

MPSoC-NTM (T-DNC/NTM-MPSoC)

QueenField

0. Introduction

0.0. DO-254

0.0.1. HARDWARE PLANNING PROCESS

0.0.1.1. Plan for Hardware Aspects of Certification

0.0.1.2. Hardware Design Plan

0.0.1.3. Hardware Validation Plan

0.0.1.4. Hardware Verification Plan

0.0.1.5. Hardware Configuration Management Plan

0.0.1.6. Hardware Process Assurance Plan

0.0.2. HARDWARE DESIGN PROCESS

0.0.3. VALIDATION AND VERIFICATION PROCESS

0.0.4. CONFIGURATION MANAGEMENT PROCESS

0.0.5. PROCESS ASSURANCE

0.0.6. CERTIFICATION LIAISON PROCESS

0.0.7. HARDWARE DESIGN LIFECYCLE DATA

0.0.8. ADDITIONAL CONSIDERATIONS

0.1. Model

0.1.1. MatLab Language

0.1.2. Rust Language

0.2. Design

0.2.1. VHDL

0.2.2. Verilog

0.3. Verification

0.3.1. OSVVM-VHDL

0.3.1.1. osvvm_checker

0.3.1.2. osvvm_stimulus.vhd

0.3.1.3. osvvm_testbench.vhd

0.3.2. UVM-Verilog

0.3.2.1. uvm_agent

0.3.2.2. uvm_driver

0.3.2.3. uvm_env

0.3.2.4. uvm_monitor

0.3.2.5. uvm_scoreboard

0.3.2.6. uvm_sequence

0.3.2.7. uvm_sequencer

0.3.2.8. uvm_subscriber

0.3.2.9. uvm_test

0.3.2.10. uvm_testbench

0.3.2.11. uvm_transaction

- 1. Mechanics
- 2. Information
 - 2.1. Bit
 - 2.2. Logic Gate
 - 2.2.1. YES/NOT Gate
 - 2.2.2. AND/NAND Gate
 - 2.2.3. OR/NOR Gate
 - 2.2.4. XOR/XNOR Gate
 - 2.3. Combinational Logic
 - 2.3.1. Arithmetic Circuits
 - 2.3.2. Logic Circuits
 - 2.4. Finite State Machine
 - 2.5. Pushdown Automaton
- 3. Neural Network
 - 3.1. Feedforward Neural Network
 - 3.2. Long Short Term Memory Neural Network
 - 3.3. Transformer Neural Network
- 4. Turing Machine
 - 4.1. Neural Turing Machine
 - 4.1.1. Feedforward Neural Turing Machine
 - 4.1.2. LSTM Neural Turing Machine
 - 4.1.3. Transformer Neural Turing Machine
 - 4.2. Differentiable Neural Computer
 - 4.2.1. Feedforward Differentiable Neural Computer

4.2.2. LSTM Differentiable Neural Computer

4.2.3. Transformer Differentiable Neural Computer

5. Computer Architecture

5.1. von Neumann Architecture

5.1.1. Control Unit

5.1.2. ALU

5.1.3. Memory Unit

5.1.4. I/O Unit

5.2. Harvard Architecture

5.2.1. Control Unit

5.2.2. ALU

5.2.3. Memory Unit

5.2.4. I/O Unit

6. Advanced Computer Architecture

6.1. Processing Unit

6.1.1. SISD

6.1.2. SIMD

6.1.3. MISD

6.1.4. MIMD

6.2. System on Chip

6.2.1. Bus on Chip

6.2.2. Network on Chip

6.3. Multi Processor System on Chip