Open-Source Pros & Cons in the FPGA Development Flow

Matt Certosimo
Data Center FPGA Field Application Engineer
AMD

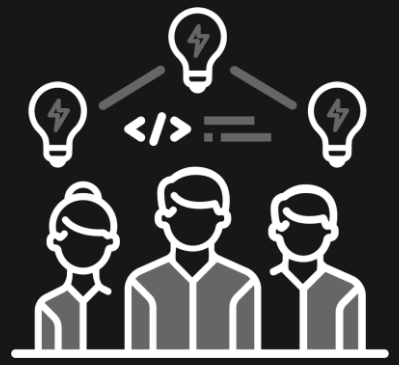
What is Open-Source Software?

Publicly Accessible

Anyone can see the code, modify, and distribute as needed

Collaborative Development

Relies on peer review and community production

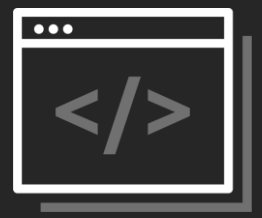


Widely Distributed

Becomes more widely distributed based on demand

For many years, engineers have relied on open-source software for various end-products

Does Open-Source Apply to FPGA Designs?



RTL (VHDL, Verilog, SystemVerilog) can be used as open-source

- Differs from software due to restrictions in silicon architecture / device
- If RTL is made generic (inferred RTL, not instantiated), success rate increases

In many FPGA designs (e.g., FinTech), low latency takes priority

- Requires meticulous design, placement, and routing

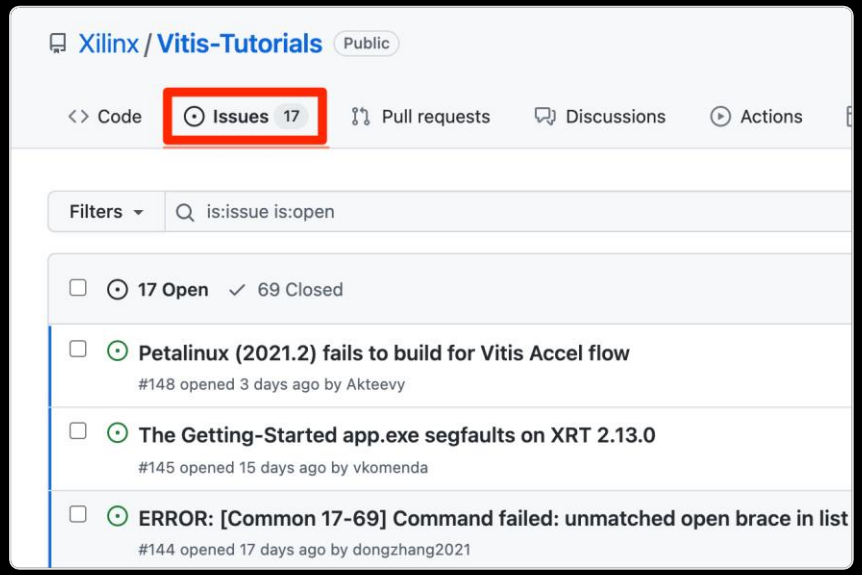
Where can AMD add value to this commonly used methodology?

- GitHub used for AMD designs
- Many users collaborate globally to test and verify examples

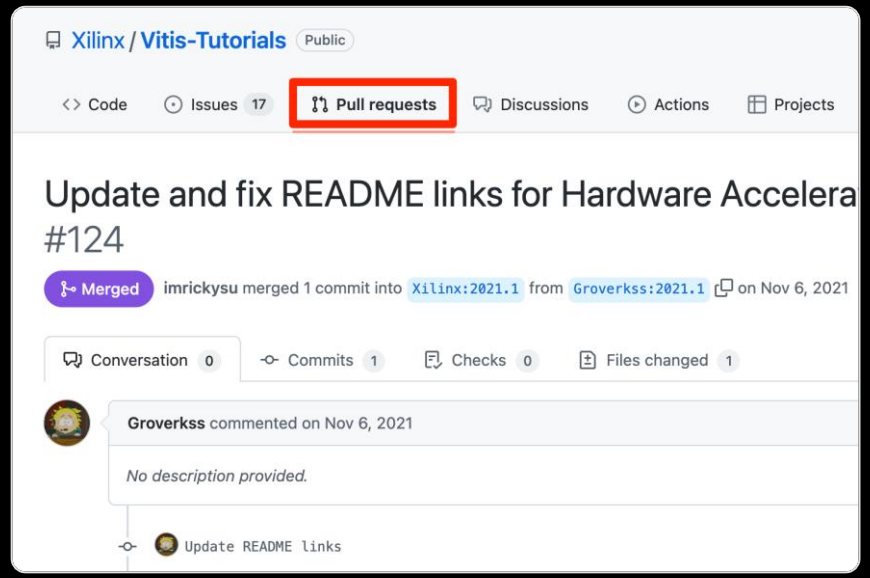
Contribution to GitHub

- AMD has several public GitHub sites
- Example: The Vitis-Tutorials is an open-source project on GitHub
- Contributions to Vitis™-Tutorials are welcome

Report Issues



Send Pull Requests (PR's)
to Fix Bugs or Typos



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Applying Open-Source to AMD Products

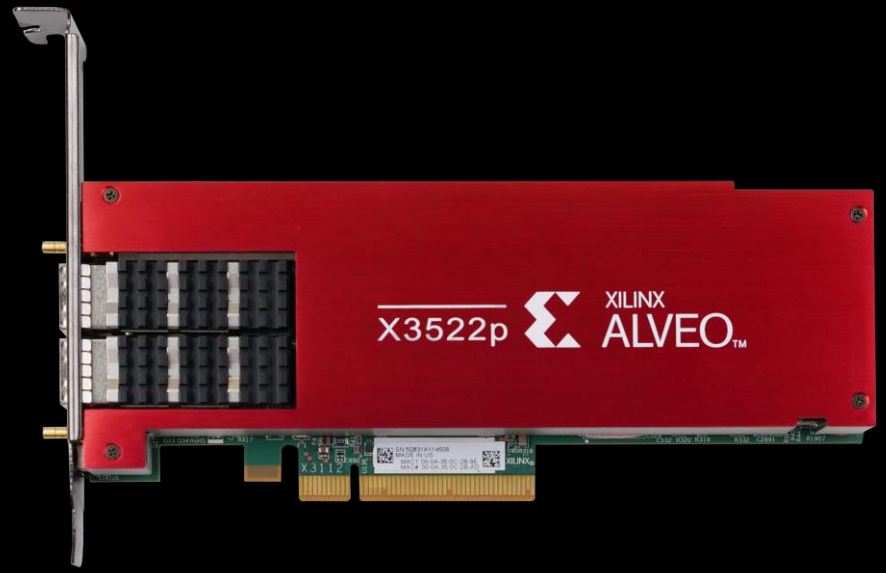
- AMD (AECG, formerly Xilinx) has been providing FPGA products for decades
- More recently, Alveo™ (FPGA-based) accelerator cards focus on data center applications
- Alveo X3522PV, built for Fintech applications, allows users to collaborate on open-source
  - Vitis– SW Developers (HW Acceleration)
  - Vivado – HW Developers (Low Latency)

XILINX VITIS™

Software Developers
Hardware Acceleration

VIVADO™

Hardware Developers
Low Latency



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