FPGA Cloud Integration: Real-Time Decompression & Filtering
Using the Fletcher Framework

- Snappy compressed data set
- Real-time decompression on FPGA
- Sub-second search of the whole of Wikipedia
- More than 4x performance increase vs. CPU
- Only 3 days integration time

Easy FPGA acceleration for Apache Spark big data workloads
The Fletcher framework leverages the Apache Arrow data format to allow easy access to Big Data sets from FPGA. Instead of working with byte addresses and bus transfers, FPGA developers can request rows and columns. Data can travel between FPGA and various Big Data frameworks without conversions, by using the Apache Arrow columnar memory format.

Integrated toolflow
The Fletcher framework generates interfaces fully automatically, based on the application-level schema. It includes a runtime and integrates with the Xilinx Vivado and/or SDAccel toolflows.

More information about Fletcher at https://github.com/abs-tudelft/fletcher