



⏪ George Mason University | Department of Electrical and Computer Engineering

- Home
- News Feed
- Research
- Publication
- Artifacts
- Teaching
- Service
- Awards
- Media
- Contact

SynFuzz

CVEs found by SynFuzz

Fields	B2(CVE-2025-51678)	B3(CVE-2025-51678)
Vulnerability type	CWE-1420	CWE-1198
Vendor of the product	RISC-V	RISC-V
CNA-covered product ?	No	No
Existing CVE?	No	No
Affected product/code base	PicoRV32(https://github.com/YosysHQ/picorv32). Commit ID 87c89acc18994c8cf9a2311e871818e87d304568	PicoRV32(https://github.com/). Commit ID 87c89acc18994c8cf9a2311e8
Attack Type	Context-dependent	Context-dependent

© 2025 Raghul Saravanan

Last Updated: September 5, 2025

Fields	B2(CVE-2025-51678)	B3(CVE-2025-51678)
Affected components	Memory Interface	Co-processor Interface
Description	The bug resides within the processor memory interface, where the address calculation for subsequent memory operations is not accurately updated. This flaw can result in disruptions to memory access, such as incorrect instruction fetching or inadvertent data retrieval from unintended memory locations, thereby compromising the reliability and integrity of the processor's operation.	The bug has been identified in Processor Interface, where instructions for the co-processor are not fully decoded at the decode stage, leading to incorrect data being forwarded to the co-processor. This bug undermines the reliability of instruction execution, limiting the performance and compatibility of hardware through the co-processor interface.
Reference/Github Issue	https://github.com/YosysHQ/picorv32/issues/269	https://github.com/YosysHQ/picorv32/issues/270
Additional Info	Issue Location: https://github.com/YosysHQ/picorv32/issues/269 Triggering Input: When mem_addr is x"00000074" and pcpi_insn is x"DD679663" Expected Output: mem_addr: 64 bit memory value PicoRV value: xxxxxxxx (unknown value)	Issue Location: https://github.com/YosysHQ/picorv32/issues/270 Triggering Input: When mem_addr is x"00000074" and pcpi_insn is x"DD679663" Expected Output: mem_addr: 64 bit memory value PicoRV value: xxxxxxxx (unknown value)

