vtr-verilog-to-routing

The Verilog-to-Routing (VTR) project is a large collaborative effort among multiple university research groups to provide a complete, open-source framework for conducting FPGA architecture and CAD experiments.

CreatingTasks

Instructions on creating and modifying tasks

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Creating and Modifying Tasks

Introduction

Tasks provide a configuration framework for running the VTR flow. A task specifies such things as which architectures and benchmarks to use.

File Structure

All tasks are located here:

```
<vtr>/vtr_flow/tasks
```

If the user wishes to create his/her own task, it must be created in this location.

All tasks must contain a configuration file, located here:

```
<vtr>/vtr_flow/tasks/<task_name>/config/config.txt
```

Creating a New Task

1. Create the folder <vtr>/vtr_flow/tasks/<task_name>
2. Create the folder <vtr>/vtr_flow/tasks/<task_name>/config
3. Create and configure the file <vtr>/vtr_flow/tasks/<task_name>/config/config.txt

Task Configuration File

The task configuration file contains key/value pairs separated by the '=' character. Comment line are indicted using the '#' symbol. Example configuration file:

```
# Path to directory of circuits to use
circuits_dir=benchmarks/verilog

# Path to directory of architectures to use
archs_dir=arch/timing

# Add circuits to list to sweep
circuit_list_add=ch_intrinsics.v
circuit_list_add=diffeq1.v

# Add architectures to list to sweep
arch_list_add=k6_N10_memSize16384_memData64_stratix4_based_timing_sparse.xml

# Parse info and how to parse
parse_file=vpr_standard.txt
```

Required Fields

circuits_dir: Directory path of the benchmark circuits. (Absolute path or relative to <vtr>/vtr_flow/)

archs_dir: Directory path of the architecture XML files. (Absolute path or relative to `<vtr>/vtr_flow/`)

circuit_list_add: Name of a benchmark circuit file. Use multiple lines to add multiple circuits.

arch_list_add: Name of an architecture XML file. Use multiple lines to add multiple architectures.

parse_file: File used for parsing and extracting the statistics. See Parse Configuration Files. (Absolute path or relative to `<vtr>/vtr_flow/parse/parse_config`)

Optional Fields

script_path: Script to run for each architecture/circuit combination. The default is to use run_vtr_flow.pl, which runs the entire (or partial) VTR flow. However, a user can use this option to provide their own script. The user script will be used in place of run_vtr_flow.pl. The circuit path will be provided as the first argument, and architecture path as the second argument to the user script. (Absolute path or relative to `<vtr>/vtr_flow/scripts/` or `<vtr>/vtr_flow/tasks/<task_name>/config/`)

script_params: Parameters to be passed to the script. This can be used to run partial VTR flows, or to preserve intermediate files. For information on parameters to the default script see run_vtr_flow.pl.

pass_requirements_file: Path to the Pass Requirements File. (Absolute path or relative to `<vtr>/vtr_flow/parse/pass_requirements/` or `<vtr>/vtr_flow/tasks/<task_name>/config/`)