Physical Synthesis

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1 Introduction

After the logical synthesis, we will continue to the physical synthesis which involves placement and routing.

1.1 Prerequisites

- `top_level.vst` structural file generated by `genlib`.

2 Placement

We will use `ocp` Alliance tool which is an automatic tool for standard cell placement.

```
ocp -c top_level top_level
```

The output is a `top_level.ap` placement file.

2.1 Graal

`graal` is used to view the `top_level.ap` (placement). Since the direct terminal command is not available, we will just open the file from within `graal`.
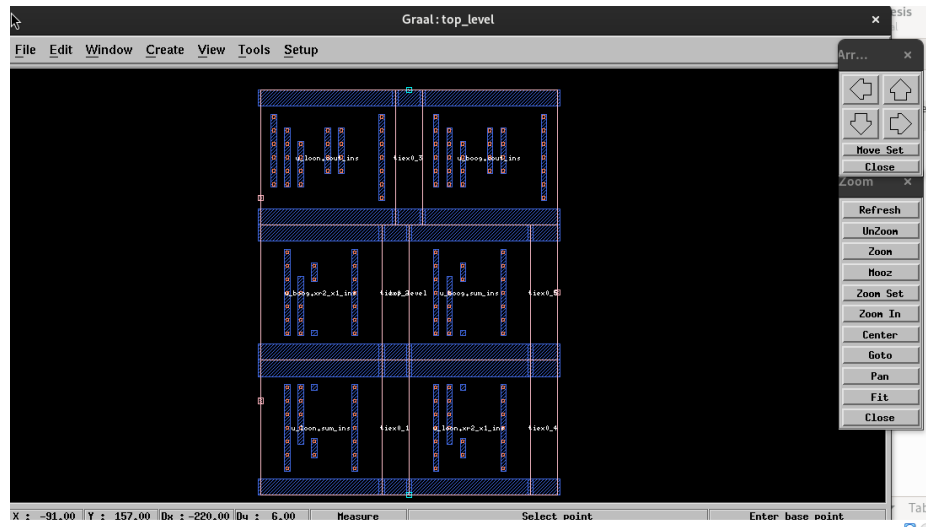
Figure 1: Viewing the placement with Graal

3 Routing

Routing is done using:

```
nero -v -p top_level top_level top_level_nero
```

The output is a `top_level_nero.ap` routing file. `graal` will be used to view the output file.
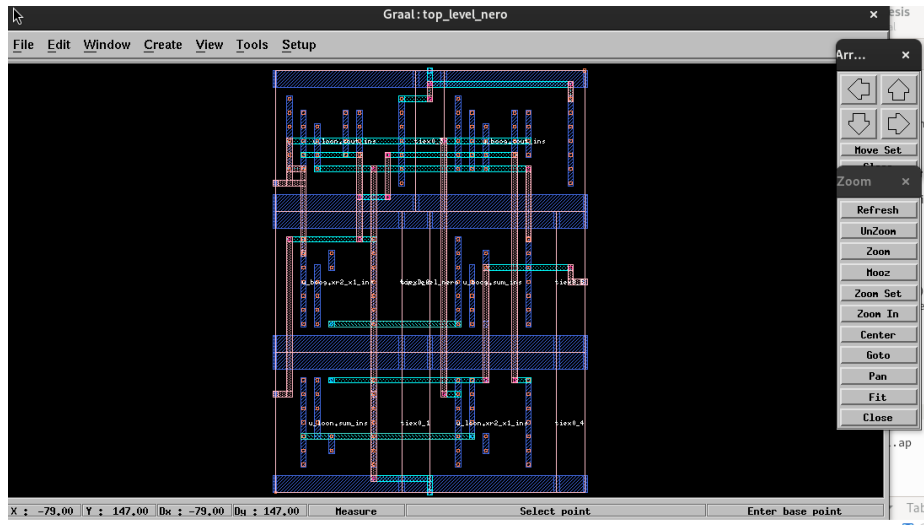
Figure 2: Viewing the routing with Graal

4   Obtaining a Real Unit Layout (.CIF)

S2r is an Alliance tool that converts units in symbolic layout to a layout in real units.

```
s2r -v top_level_nero top_level_s2r
```

The output is a top_level_s2r.cif layout file.

4.1   Dreal

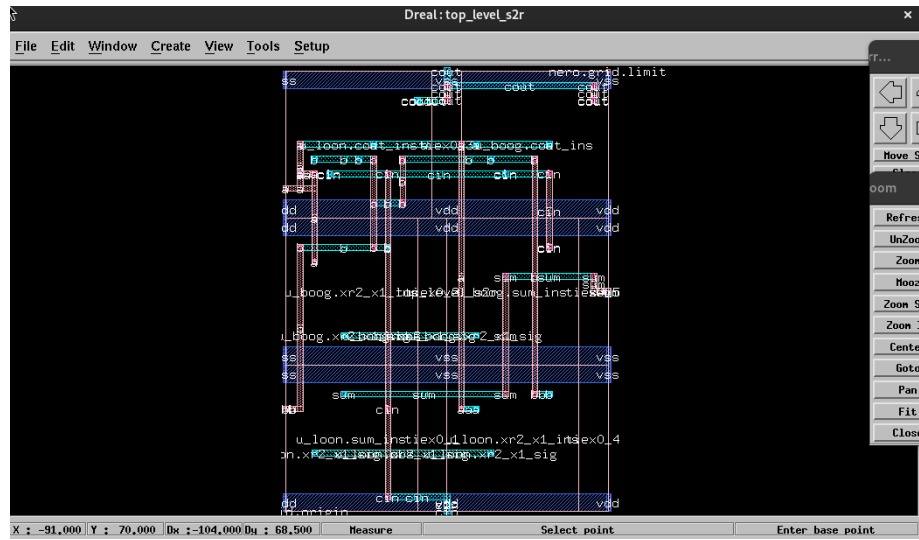dreal is a tool used to view the CIF file. Since the dreal command for opening the file is not yet available, we will open the file from within dreal.

Figure 3: Viewing the CIF file with Dreal