**A Fast Regular Expression Matching Engine for NIDS Applying Prediction Scheme**

1. Implementation on FPGA:

這篇paper雖然是implement regular expression on FPGA, 但其實他這邊強調的並不是FPGA, 因為他的方法就算是simple pattern作法也是一樣. 而我的方法也是根據[1] 將regular expression作在FPGA上, 我將ruleset的Kleene star都消除掉, 用額外的資料結構紀錄, 就可以使用 [1] 的pipeline scheme實作.

1. Prediction Scheme:

雖然paper說他的prediction scheme successful rate高達99.5%, 但其實這還是depend on trace file, 如果一直預測錯誤, 每一次錯誤就要多stall 3 clock cycles, 導致速度變慢.

[1] Weirong Jiang, Yi-Hua E. Yang, and Viktor K. Prasanna, “Scalable Multi Pipeline Architecture for High Performance Multipattern String Matching,” Parallel & Distributed Processing (IPDPS), 2010 IEEE International Symposium on, vol., no., pp.1-12, 19-23 April 2010.