Router 1X3

A 1X3 Router is a networking device that forwards data packets between computer networks. It is connected to two or more data lines from different networks (as opposed to a network switch, which connects data lines from one single network). A 1X3 Router is capable of routing the data packets to three different clients from a single source network. It includes a register module that can hold data packets momentarily, to pass onto three different FIFO memories along with a Finite State Machine and a Synchronizer that can manipulate the internal signals to carry out the necessary task in convenient manner.

# Verification Plan

What is verification plan? A Verification Plan is a document that outlines the objectives, scope, approach, and focus of a software testing effort. It is used to identify the items being tested, the features to be tested, the testing tasks to be performed, the personnel responsible for each task, and the risks associated with the testing effort.

Here the verification plan for Router 1X3 is that, firstly we need to create components inside testbench such as test, env, sequences, agents, drivers, sequencer and monitor. The number of agents is defined to be 4(1 for source side and 3 for destination side). The verification plan for Router 1X3 is that, we have to check its functionality like soft reset condition, when busy signal goes high data\_in should not change etc. Basically, we have to check if all the functionality of Router is working properly.

Different packet length data needs to be driven and check whether its properly being received by the destination side. This is checked with the help of parity check. Different test case will be given for different packet length and soft reset condition.

## •Testcase for small\_packet

## •Testcase for medium\_packet

## •Testcase for large\_packet

## •Testcase for soft reset condition

# Router 1X3 ARCHITECTURE