

Best Practices: Working with Design Partitions

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Working with Design Partitions

Design Partitioning

Design Partitioning is a design environment promoting concurrent PCB design. The procedural steps and best practices for a successful implementation are discussed in detail.

The Allegro PCB Editor allows a team of PCB designers to work concurrently on the same design database. As designs become more complex and schedules more aggressive, various methods of facilitating the PCB design schedule are being practiced, most notably the use of clipboards. Whereas the use of advanced auto-routing techniques can sometimes neutralize the need for employing multiple team members, a team approach is often necessary but not limited in the following functional areas of PCB layout:

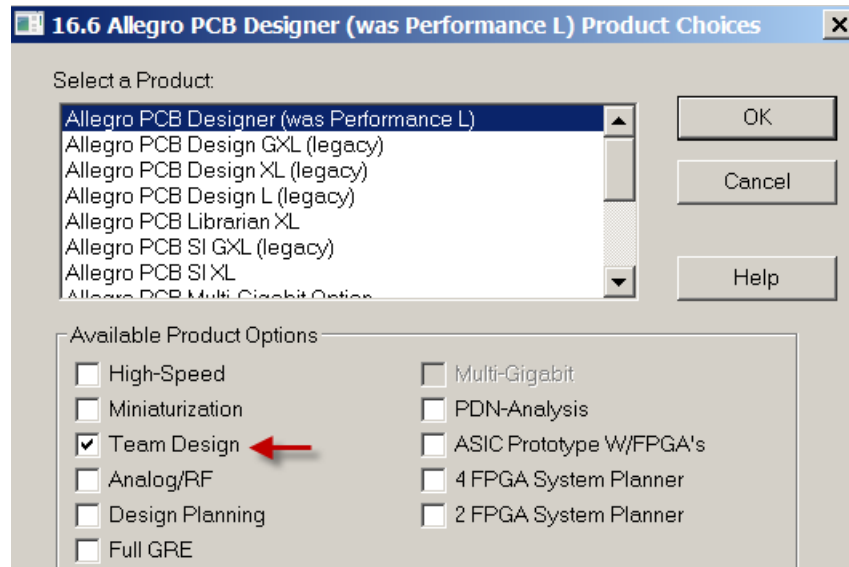
- Component Placement
- Interactive Routing
- DRC Cleanup
- Testability
- Silkscreen

Working with Design Partitions

Design Partitioning

Licensing

Design Partitioning requires the product option *Team Design* to be enabled when invoking Allegro PCB Editor.



Terminology

Master Database	The initial board database from which the partitions are created.
Master Designer	Lead designer.
Partition Database	View of master database, also referred to as a .dpf file.
Partition Area	A physical region in the master database defined in the X,Y plane and infinite in the Z axis.
Partition Designer	Team member restricted to working on a specific area of the design.
Workflow Manager	User interface controlling operations of team design flow.
Room	Named area or region on board with associated component list.
Guideport	Rat T object inserted where rat line crosses partition boundary.

Command Location

The design partition application commands are located in the Allegro PCB Editor *Place – Design Partition* menu:

- Create Partitions
- Workflow Manager
- Guideports
- Soft Net Assignment

Understanding Team-based Applications and Restrictions

This section describes uses and restrictions for Allegro PCB Editor applications and settings that pertain to design partitioning. All members, including the master designer, must understand the capabilities of the commands to which they have become accustomed when designing in single environment mode. Failure to understand these usage models may result in a loss of productivity across the team.

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Logic – Only the master designer can import logic when all the partitions are checked in or retracted. The master designer cannot import logic while partition designs are active. Partition designers cannot edit logic at any time.

Stackup – The partition designer has read access to the stackup editor, but cannot rename or re-order layers when partition files are active.

Design Parameters – The partition designer inherits unit, size, and accuracy parameters but cannot edit them.

Colors and Grid Settings – The partition designer inherits database settings but is free to customize them. Changes made by the partition designer are not imported back to the master designer.

Constraints (Electrical and Physical) – Prior to release 16.6, the master designer was responsible for entering all constraints. The Partition Designer has read access to these constraints but cannot create or override existing ones. The partition designer can override line width values during the etch edit session. There are no restrictions on setting DRC modes. New in SPB 16.6, Partition Designers can edit Electrical, Physical and Spacing constraints as well as Net Class relationships.

Constraint Manager – The partition designer has access to the Constraint Manager, including a partition view mode. This greatly reduces the number of objects in the spreadsheet.

User Preference Variables – No restrictions; users are cautioned not to set preferences that alter DRC behavior.

Areas – The partition designer is allowed to create keepout and constraint areas within the partition boundary. Net Physical or Spacing types must already exist in the assignment table if creating constraint areas.

Component Placement – The master designer is responsible for allocating components to their respective partitions. The partition designer cannot draw components from the placement buffer. Prior to release 16.6, the partition designer may temporarily place components outside the partition boundary during floor-planning. If these components remain in that location during Import, they return to the placement buffer. New in SPB 16.6 are soft boundaries. When this option is enabled, partition designers are permitted to place components in un-owned partitions.

Real Time DFA Analysis – The partition designer inherits DFA rules and has read access to the DFA spreadsheet.

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Shape Parameters – The partition designer cannot edit the Global Parameter dialog box but has control over shape instance and object level properties for shapes exclusively in a partition area.

Refreshing Symbols and Padstacks – The partition designer cannot update symbols and padstacks.

Modules – The partition designer can move modules but cannot create or refresh them.

Interactive Etch Editing – The partition editor is equipped with a full complement of etch edit applications. The partition designer can route nets that have at least one of its pins in the partition area. Other considerations for routing are:

- **Soft Nets** – Master can delegate complete net ownership to a partition designer. The designer is free to route this net into un-owned partitions.
- **Soft Boundaries** – when this option is enabled, the partition designer is free to route signals originating from their partition area into un-owned partitions.

Allegro PCB Router (Specctra)– Autorouting is permitted within a partition area. The partition boundary is represented as a wire keepin area. If guideports are placed on the boundary, a FIXED T TOLERANCE property value of zero is applied to them to prevent movement during routing.

Constraint Budgeting – There is no concept of constraint budgeting across partitions. The team is encouraged to update their databases periodically using the `refresh` command.

Guideports – The master designer is responsible for the placement and editing of guideport locations. The partition designer cannot move or delete them.

Note: Guideports are optional when routing is required to the boundary edge.

Pin Swapping – The partition designer can swap pins/functions provided they are located within the partition boundary. The team is prevented from swapping pins that straddle the boundary.

TestPrep – The partition designer has access to manual Testprep only. These functions include the manual addition, deletion, swapping and querying of testprobes. Read access to the Testprep parameter dialog box is available. The master designer is responsible for any automatic executions and re-sequencing operations. Testprobes that are assigned by the partition designer are assigned a prefix based on the partition name. Prefixes are assigned to prevent naming conflicts across the partitions.

Silkscreen – The partition designer cannot run AUTOSILK but can manually move text.

Drafting/Dimensioning – The master designer is responsible for drawing details.

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Artwork/ NC Drill – The partition designer cannot customize drills. Only the master can export artwork and NC drill files.

Import/Export Functions – The partition designer can import sub-drawings, export libraries, plot, netlist and sub-drawings. The designer cannot export artwork, ODB++, IDF, DXF, and placement files.

Reports – The partition designer has access to all reports. A new design partition report provides connection statistics for each partition.

Properties – The following properties are supported in the partition editor. However, new in SPB16.6 is the *Edit_Cns* option in the workflow manager. When enabled, the partition designer has access to a complete set of properties to edit.

- ALIGNED
- DYN_THERMAL_CON_TYPE
- CLIP_DRAW
- FIXED
- COMMENTS
- FIXED_T_TOLERANCE
- DYN_CLEARANCE_OVERSIZE
- NET_PHYSICAL_TYPE
- DYN_CLEARANCE_TYPE
- NET_SHORT
- DYN_DO_NOT_VOID
- NET_SPACING_TYPE
- DYN_FIXED_THERM_WIDTH
- NO_PIN_ESCAPE
- DYN_MAX_THERMAL_CONNS
- NO_RAT
- DYN_MIN_THERMAL_CONNS
- NO_ROUTE
- DYN_OVERSIZE_THERM_WIDTH

- NO_SHAPE_CONNECT
- DYN_THERMAL_BEST_FIT

Getting Started: Generating Partition Areas

The master designer begins by determining the number of partition areas to allocate across the team. Partitions are defined on the x,y plane and are infinite in the vertical direction. There are three methods to consider when creating partition areas:

- Shape-based boundaries (rectangle or polygon)
- Construction lines (slicing)
- Copy existing boundaries (room, board outline, constraint area)

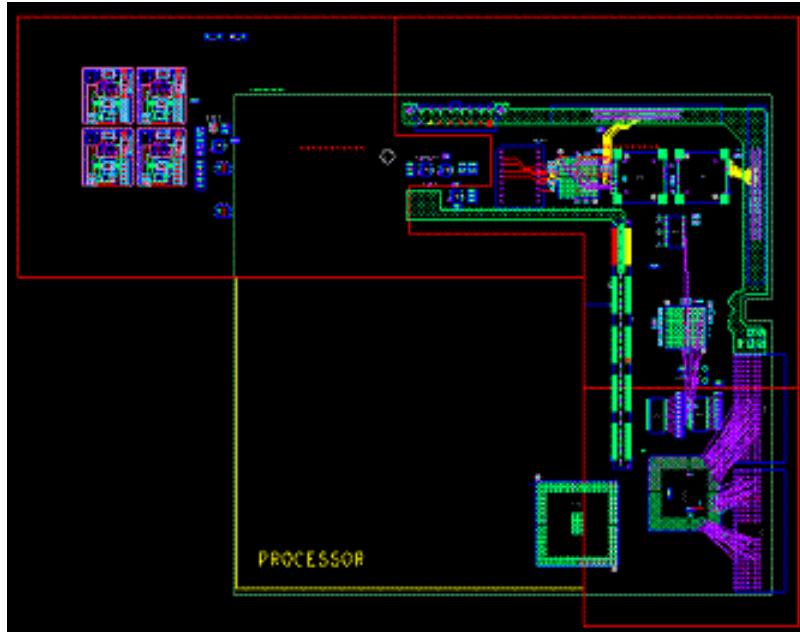
Shape-based rectangles or polygons are used to create custom areas, whereas construction lines are used to promote a quick slice approach.

Once exported, neither the master nor partition designer can edit partition boundaries. If the physical characteristics of a partition need to be altered after export, the master can either import or retract all exported .dpf files. This action allows the master designer to regain ownership of the design database.

Shape-Based Areas – Choose *Place – Design Partitions – Create Partitions*. In Allegro PCB Editor, click the right mouse button to add either a rectangle or polygon shape. The line lock is limited to *Line* only; arcs are not permitted on the partition boundaries. Angle choices include *90*, *45*, or *Off*. Partition boundaries cannot overlap each other; however, they can coincide. Because shape boundaries do not snap, a course grid setting is advised during the creation and editing process to prevent small gaps between partition areas. Boundary edges can be modified by using the commands associated with the dynamic shape application.

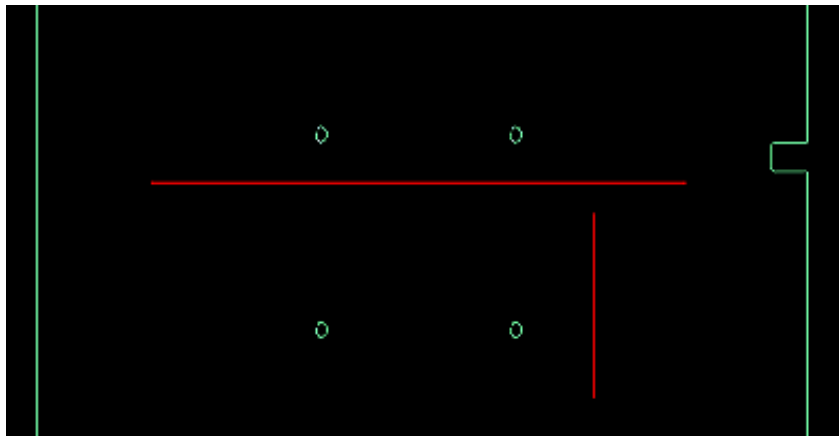
Figure 1-1 on page 12 shows an example of three partition areas. The area in yellow is a room which the master can convert to a partition area. Partition areas are stored as boundary objects in the database.

Figure 1-1 Shape-based Partitions



Construction Slice Lines – From the *Create Partitions* command, draw a line in the horizontal or vertical direction. The command window prompts you to add partition cut lines and apply when complete. Although these lines extend to the drawing extents, it is not necessary to physically draw them in that manner. Once your lines are in place, click the *Apply* button located in the Options tab to generate the partition areas. At this point, the master cannot create subsequent partition areas. [Figure 1-2](#) on page 12 shows the cut lines as they appeared prior to the apply step.

Figure 1-2 Cut Lines Prior to Apply

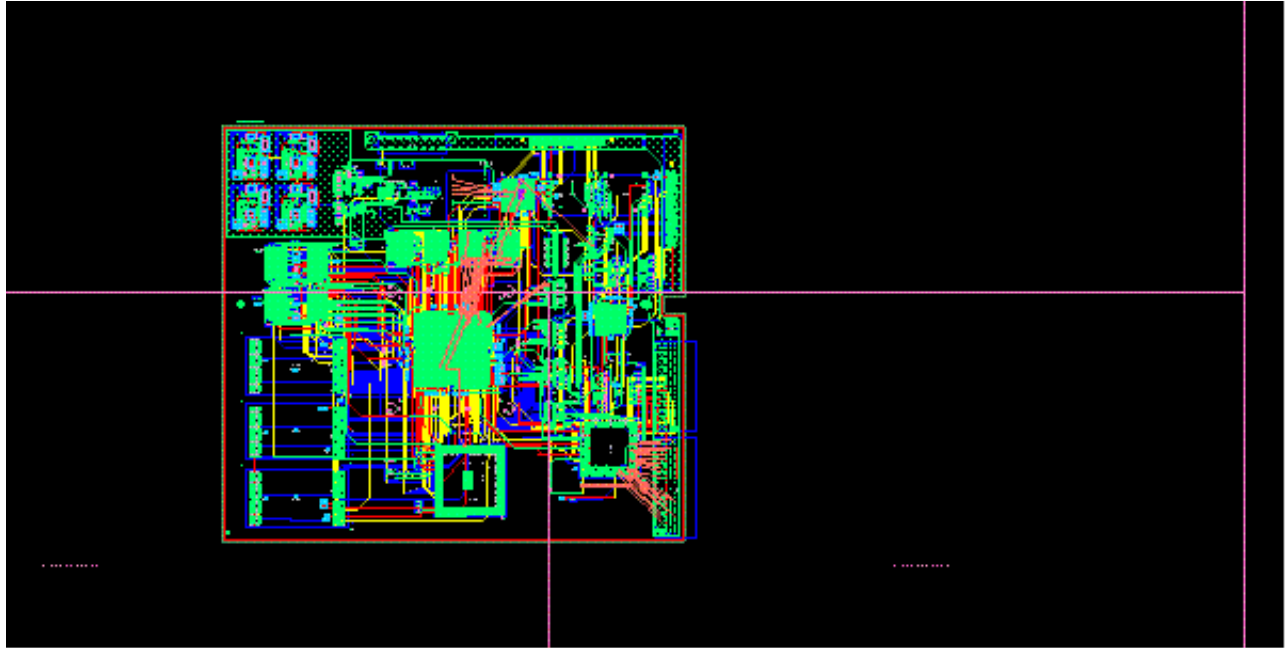


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Figure 1-3 on page 13 shows the completed areas that extend to the drawing extents.

Figure 1-3 Construction Line Based Partitions



Copy from Existing Rooms – If rooms exist on the design, the *Create Partition* command, when applied directly to the room boundary, generates a partition area identical to the room geometry and also assumes the name of the room.

Editing and Deleting Partition Areas

Modify partition boundaries using the shape editing suite of commands. Partition areas cannot overlap or nest within other areas. Use of a coarse grid—25 or 50 mills—is recommended to help snap boundaries to adjacent ones. Try to prevent gaps between partitions. This causes excessive guideport displacement and unworkable zones.

The master designer must use the Workflow Manager to delete partitions. Enable the partitions to be deleted, then click the *Delete* button. Attempting to delete a partition from the generic `delete` command produces a command window message:

Cannot edit Shape, Not on a Net, Boundary/All. It has the FIXED property.

Partition Area Naming Convention

Partition names default to PARTITION_2, PARTITION_3, and so on. The master designer is considered PARTITION_1 and can change the name of these partitions to reflect the functional circuit or even the team member's name. This is done in the Workflow Manager or in the Options window tab when in the *Create Partitions* command. The partition names appear within the boundary and can be moved to a more suitable position.

Renaming from the Options Tab – From within the *Create Partitions* command, click the Options tab, then click the *View Next* button to navigate to the partition that you want to rename. In the *Name* field, enter the new partition name, then click *Apply* to accept the change. Note the name MASTER is hard-coded and cannot be changed.

Renaming from the Workflow Manager – Access the Workflow Manager from the Options tab or from *Place – Design Partition – Workflow Manager*. The name of the partition appears in the *Name* column. Enter the new name, then click the *Apply* button to accept.

Moving the Partition Name Text – The partition name can be moved by using the `move` command with Text selected in the *Find Filter* tab.

Text Display Color – The partition text is associated with the boundary area. The color can be changed in the Color dialog box, Stackup – Boundary Through All. The text size control is located in the Design Parameter Editor.

Note: The use of the `edit text` command does not register new partition group names in the database.

Partition Strategy for Component Placement

If a team approach is being considered for component placement, the master designer is responsible for allocating components to their respective partitions. This work is done prior to the export of design partition files (`.dpf`). The partition designer cannot access unplaced components stored in the master database nor ones not assigned to his or her partition area.

Floor-Planning with Quickplace – The Quickplace utility, enhanced in Release 15.5 with a *Place by Partition* option, can accelerate the placement of unplaced components into their respective partition areas. The new position option works with all available filters. If using the Allegro Design Entry HDL front-end, previously known as Concept HDL, *Place by schematic page number* may be the most efficient filter for master designer to consider. Quickplace is not available to the partition designer.

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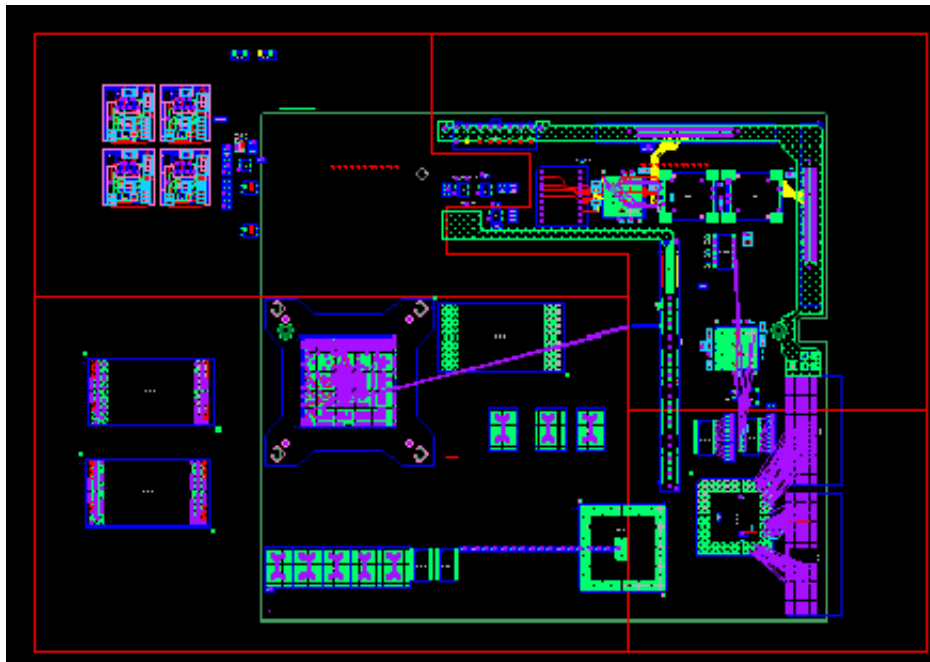
Design Partitioning

Interactive Placement – The placement user interface is equipped with filtering options similar to the ones available in Quickplace. The master designer can manually place components by schematic page, part number, or wild-carding. When filtering is enabled, the placement list (which can consist of thousands of entries) becomes more manageable by displaying just the list of filtered components. The partition designer has access to the placement user interface by choosing *Place – Manual* and *Show Command* from the right mouse button menu. Only components deleted by the partition designer are displayed.

Planning Partition Areas – Although the partition designer has the ability to temporarily place components outside his partition, Cadence suggests the master designer extend the partition areas (see [Figure 1-4](#) on page 15) well outside the board outline. This not only gives the partition designer extra space to floor-plan, but also, these components remain in their current location during the import process. Components placed outside the partition area or ones that get deleted are reset to the placement buffer upon import. They will, however, retain a relationship to the partition. If a partition is re-exported, they remain with that partition if they were not placed elsewhere by the master.

Components straddling partition boundaries are tagged as *un-owned* and cannot be moved by either the master or partition designer after export. After Quickplace or manual placement, ensure all components that may have to be repositioned are within the confines of the partition areas.

Figure 1-4 Extending the Partition Areas



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Component Report – A list of partition based components can be generated using the *Preview* option in the Options tab when you run the *Create Partitions* command. The last column in the report provides information on whether the component is shared by more than one partition. Neither the master nor the partition designer can move shared components.

Special Instructions – Each partition has an associated notes attachment. The master designer can append a note to the partition to communicate additional project requirements to the partition designer. The master designer optionally can append the same note to multiple partitions. The notes attachment can only append, therefore retaining all history.

Placing to DFA driven rules – The partition designer can place components to DFA rules, provided the master has loaded the DFA spreadsheet. This spreadsheet is available to the partition designer in a read only view. DFA rules are not available when components are placed adjacent to components in other partitions. The master designer needs to check for violations along the boundaries.



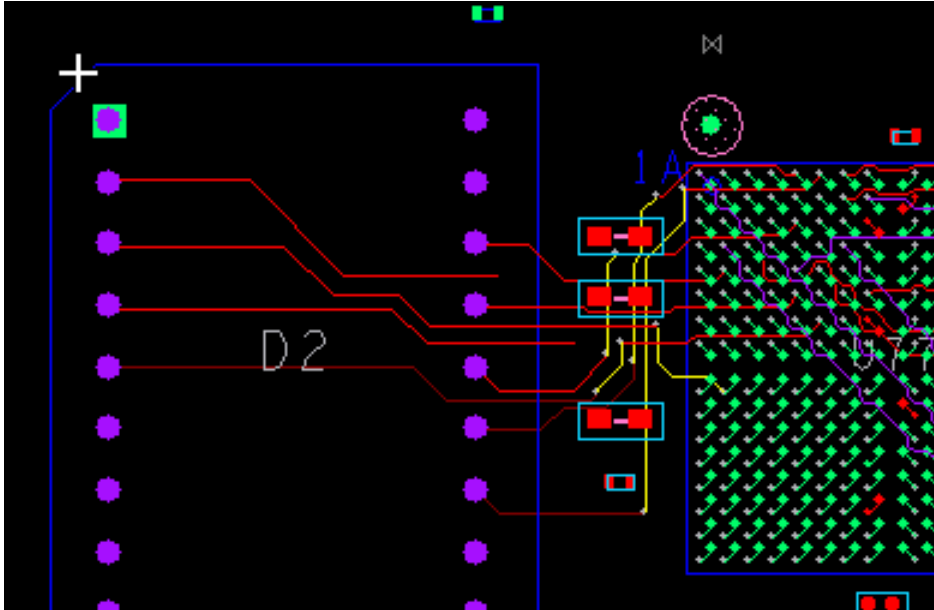
Tip



Consider using the Place Manual icon  for manual placement as DFA feedback is not available using the generic `move` command. Another benefit of using the new Place Manual icon is access to the `mirror` command from the right mouse button.

Fixed Objects – Objects that are fixed by the master designer and exported are not owned by the partition designer. For example, if master fixes a cline, it appears as a dimmed object in the partition editor.

Figure 1-5 Fixed Clines

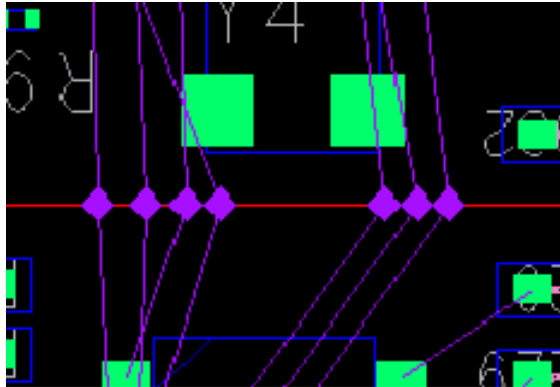


Partition Strategy for Routing

The partition designer has access to the full set of interactive and automatic routing commands. Routing must be done within the boundary configuration unless the *Edit Cns* option is enabled. The master designer, when creating or editing partition areas, should take into account the number of crossings at the boundaries. Ideally, this number should be as low as possible to ensure efficiency across the team. Connections crossing the partition boundaries can be managed by guideports, a Rat T-like object used to facilitate routing. Only the master designer can place or edit the location of guideports. Partition designers can terminate routing at the boundary edge if the guideport location is not suitable for the final routing path.

Guideport User Interface – The guideport user interface displays a suggested number and a count of the total number of guideports. Pressing the *Create* button generates the remaining guideports. If the *Replace All* button is unchecked (the default), then any existing guideports will not be affected. Once guideports are created, the master can move, delete, or spread the guideports based on the current action. Each action supports single selection or group (window) selection of one or more guideports. There is a restriction that all guideports in a group selection must be located on the same partition boundary segment. If a selected guideport is part of a diff pair, then the associated diff pair mate guideport is added to the selection, provided that the *Auto-Select Diff Pair Mate* option is enabled.

Figure 1-6 Guideports



Guideports snap to the partition boundary when you move or spread them. These actions also consider the current settings of the spacing criteria options. The master designer can specify the spacing criteria to be the *Default Grid*, the *Minimum Line-to-Line Spacing by Net*, or a user-defined value. The master designer can also choose to ignore all spacing rules. When a two or more guideports are in the selection set, the geometric midpoint of the selection extents is used as the anchor and the seed point for implementing the selected spacing requirement. Working outward in both directions from this anchor point, the algorithm adjusts the locations of the guideports according to the spacing criteria until each is satisfied, or the end of the partition boundary segment is reached.



Tip

When creating boundaries or adding guideports, set the grid to a multiple of the routing grid.

Interfacing at the Boundaries – The process of routing connections to the boundaries requires some discipline and communication across the team. There may be times when two designers attempt to route signals to a shared boundary only to find out they are on separate layers. The layer set functionality can help minimize the chance of layer misalignment.

A layer set can be made up of 1 to $\langle n \rangle$ layers and can be applied to nets, differential pairs or buses. While this solution sounds simple if the set consists of just one routing layer, when working with a set composed of two layers, the designers would have to agree on what layers are used for directional routing. For example, if routing in the y direction, use layer 4; if routing in the x direction, use layer 3. If the set consists of more than two layers, or if more than one set is assigned to the net objects, periodic design refreshing becomes necessary. Refreshing is discussed in the [The Team Design Process](#) on page 21.

Physical/Spacing Rules – The partition designer inherits rules that drive both physical and spacing attributes but is prevented from making changes to constraint sets unless the

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Edit_Cns option is enabled. The changing of cline width is permitted when using *Route – Add Connect* or *Edit – Change* commands.

Electrical Rules – The partition designer inherits but cannot change electrical rules in the partition database unless the *Edit_Cns* option is enabled. Length/time budgeting is not controlled, so it could be possible for a designer to consume the entire constraint within a single partition. Cadence recommends frequent refreshing of partition databases to ensure the latest data is captured.

Auto Routing – The Allegro PCB Router, previously known as SPECCTRA, can be used within a partition area. The partition boundary is seen as a wire keepin area by the router. Auto-routing to the boundary requires guideports be in place. Guideports have the FIXED TOLERANCE property set to 0 to prevent them from moving. The *Route – Fanout by Pick*, *Route – Nets by Pick*, and *Route – Elongation By Pick* commands in the Allegro PCB Editor Route menu are available to the partition designer.



Caution

Routing electrically constrained signals to the boundary may consume the entire constraint budget. Best practices for auto routing success recommends routing the entire board as a whole, not in sections.

Partition Strategy for Testability

The master designer is responsible for setting up parameters and executing Testprep in automatic mode. Enhancements made to Testprep in previous releases can help reduce the number of incremental passes when in automatic mode and produce higher-quality, lower-cost fixtures. The partition designer can only use manual processes for adding testprobes. To prevent conflicts, a testprobe added in a partition area is prefixed with the partition name: *partition_1_TP1*, for example.

Before exporting the design, the master designer should consider setting the following parameters, properties, and DRC settings to maximum the team's efficiency.

Parameters

- Via replacement mappings
- SMT Pad assignment
- Layer and test methodology
- Probe types, spacing, and figures

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- Min probe size

Properties

- TESTPOINT_QUANTITY on nets requiring more than one probe
- NO_TEST on nets not requiring test coverage
- TESTPOINT_ALLOW_UNDER on symbols where it is legal to place probes

DRC

- Testpoint pad to component
- Testpoint location to component

Identifying Untested Nets in a Partition – From *Testprep – Manual*, use the *Add (Scan and Highlight)* option to navigate the list of untested nets in a partition. A list of all untested nets are reported in the Testprep report. The *Add (Scan and Highlight)* option does not scan nets that have the NO_TEST property assigned to them.

Read Access to Testprep Parameter dialog box – From the *Testprep – Manual* command, click *Parameters* in the Options tab.

Potential Team Issues

- Over Population: During the course of team design, designers may over populate testpoints on nets that traverse different partitions. Use of periodic refreshes in conjunction with running the Testprep report to detect quantities greater than one is recommended.
- Moving Testprobes: If you use the Probe Type attribute in Release 15.5, be aware that probe types do not update dynamically when moved to a new location. It is the responsibility of the master designer to run the resequence program after import.

Final Steps

The master designer should run the resequencer not only to update probe types but also to rename probes as a result of prefix-based names assigned when added in a partition. Probe density can be checked by running the density checker with parameters for unit area. Checking density as a function of the symbol instance is another option. Finally, the Testprep

report should be reviewed for coverage and optimization. Often, there is opportunity to improve probe type allocation by increasing the center-to-center spacing.

The Team Design Process

The Workflow Manager user interface provides a view of all partition parameters and the interface to the set of workflow commands. Each team member has access to the Workflow Manager, but only the master designer has the ability to import, export, and retract partitions. The master design should consider the use of the following SPB 16.6 options before export. These options are designed to reduce the number of interrupts in the team design flow.

Flexible Boundaries

Designed to reduce the number of iterations between the master and partition designers, it is now possible for partition designers to move components or route signals outside their respective boundaries. The master designer controls whether boundaries are flexible by the enabling a new Workflow Manager option called *Soft Boundary*. This behavior is an all or none situation for the team. Partition designers do not have the ability to control this behavior.

Prior to 16.6, components could always be moved outside the boundary of a partition to allow the designer more space to work in the partition, but when the partition was exported back to the master designer, components outside the boundary were ignored. When soft boundaries are enabled those components moved outside will now be saved during the export.

Constraint Editing

Partition designers are now permitted to edit Physical, Spacing and Electrical Constraints. The master designer controls whether constraint editing privileges are granted to the team by enabling a new Workflow Manager option called *Edit_cns*. Similar to the flexible boundary enhancement, this behavior is an all or none situation. Partition designers do not have the ability to control read/write behavior of constraint entry.

Exporting Partitions

When exporting, partition databases (*.dpf*) are written to directories below the master design directory. The partition databases end in the extension *.dpf* with a root name of the actual partition name. The status cells adjacent to the respective exported partitions indicate an exported state (see [Figure 1-7](#) on page 22). The master cannot edit the path of the export directory. The master designer is prompted to save his or her file to ensure synchronization throughout the process. At the time of export, an email is sent to each team member whose

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address appears adjacent to their respective partition. The content of the email message provides information on the path and name of the partition file, master board file, and host machine. An example of this message is as follows:

Exporting partitions:

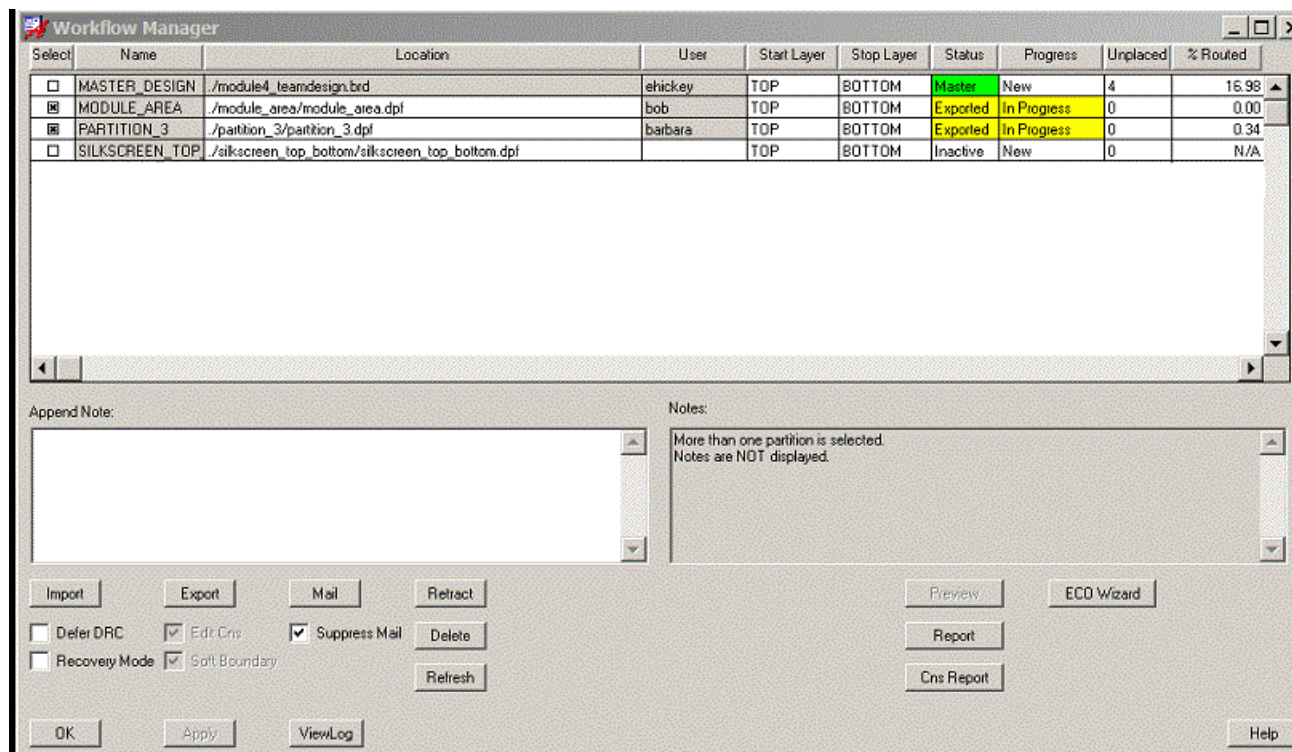
partition: MODULE_AREA filename: ../module_area/module_area.dpf user:
john_smith

Master Design: D:/work/cadence/boards/place.brd

Master Design is located on PC-SMITHJ

The master designer has the option to disable this feature by enabling the *Suppress Mail* option in the Workflow Manager.

Figure 1-7 Exported Status



File Management Considerations

Once exported, the team can move partition files to other locations and even rename them. Locations can be on or off the network. When off the network, refresh capability is disabled, along with any messaging that may come from the master. Cadence recommends all files to be resident on the network, preferably stored on a central server, to ensure accessibility.

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During the course of the design process, it is common to save the database. Different names may be used to reflect the stage of the design; `after_place`, `after_route` for example. Frequent name changing results in consequences as each team member must update the Workflow Manager and browse to the updated file. Cadence recommends using the same database name throughout the process for efficient file management. This ensures each team member has access to the latest file, assuming periodic saves, and minimizes interruptions during the flow.



Tip

Consider using the Allegro `write` command to save a copy of the database while keeping the current file active.

The Allegro Partition Editor

The Partition Editor is a version of the Allegro PCB Editor that works only with partition files. Although functionally identical to the PCB Editor, the Partition Editor has its own set of commands and menus.

When the export process creates a partition file, it is an exact copy of the master design. It has all the same logical and physical data as the master design as well as the parameters of all the other partitions present at the time of export. However, all the database elements not owned by the partition have been marked read-only. Because of this, when the partition file is opened, only the objects owned by the partition display at full intensity; the remaining objects are dimmed. The partition boundary is also displayed at full intensity. This gives the partition designer a visual cue as to the working area and the objects that must be placed and routed.

The partition designer cannot add elements outside the partition boundary and perform global database actions that would conflict with the master design. These actions include refreshing padstacks and symbols, importing data, and editing the stackup. In some cases, the entire command is not present in the Partition Editor; in other cases, the command user interface has been modified to behave in a read-only manner.

Refreshing Partitions

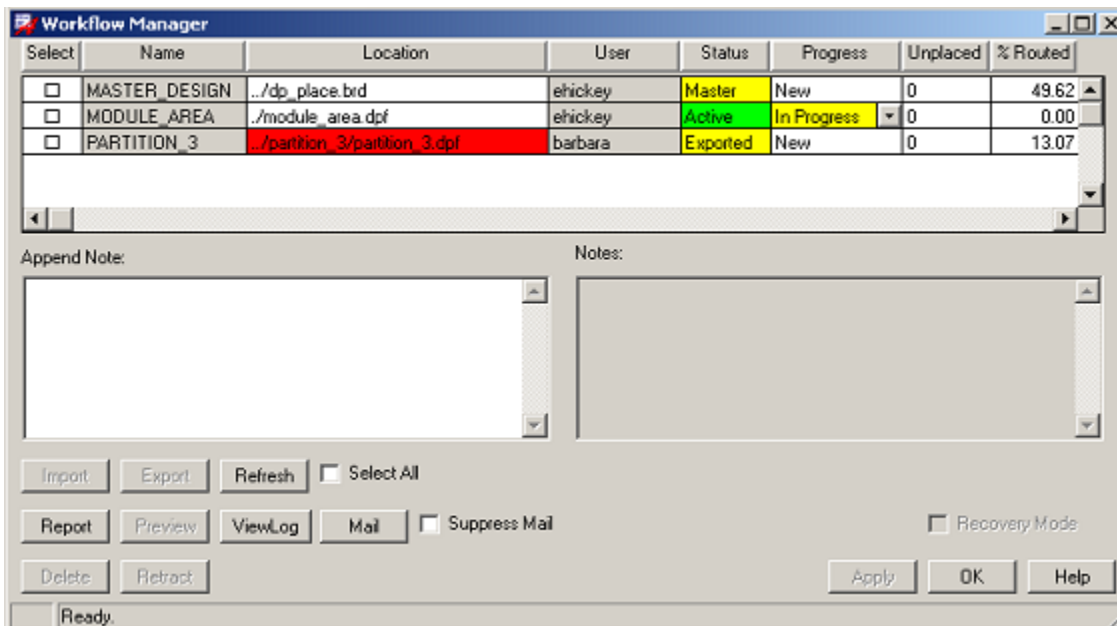
Updating partitions is done using *Refresh* from the Workflow Manager. When opening the Workflow Manager, ensure the path and filename are correct. If the background of the location cell is red, the path to the partition file is invalid (see [Figure 1-8](#) on page 24). Use the *Refresh* button for one or more partitions simultaneously. There are no restrictions on the number of times a partition can be refreshed. When applied, it reads the files listed in the location cells in their last saved state. Team members should agree on a schedule that saves

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the partition files on a regular interval; otherwise, the latest data may not be captured. Team members should communicate with each other when it is necessary to share a changed name or changed location of a `.dpf` file and other critical team design data that is not automatically emailed. The manual mail command is accessible from the *Mail* button on the Workflow Manager or the Allegro command `mail`.

Figure 1-8 Invalid Path



Progress State

The Workflow Manager attempts to retrieve data on each partition each time it is opened. This includes the designer's name, note attachments, and the progress state. There are three states the partition designer can select: *New*, *In Progress*, or *Complete*. The system automatically seeds the state *New* for new partitions created by the master and *In Progress* for the status of an exported partition opened by the partition designer as shown in [Figure 1-9](#) on page 25.

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Figure 1-9 Progress State

The screenshot shows the 'Workflow Manager' application window. It contains a table with the following data:

Select	Name	Location	User	Status	Progress	Unplaced	% Routed
<input type="checkbox"/>	MASTER_DESIGN	.../dp_placetest.brd	ehickey	Master	New	0	49.54
<input type="checkbox"/>	MODULE_AREA	D:/work/marketing/Training/15_5/mod	BLM	Inactive	New	0	N/A
<input type="checkbox"/>	PARTITION_3	./partition_3.dpf	ehickey	Active	New	0	13.07

Below the table, there is a dropdown menu for the 'Progress' column, showing options: 'New', 'In Progress', and 'Complete'. The 'In Progress' option is currently selected.

Below the table, there are two text areas labeled 'Append Note:' and 'Notes:'. At the bottom, there are several buttons: 'Import', 'Export', 'Refresh', 'Select All', 'Report', 'Preview', 'ViewLog', 'Mail', 'Suppress Mail', 'Delete', 'Retract', 'Apply', 'OK', and 'Help'.

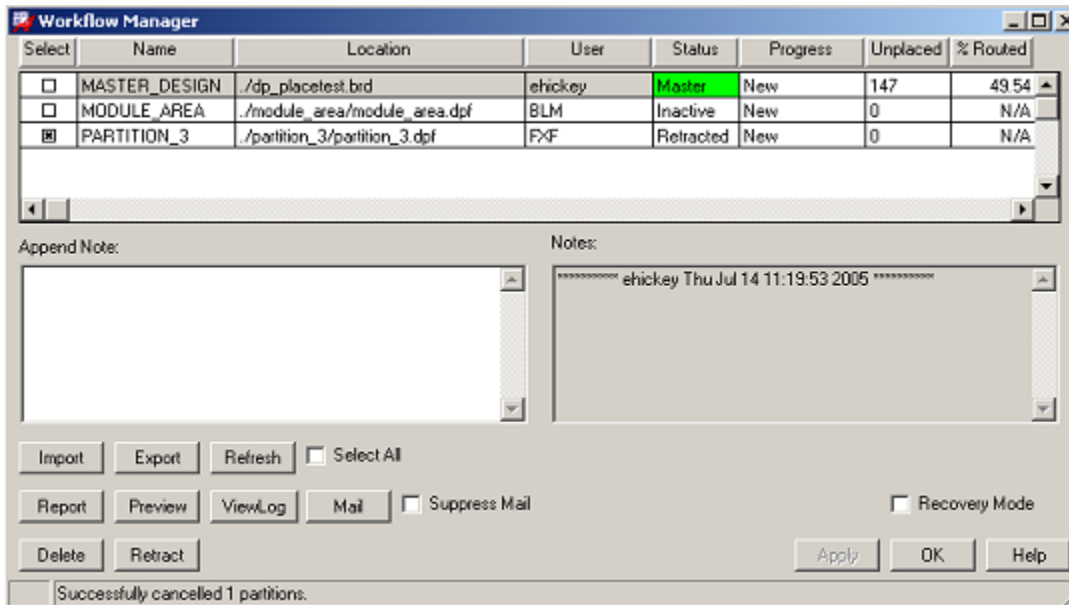
Retracting Partitions

The master designer can void or recall exported partitions with the *Retract* button. This action essentially cancels partitions that were retracted. Partition designers are notified through the email system and should not continue work on the database. Why would one retract? One example might be after exporting, a large ECO is submitted where the master designer wishes to cease work and regroup.

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Figure 1-10 Partition_3 Status: Retracted



Example: How to Recover an Obsolete Partition

During the course of team design, a partition file becomes obsolete as a result of an import by master designer. What if the partition designer continues to work on the file, unaware that he should wait for a new exported copy from master? Can he salvage his work? The recovery mode option located in the bottom right corner of the user interface allows an obsolete partition file to be imported into the master database. The steps for this operation appear in the Workflow Manager in the Recovery Instructions section and are outlined in [Figure 1-11](#) on page 27.

1. The partition to be recovered must have a status of *Exported*.
2. If it does not, export it first.

Important

Rename or move the file to be recovered to prevent it from being overwritten by the export process.

3. Select the partition to recover. Update the path to the .dpf file, if necessary. The location display should be red because the file is obsolete.
4. Press *Import*. Success or failure is reported on the status bar.

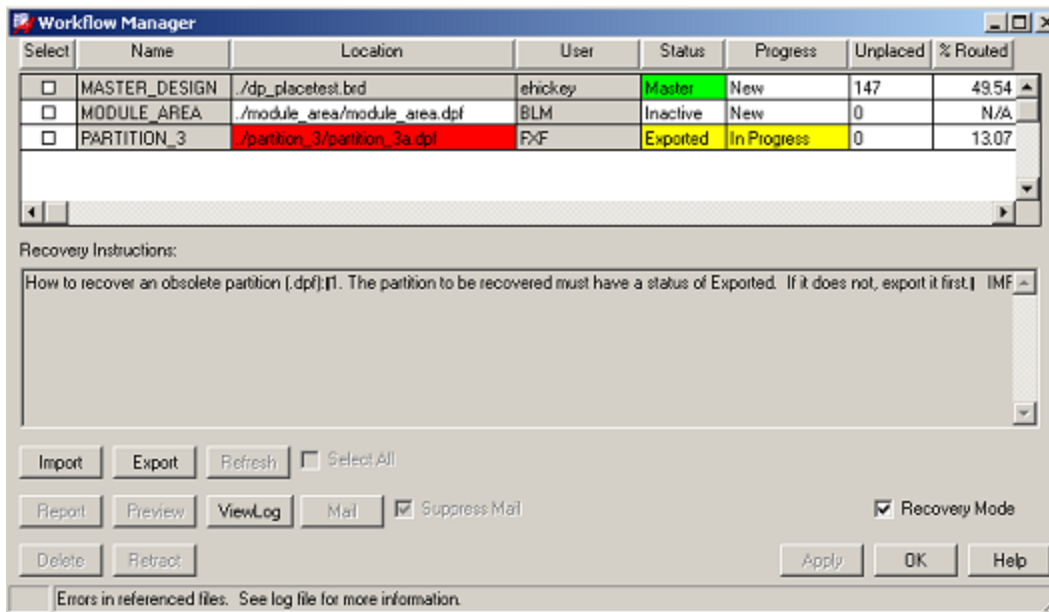
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Note: During recovery, no pin/gate swaps nor schedule updates are imported. If component assignments fail, then the symbol becomes unplaced.

5. If the recovery is successful, save the drawing.
6. If not, import the file that was exported in Step 1, or quit the drawing to return the drawing to the previous state.

Figure 1-11 Recovery Mode: Location Cell Must Be In Red



Frequently Asked Questions

Q: Can partition designers work in sections other than their own partition?

A: Yes, provided the *Soft_Boundary* option is enabled. Otherwise Partition designers are limited to working within their partition boundary.

Q: Can partition designers work within the same partition but on different layers?

A: Yes, this requires the Workflow Manager to be setup for horizontal partitions.

Q: When using the partition editor, can I place components outside my partition?

A: Yes, provided the *Soft_Boundary* option is enabled by the master designer.

Q: Why are there two models for creating partition areas?

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A: Cut lines should be used to quickly slice the design whereas shapes should be used when complex outlines are required.

Q: Can partitions be created from copying rooms?

A: Yes; and also from the board outline and constraint areas.

Q: It is difficult to align partition boundaries to prevent a gap in between. What is the recommended use model when adding or editing a boundary?

A: Use of a coarse grid when adding or editing is recommended.

Q: Can a partition share a component?

A: Yes. However, that component is tagged with an *unowned* status, meaning it cannot be moved once the design files are exported.

Q: Can partition designer place components from the placement buffer?

A: No. The master designer is responsible for allocating components prior to export. The use of Quickplace can expedite this process.

Q: Can the master designer rename partition areas that default to partition_N?

A: Yes.

Q: Can the partition designer rename his partition area?

A: No.

Q: Can the master designer redirect .dpf file locations during export?

A: No. By default the .dpfs are written to directories under the master designer's working directory. The directory name is the same as the partition name.

Q: Can each partition designer rename their .dpf files? Perhaps as a result of a save as operation?

A: Yes, but each team member must update the revised name in the workflow manager. It is best to keep the same design name throughout the team design process. The `write` command can be used to save the database to different names but keep the current version active.

Q: Can another partition designer work on a .dpf assigned to a different user, without retracting or re-exporting the partition?

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A: Yes. Anyone can open the `.dpf` file. The user field is automatically updated with the id of the person that opened the file. With this functionality, the master designer can optionally export a partition without assigning a user at all.

Q: Why is the cell of a partition location red?

A: The partition file either doesn't exist at that location, or the file that exists is obsolete (has already been imported), or the file that exists doesn't belong to this design. Use the *Viewlog* button to see more information.

Q: What is the purpose of a guideport?

A: Guideports are used to facilitate routing across partitions. The guideport command reports the number of crossings and can be used to improve partition strategy.

Q: Is the master designer required to place guideports?

A: No. Guideports are optional.

Q: Can I route to the partition boundary if guideports are not used?

A: Yes.

Q: When I refresh another partition area into my database, will that information be imported into the master database from my database?

A: No, that data is in a read state.

Q: Does each team member require a specific license for team design?

A: Yes, each member will require a Design Partition license.

Q: Is there an additional cost for the product?

A: Yes.

Q: As a partition designer, do I have access to the Constraint Manager?

A: Yes, (for edit capability, this requires master to enable the *Edit_Cns* option).

Q: As a partition designer, can I change my color settings?

A: Yes. These settings are local and will not import back to master database.

Q: Is there a limit on the number of refreshes that can be performed?

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A: No.

Q: Is the refresh automatic?

A: No. Each team member must save their design in order for a refresh to be current.

Q: Can I use the interactive Allegro PCB Router, formerly known as SPECCTRA?

A: No, you can only use the auto router that is available to the partition designer