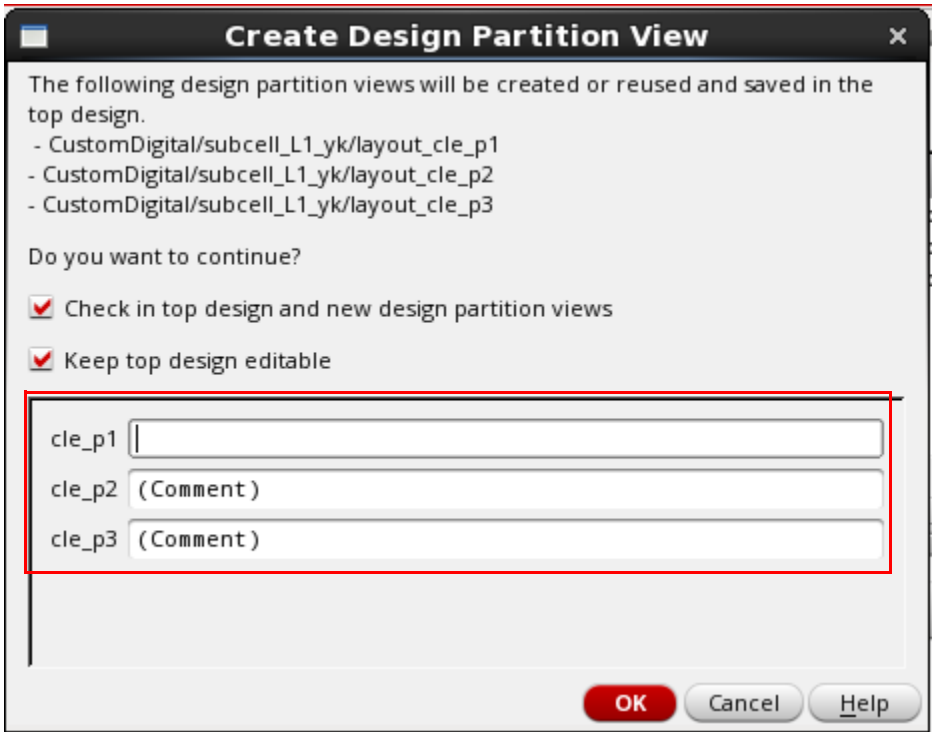
List of Concurrent Layout Environment Variables

enterKeyProtection

```
layout.cle enterKeyProtection boolean { t | nil }
```

Description

(DM Mode Only) Specifies whether pressing `Enter` implies that the *OK* button is clicked when DM comments are not specified. The default is `t`, which means if all DM comments are not specified, pressing `Enter` does not imply that *OK* is clicked. Only when all DM comments are specified, pressing `Enter` implies *OK* is clicked. If this environment variable is set to `nil`, pressing `Enter` implies *OK* is clicked even when DM comments are not specified.



The following forms support this environment variable:

- Create Design Partition View
- Hierarchical Check In
- Submit for Merge

GUI Equivalent

None

Examples

```
envGetVal("layout.cle" "enterKeyProtection")
envSetVal("layout.cle" "enterKeyProtection" 'boolean nil)
```

Related Topic

List of Concurrent Layout Environment Variables

exportFilter

```
layout.cle exportFilter boolean { t | nil }
```

Description

Specifies whether to filter changes for objects that the user does not own while saving a design partition view. The default is `nil`, which means that the changes made to the objects not owned by the user are not filtered and are saved in the design partition view.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Filter changes for objects not owned*

Examples

```
envGetVal("layout.cle" "exportFilter")
envSetVal("layout.cle" "exportFilter" 'boolean t)
envSetVal("layout.cle" "exportFilter" 'boolean nil)
```

Related Topics

Concurrent Layout Options Form

List of Concurrent Layout Environment Variables

filterMarkerOutOfArea

```
layout.cle" "filterMarkerOutOfArea" boolean { t | nil }
```

Description

Selects all out-of-area markers and the markers of incomplete nets which are either completely outside, or partially outside the current design partition but are connecting to a virtual pin or a Concurrent Layout temporary pin inside the design partition in the Annotation Browser. You can use the *Hide Checked Markers* command in the Annotation Browser to filter the selected markers. The default is `t`.

GUI Equivalent

None

Examples

```
envGetVal("layout.cle" "filterMarkerOutOfArea")
envSetVal("layout.cle" "filterMarkerOutOfArea" 'boolean t)
envSetVal("layout.cle" "filterMarkerOutOfArea" 'boolean nil)
```

Related Topic

List of Concurrent Layout Environment Variables

hideOrignalFigPreview

```
layout.cle hideOrignalFigPreview boolean { t | nil }
```

Description

Hides the figures for which changes have not been imported. The default is `t`, which means that if a shape is modified, then the original shape is removed and the modified version is displayed in the canvas. If `nil`, then only the original shapes are displayed along with the halo of the modified version.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Hide original figures of changes not imported*

Examples

```
envGetVal("layout.cle" "hideOrignalFigPreview")
envSetVal("layout.cle" "hideOrignalFigPreview" 'boolean t)
envSetVal("layout.cle" "hideOrignalFigPreview" 'boolean nil)
```

Related Topics

Concurrent Layout Options Form

Importing a Peer Partition after Concurrent Layout Editing

List of Concurrent Layout Environment Variables

highlightModifiedFigPreview

```
layout.cle" "highlightModifiedFigPreview" boolean { t | nil }
```

Description

Highlights all modified figures on the canvas. The default is `t`.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Highlight modified figures*

Examples

```
envGetVal("layout.cle" "highlightModifiedFigPreview")
envSetVal("layout.cle" "highlightModifiedFigPreview" 'boolean t)
envSetVal("layout.cle" "highlightModifiedFigPreview" 'boolean nil)
```

Related Topics

Concurrent Layout Options Form

Reviewing Updates after Concurrent Layout Editing

Checking All Edits after Concurrent Layout Editing

List of Concurrent Layout Environment Variables

importActionForError

```
layout.cle  importActionForError  cyclic  { "Continue" | "Stop" | "StopOnID" }
```

Description

Specifies the action to take when errors are found while opening a design partition view.

- `Continue`
  The design partition view continues to open even in case of error.
- `Stop`
  Stops import of design partition view in case of error.
- `StopOnID`
  Stops import of design partition view for the specified error message IDs.

The default is `Continue`.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Error Action*

Examples

```
envGetVal("layout.cle" "importActionForError")
envSetVal("layout.cle" "importActionForError" 'cyclic "Continue")
envSetVal("layout.cle" "importActionForError" 'cyclic "Stop")
envSetVal("layout.cle" "importActionForError" 'cyclic "StopOnID")
```

Related Topics

Concurrent Layout Options Form

Importing a Peer Partition after Concurrent Layout Editing

List of Concurrent Layout Environment Variables

importBlockErrorID

`layout.cle importBlockErrorID string "`*`error_Message_ID`*`"`

Description

Specifies the error message IDs for which the import of design partition view is stopped.

This option is available only when importActionForError is specified as `StopOnID`.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Message IDs*

Examples

```
envGetVal("layout.cle" "importBlockErrorID")
envSetVal("layout.cle" "importBlockErrorID" 'string "107009 107010")
```

Related Topics

Concurrent Layout Options Form

Importing a Peer Partition after Concurrent Layout Editing

List of Concurrent Layout Environment Variables

importFilter

```
layout.cle importFilter boolean { t | nil }
```

Description

Specifies whether to filter changes of objects that the user does not own while opening a design partition view. The default is `nil`, which means that the changes are imported.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Filter changes for objects not owned*

Examples

```
envGetVal("layout.cle" "importFilter")
envSetVal("layout.cle" "importFilter" 'boolean t)
envSetVal("layout.cle" "importFilter" 'boolean nil)
```

Related Topics

Concurrent Layout Options Form

Importing a Peer Partition after Concurrent Layout Editing

List of Concurrent Layout Environment Variables

importPeerAtOpen

```
layout.cle importPeerAtOpen cyclic { "Prompt" | "Always" | "Never" }
```

Description

Specifies whether updates made to the peer design partitions should be imported while opening design partition views.

- `Prompt`
  Prompts whether to import updates made to the peer design partitions.
- `Always`
  Automatically imports updates made to the peer design partitions.
- `Never`
  Ignores updates made to the peer design partitions.

The default is `Prompt`.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Import Peers*

Examples

```
envGetVal("layout.cle" "importPeerAtOpen")
envSetVal("layout.cle" "importPeerAtOpen" 'cyclic "Prompt")
envSetVal("layout.cle" "importPeerAtOpen" 'cyclic "Always")
envSetVal("layout.cle" "importPeerAtOpen" 'cyclic "Never")
```

Related Topics

Concurrent Layout Options Form

Importing a Peer Partition after Concurrent Layout Editing

List of Concurrent Layout Environment Variables

importPeerViewLog

```
layout.cle importPeerViewLog boolean { t | nil }
```

Description

Specifies whether to display the log of edit conflicts while opening design partition views. The default is `nil`, which means edit conflict log is not displayed when a design partition view opens.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*View log of edit conflicts*

Examples

```
envGetVal("layout.cle" "importPeerViewLog")
envSetVal("layout.cle" "importPeerViewLog" 'boolean t)
envSetVal("layout.cle" "importPeerViewLog" 'boolean nil)
```

Related Topics

Concurrent Layout Options Form

List of Concurrent Layout Environment Variables

importWarnAsError

```
layout.cle importWarnAsError boolean { t | nil }
```

Description

Specifies whether to convert warning messages to error messages while opening design partition views. The default is `nil`, which means that the warning messages are not converted to error messages.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Convert warning message IDs to errors*

Examples

```
envGetVal("layout.cle" "importWarnAsError")
envSetVal("layout.cle" "importWarnAsError" 'boolean t)
envSetVal("layout.cle" "importWarnAsError" 'boolean nil)
```

Related Topics

Concurrent Layout Options Form

List of Concurrent Layout Environment Variables

includeNonMaskableLayers

```
layout.cle includeNonMaskableLayers boolean { t | nil }
```

Description

Includes the non-maskable layer column on the Partition Layers form and lets you include non-maskable layers in the layer-based design partitions. The default is `nil`, which means that the non-maskable layer column are not visible in the Partition Layers form.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Include non-maskable layers*

Examples

```
envGetVal("layout.cle" "includeNonMaskableLayers")
envSetVal("layout.cle" "includeNonMaskableLayers" 'boolean t)
envSetVal("layout.cle" "includeNonMaskableLayers" 'boolean nil)
```

Related Topics

Concurrent Layout Options Form

List of Concurrent Layout Environment Variables

mergeLogFile

`layout.cle mergeLogFile string "path_for_merge_log_file"`

Description

Specifies the path for the merge log file. The default path is used if not specified.

The default path is `"cle_merge_%LIB_%CELL_%VIEW.log"`.

GUI Equivalent

None

Examples

```
envGetVal("layout.cle" "mergeLogFile")
envSetVal("layout.cle" "mergeLogFile" 'string "")
envSetVal("layout.cle" "mergeLogFile" 'string "cle_merge.log")
```

Related Topics

Merging a Submitted Design Partition

List of Concurrent Layout Environment Variables

mergePostEditCheckLimit

```
layout.cle mergePostEditCheckLimit int 0_to_any_positive_integer
```

Description

Specifies the number of objects that perform post-edit checks after a design partition view is merged. Objects exceeding this limit are skipped and a warning is displayed. Setting it `0` will disable all the post-edit checks. The default is 50000.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Trigger Post-Edit Check (Max)*

Examples

```
envGetVal("layout.cle" "mergePostEditCheckLimit")
envSetVal("layout.cle" "mergePostEditCheckLimit" 'int 10000)
```

Related Topics

Concurrent Layout Options Form

List of Concurrent Layout Environment Variables

mixedRoute

```
layout.cle mixedRoute boolean { t | nil }
```

Description

Controls whether the following commands are available in the right-click menu of the Concurrent Layout assistant:

- *Generate Temporary Blockages* (Manager mode)
- *Generate Temporary Pins* (Designer mode)
- *Select Temporary Pins* (Designer mode)

The default is `t`, which means that the commands are available.

GUI Equivalent

None

Examples

```
envGetVal("layout.cle" "mixedRoute")
envSetVal("layout.cle" "mixedRoute" 'boolean t)
envSetVal("layout.cle" "mixedRoute" 'boolean nil)
```

Related Topics

Design Partition Options in Manager Mode

Design Partition Options in Designer Mode

List of Concurrent Layout Environment Variables

mergeSizeReminder

`layout.cle mergeSizeReminder int` *`0_to_any_positive_integer`*

Description

Displays a warning to merge the design partition view when the number of objects being modified in the design partition view exceeds the specified value. You can disable this warning by setting the value to `0`.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Warn when object count exceeds*

Examples

```
envGetVal("layout.cle" "mergeSizeReminder")
envSetVal("layout.cle" "mergeSizeReminder" 'int 5000)
envSetVal("layout.cle" "mergeSizeReminder" 'int 0)
```

Related Topics

Concurrent Layout Options Form

Merging a Submitted Design Partition

List of Concurrent Layout Environment Variables

nameGenerator

```
layout.cle  nameGenerator boolean { t | nil }
```

Description

Specifies whether to add a prefix to the name of the newly created object. This helps in preventing name conflicts among design partitions. The default is `t`, which means that `cle_p`*`xx`* is added as a prefix to the names of new objects, where *`xx`* is an alphanumeric internal partition index.

GUI Equivalent

None

Examples

```
envGetVal("layout.cle" "nameGenerator")
envSetVal("layout.cle" "nameGenerator" 'boolean t)
envSetVal("layout.cle" "nameGenerator" 'boolean nil)
```

Related Topics

Editing in a Design Partition

List of Concurrent Layout Environment Variables

onlySelectOutsidePartition

```
layout.cle onlySelectOutsidePartition boolean { t | nil }
```

Description

Specifies whether edits in manager mode should be allowed only outside design partition areas. The default is `nil`, which means that users can edit the top design from inside any design partition area. When set to `t`, users cannot edit any object inside design partition area.

GUI Equivalent

None

Examples

```
envGetVal("layout.cle" "onlySelectOutsidePartition")
envSetVal("layout.cle" "onlySelectOutsidePartition" 'boolean t)
envSetVal("layout.cle" "onlySelectOutsidePartition" 'boolean nil)
```

Related Topics

Concurrent Layout Editing in Manager Mode

List of Concurrent Layout Environment Variables

promptManagerOpen

```
layout.cle promptManagerOpn boolean { t | nil }
```

Description

Displays a prompt when a cellview opens in manager mode. The default is `nil`, which means that prompt is not displayed.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Prompt when entering manager mode*

Examples

```
envGetVal("layout.cle" "promptManagerOpen")
envSetVal("layout.cle" "promptManagerOpen" 'boolean t)
```

Related Topics

Concurrent Layout Options Form

Merging a Submitted Design Partition

Concurrent Layout Editing in Manager Mode

List of Concurrent Layout Environment Variables

promptAssignCloneOwner

```
layout.cle promptAssignCloneOwner boolean { t | nil }
```

Description

Displays a message when creating design partitions to assign any unassigned clone in the top design. The default is `nil`, which means that the message is not displayed.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Prompt to assign clone owner*

Examples

```
envGetVal("layout.cle" "promptAssignCloneOwner")
envSetVal("layout.cle" "promptAssignCloneOwner" 'boolean t)
```

Related Topics

Concurrent Layout Options Form

Assign Owner to Clone Family Form

View Clone Occurrence Form

Design Partition Options in Manager Mode

Clone Source Selection and Target Search and Generation

List of Concurrent Layout Environment Variables

saveNonCommittable

```
layout.cle saveNonCommittable boolean { t | nil }
```

Description

Specifies whether non-committable design partitions can be saved during merge in specific third-party DM environments. The default is `nil`, which means that the non-committable design partitions are not allowed to be saved. A message is displayed to provide more information.

GUI Equivalent

None

Examples

```
envGetVal("layout.cle" "saveNonCommittable")
envSetVal("layout.cle" "saveNonCommittable" 'boolean t)
```

Related topics

Merging a Submitted Design Partition

Merge Form

showMarkerChanges

```
layout.cle     showMarkerChanges boolean { t | nil }
```

Description

Displays the number of markers in the *Summary* pane and the marker details in the *Details* pane of the *Concurrent Layout* assistant. The default is `nil`, which means that the markers are not displayed in the assistant.

Note: This option applies to the *OBJECTS* and *MODIFICATIONS* sections only. Markers in the *ALERTS* section are always displayed.

GUI Equivalent

Command:	*Concurrent – Options*
Field:	*Show marker changes*

Examples

```
envGetVal("layout.cle" "showMarkerChanges")
envSetVal("layout.cle" "showMarkerChanges" 'boolean t)
envSetVal("layout.cle" "showMarkerChanges" 'boolean nil)
```

Related Topics

Concurrent Layout Options Form

Summary Pane

List of Concurrent Layout Environment Variables

splitObjFilterByPalette

```
layout.cle splitObjFilterByPalette cyclic { "off" | "selectable" | "visible" }
```

Description

Filters that split objects according to their selectable and visible configurations in the palette. The default is `"off"`.

GUI Equivalent

None

Examples

```
envGetVal("layout.cle" "splitObjFilterByPalette")
envSetVal("layout.cle" "splitObjFilterByPalette" 'cyclic "off")
envSetVal("layout.cle" "splitObjFilterByPalette" 'cyclic "single")
envSetVal("layout.cle" "splitObjFilterByPalette" 'cyclic "multiple")
```

Related Topics

Split Crossing Objects Options Form

List of Concurrent Layout Environment Variables

D

DM Sanity Checker

DM Sanity Checker lets you check the compatibility of your design management (DM) system with Virtuoso Concurrent Layout.

Each DM tool has its own use model that impacts how it interacts with different Cadence tools. There are a set of Cadence Generic DM (GDM) functions that make this interaction possible. Virtuoso Concurrent Layout depends on these functions to ensure consistent user experience across the board. DM Sanity Checker lets you check whether the GDM functions are interacting as expected with the current version of the DM tool.

DM Sanity Checker guides you through a series of tests by providing instructions on what to do in each test and how to verify the result.

When running the test answer *Yes* or *No* based on your observation in each test. Your response will help in assessing whether the current version of DM can be used with Virtuoso Concurrent Layout.

Setting Up The Test

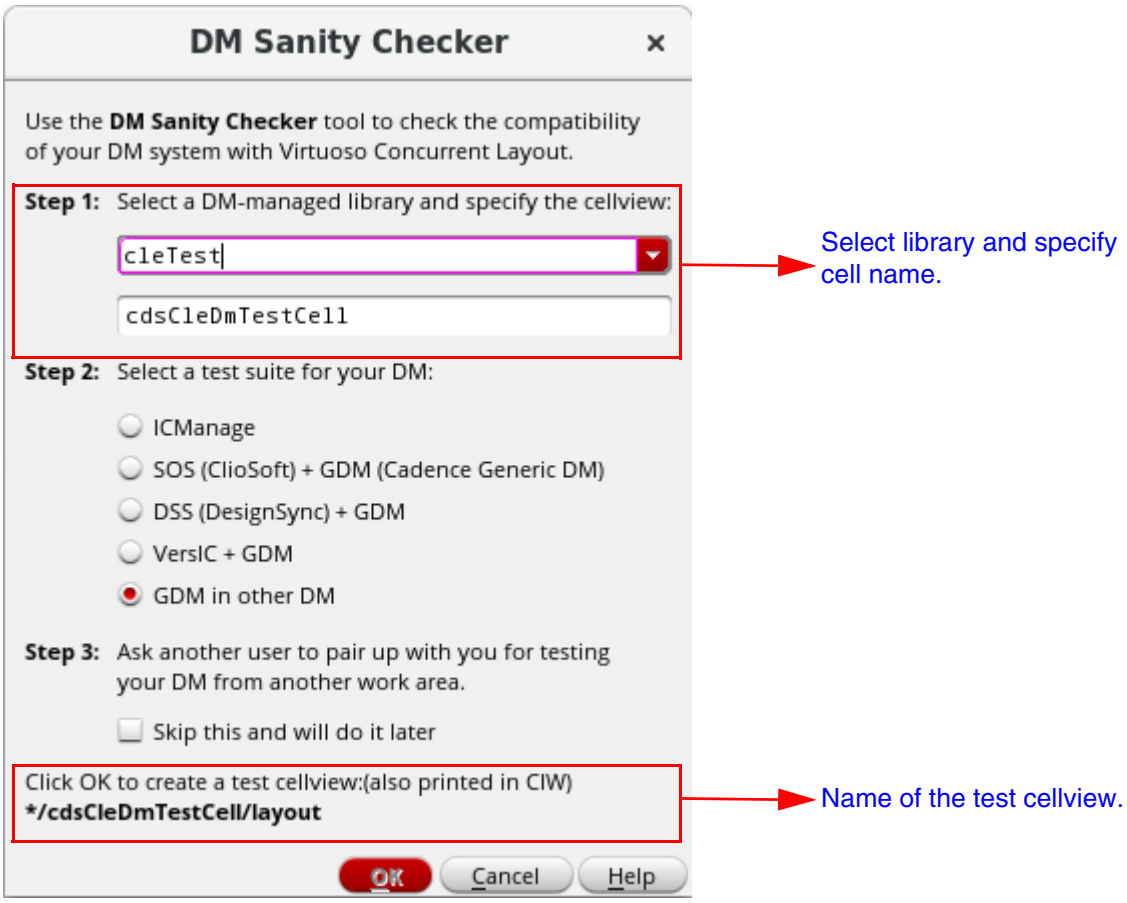
To set up the test:

1. In the Concurrent Layout Options form, click *DM Sanity Checke*r in the *Manager Only* section.

   The DM Sanity Checker form is displayed.

2. Select a library and specify a cell name for creating a test cellview in *Step 1*.

3. The test cellview being created is displayed at the bottom of the form.



4. Select a test suite for the DM tool in *Step 2*.
5. Ask another user to pair up with you to test the DM tool from another work area, or select *Skip this and will do it later* if you do not want to run the test at this time in *Step 3*.
6. Disable automatic check-in:

    a. In CIW, choose *Options – Checkin Preferences*.

    b. Select *never ask me* and *never auto checkin* for the *When auto checking in cellViews* option.
7. Open Library Manager to observe the DM state changes of the test cellview.
8. Click *OK* to create the test cellview and run the test.

Result of the test

After the tests are complete, a summary with results from all the tests is displayed. The result will indicate whether the functions of the selected test suite work well with the DM tool.

It is not required to pass all the tests. Some tests may be skipped based on your responses in the preceding steps.

At the end of the test, DM Sanity Checker will use your responses to compute how well the DM tool being tested will work with Virtuoso Concurrent Layout.

Related Topics

Concurrent Layout Options Form

Permission Required to Open a Design Partition View

commitOlderVersion

enableGDM

saveNonCommittable