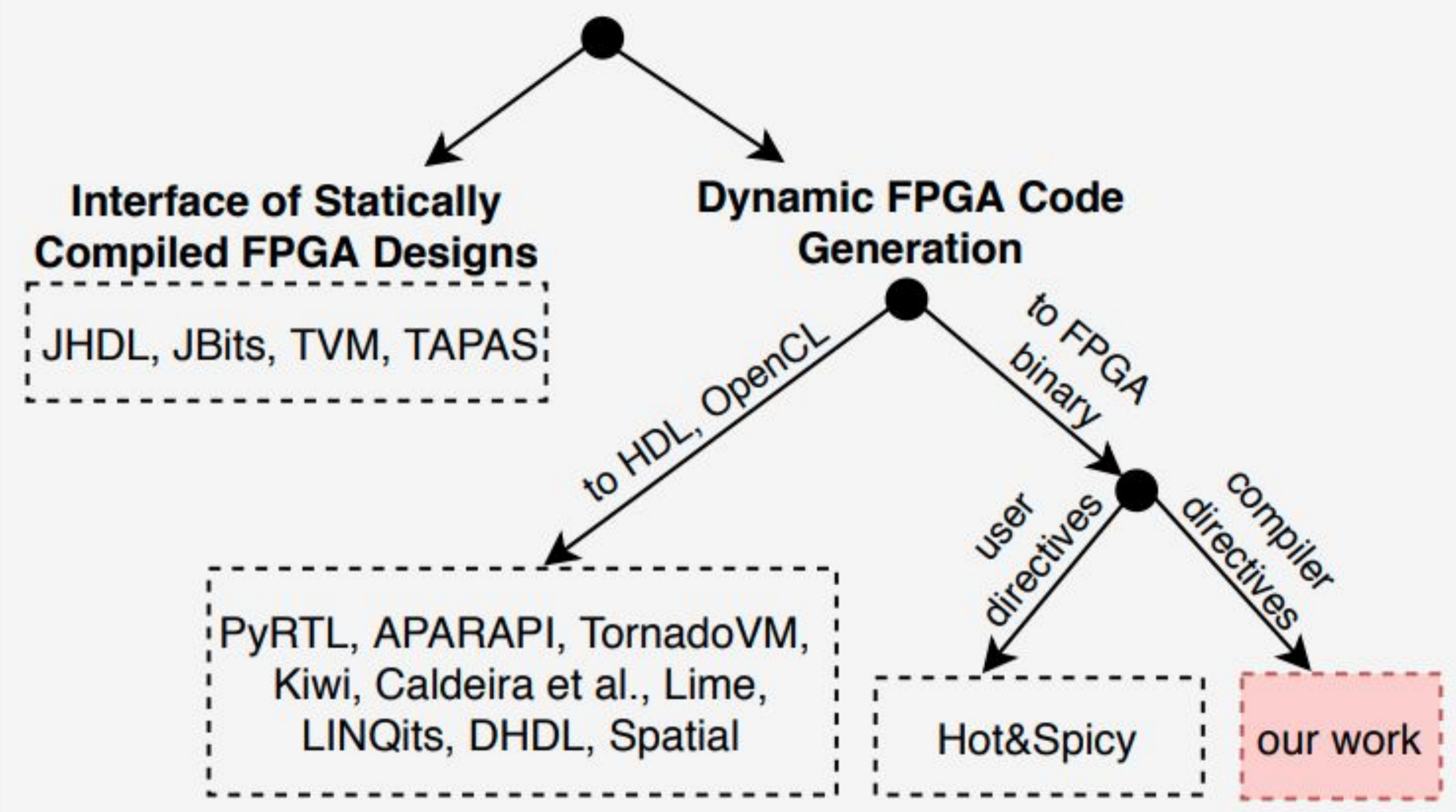
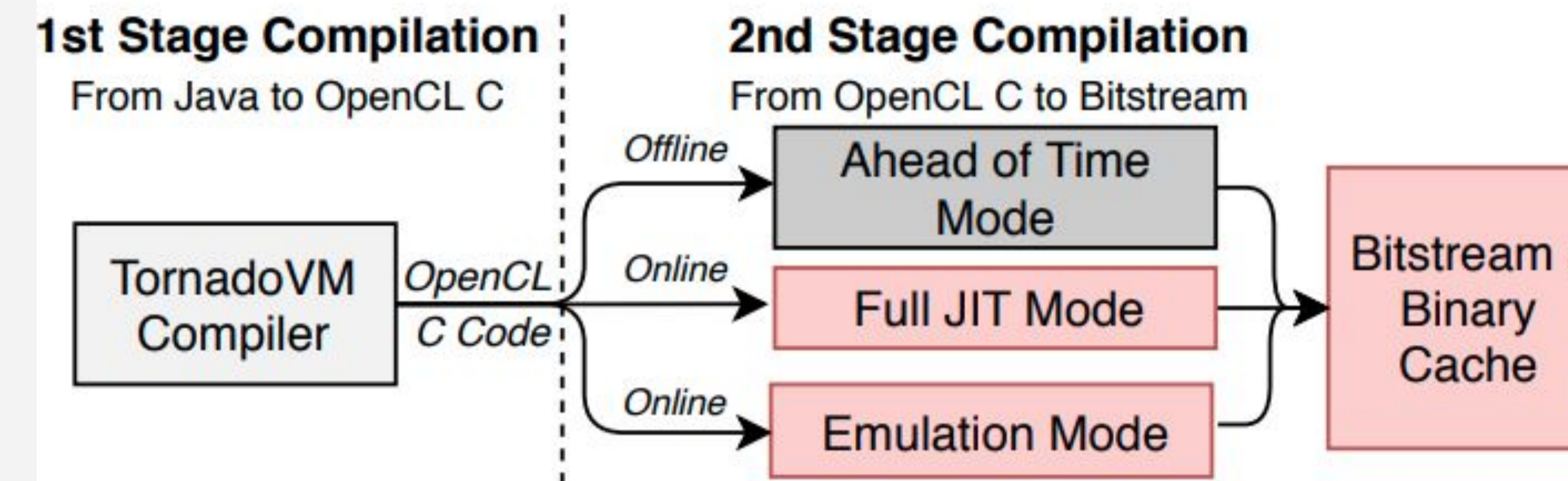


1. FPGAs on Managed Languages

Frameworks targeting FPGAs from Managed Languages

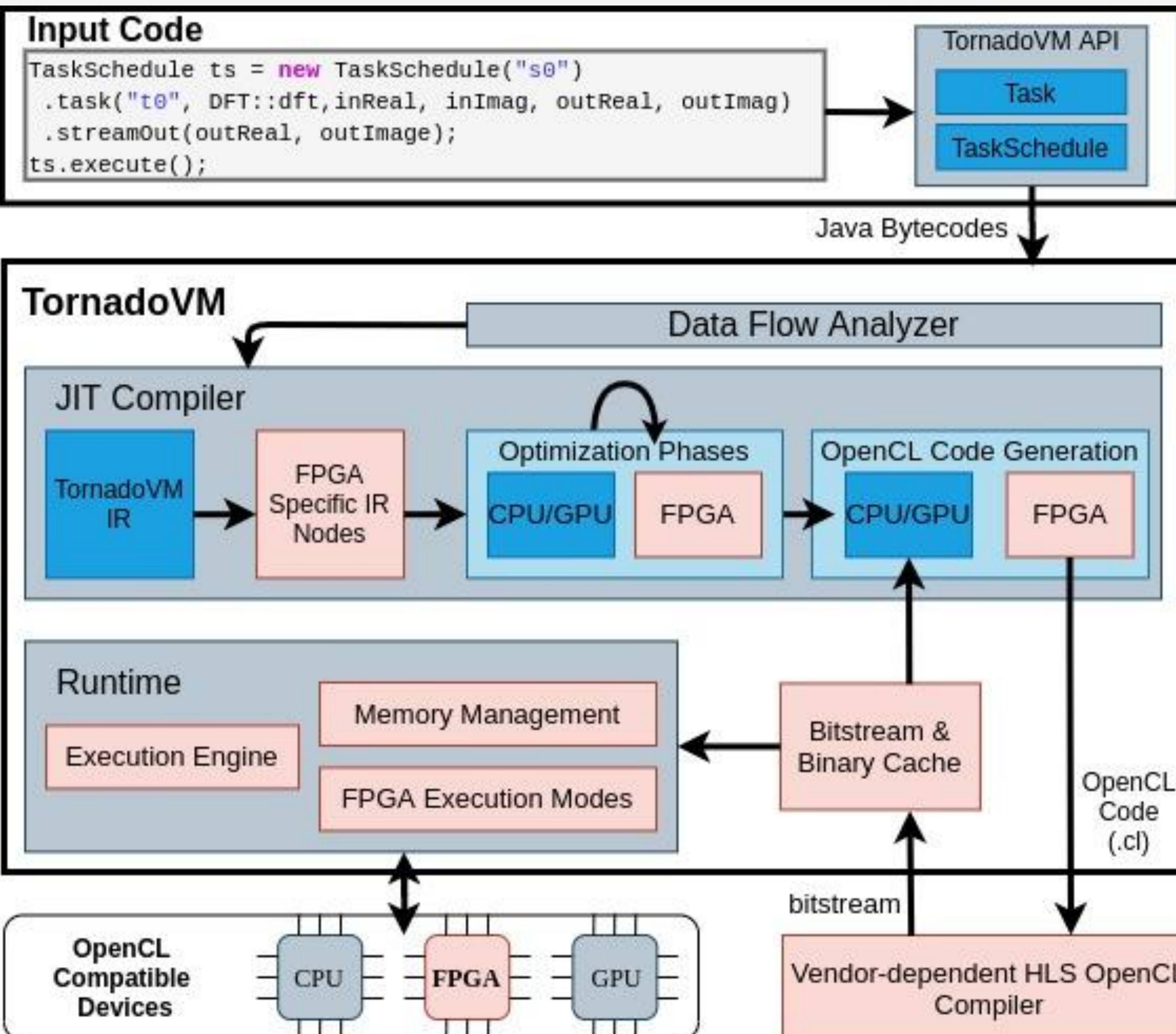


3. Quick Prototyping from Java

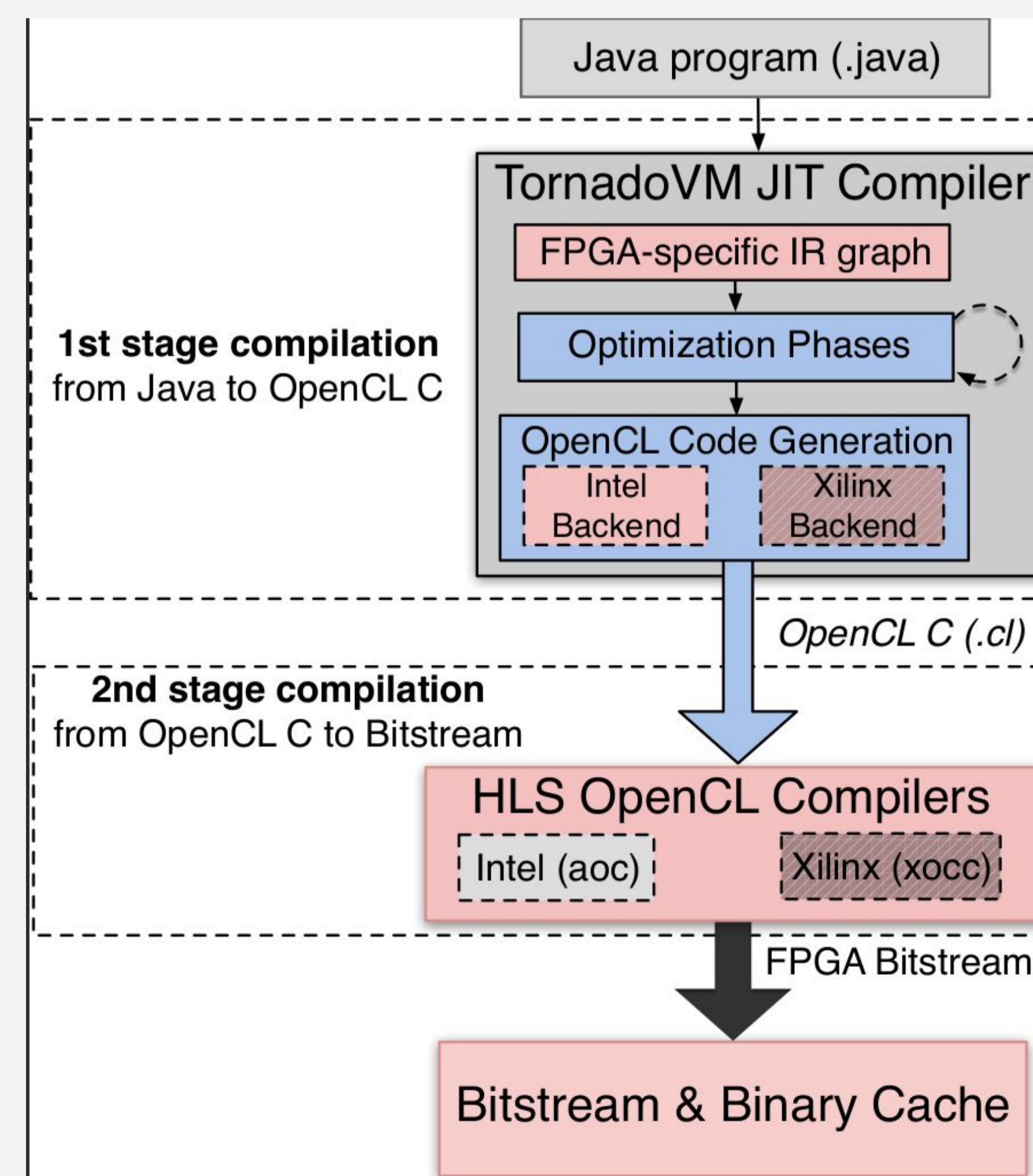


Multiple execution modes allow quick prototyping for Java application through IDEs, such as IntelliJ.

2. FPGA Support in TornadoVM



4. Two-Stage JIT Compilation



Modular compilation design allowing the support of multiple FPGA vendors from the same Java code.

5. Experimental Results

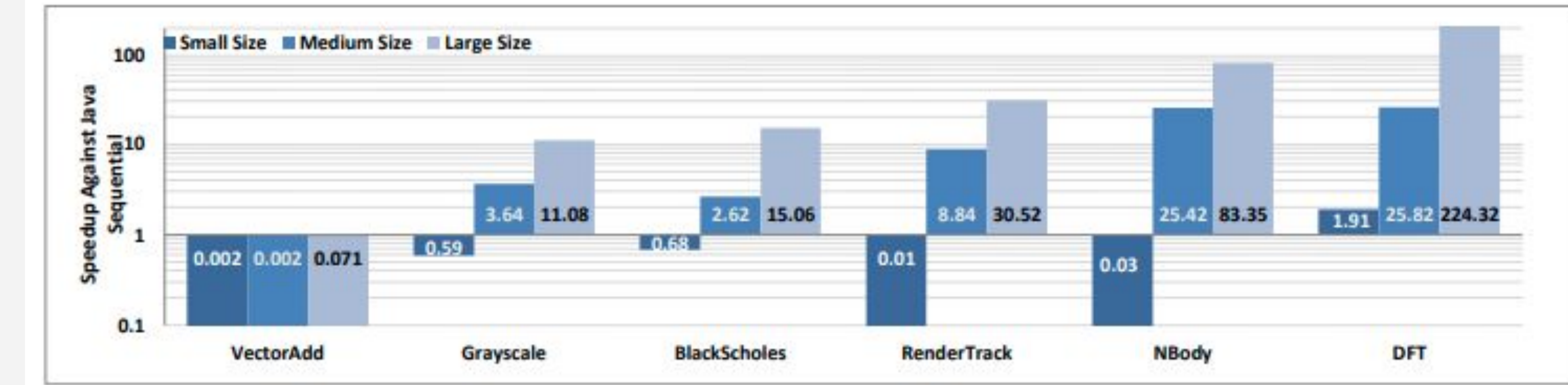


Figure 7 Speedup of Intel Arria 10 FPGA against sequential Java for small, medium and large data sizes

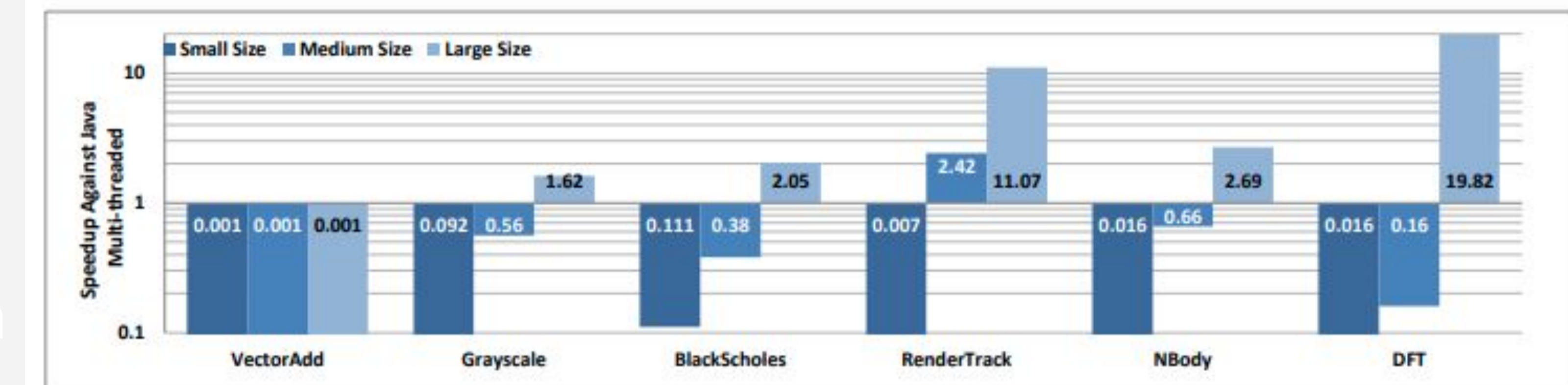


Figure 8 Speedup of Intel Arria 10 FPGA against multithreaded Java (8 threads) for small, medium and large data sizes

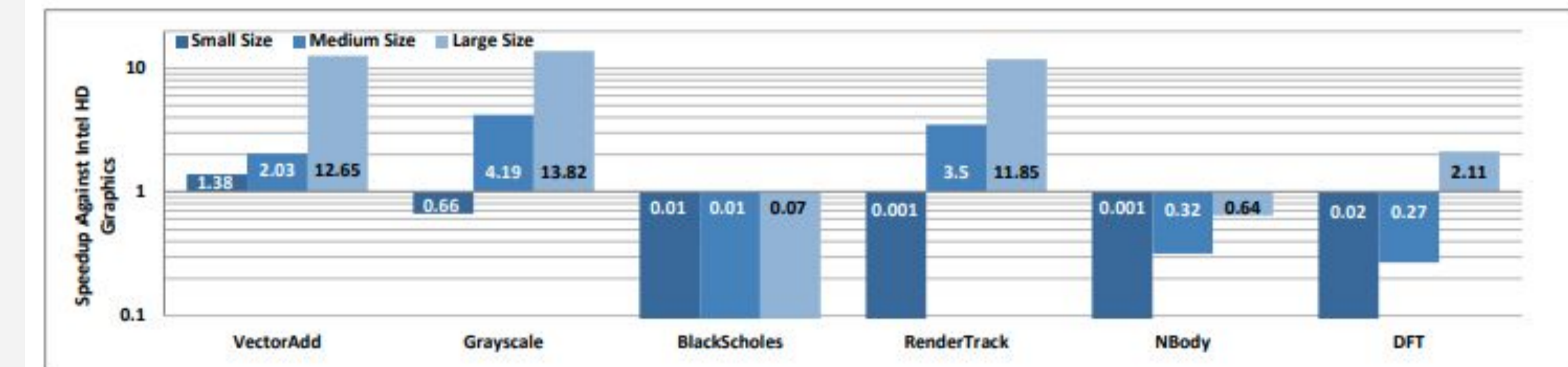


Figure 9 Speedup of Intel Arria 10 FPGA against Intel HD Graphics 630 for small, medium and large data sizes

Up to 224x, 19.82x and 11.85x against serial Java, multithreaded Java and Integrated GPUs, respectively.

Open-source



github.com/beehive-lab/TornadoVM

<https://www.tornadovm.org/>

