A Step towards Zero Silicon Bugs: SVA Protocol Based Assumption Validation

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**MOTIVATION**

**SOC COMPLEXITY**
- SOC Integration with 100+ IPs
- Multiple Stakeholders, such as CFF, MBIST, FIPS
- CDC Specific Validation

**VULNERABILITY**
- CDC-RCC Closure error prone because of handling wrong, constraints mismatches
- Constraints Interpretations are not understood
- WCST on silicon

**COSTLY RESIPN**
- Single CDC or RCC max is costly
- Late issues debuggability is complex

**PROPOSAL**
- Need an Robust Automated Flow
- Coverage Analysis for Sign-off Quality

**GENERATION: SVA PROTOCOL FROM CDC CONSTRAINTS**

- **Type**
  - Assumption
  - net_data_value: value

- **Purpose**
  - Check it is set to a specified value

- **CDC Constraint Name**
  - net_data_value

- **CDC Constraint Description**
  - Verify the net_data_value is set to a specified value

**IMPLEMENTATION**

**Reference**


**REFERENCES**

DAC-2020: Rohit Kumar Sinha, Babu Christie
DVCon-2015 SystemVerilog Assertions for Clock-Domain-Crossing Data Paths