
- **Approximate SM type low memory consumption**
- **Hardware-type high scan rate**
- **Exact SM type correctness**
- **Support to dynamic content changes**
- **Memory-based; no need to hardware reconfiguration**
- **Sustain scan rate under high rates of positive inputs**

**DBF-SMM:** Fast, efficient and dynamically optimized fixed-size multi-String Matching Module

**MBFbAC-wDFA:** Multiple BFs and Aho-Corasick based multi-byte multi-string DFA for variable-size SMM

**DBF-SMM**

- Exact Matching Unit (EMU)
- Approximate Matching Unit (AMU)
- Control Unit
- Monitor Unit
- Monitor and Control Unit (MCU)

**Input String**

- k hash functions
  - \( h_1, h_2, \ldots, h_k \)
- vector \( v_F \)
- flagEMU
- flagFF
- flagFA
- DBF-SMM output

**DBF-SMM output**

- Vector \( v_A \)
- Double Bloom Filter (DBF)

**MBFbAC-wDFA**

- Multi-string matching architecture
- Multiple BFs and Aho-Corasick based DFA
- Variable-size SMM

**Accellera**

**Xilinx Systems Initiative**

**Microsoft Visual Studio 2010 Ultimate**

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