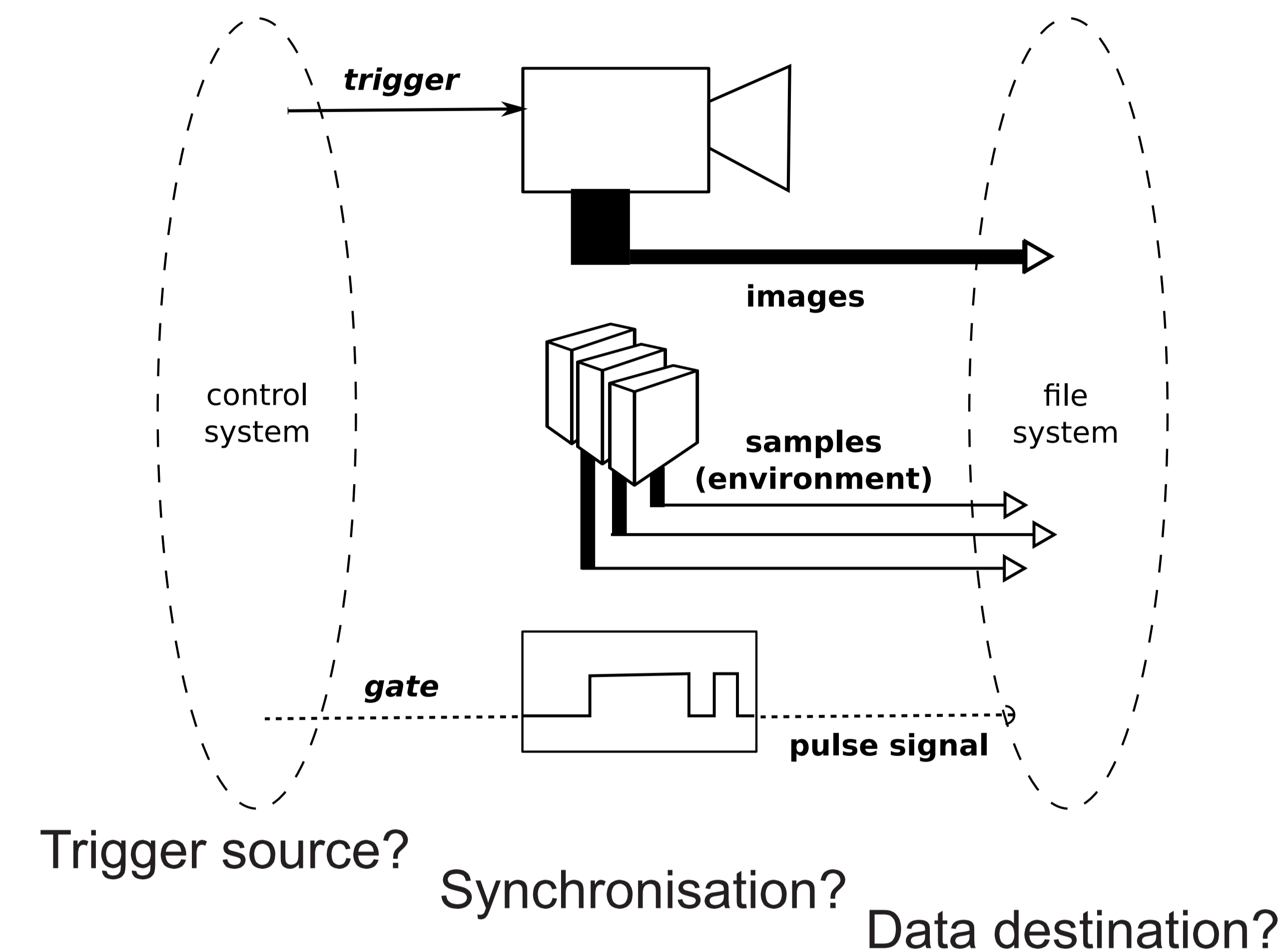


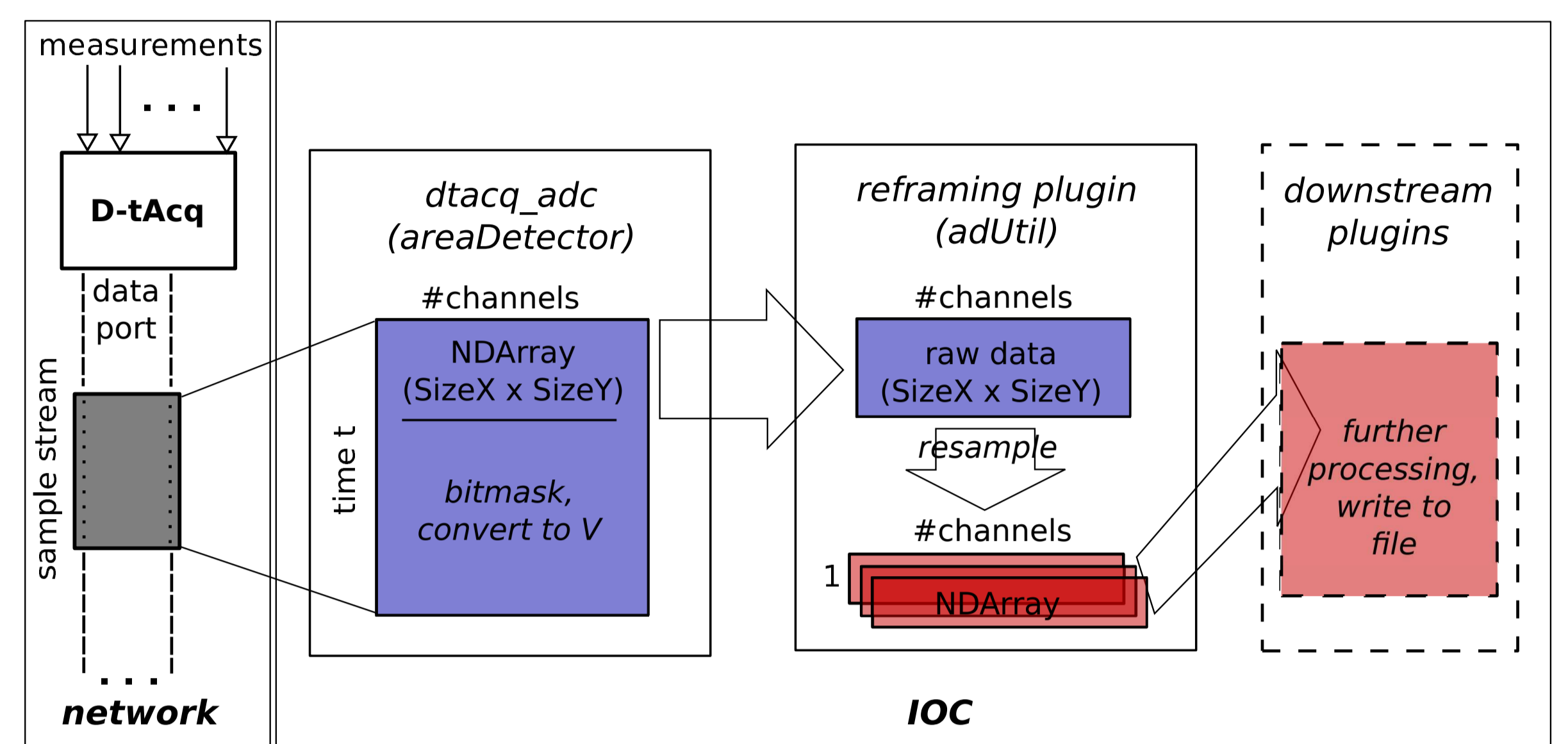
Synchronising high-speed triggered image and meta data acquisition for beamlines

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Diamond Light Source Ltd.

Introduction



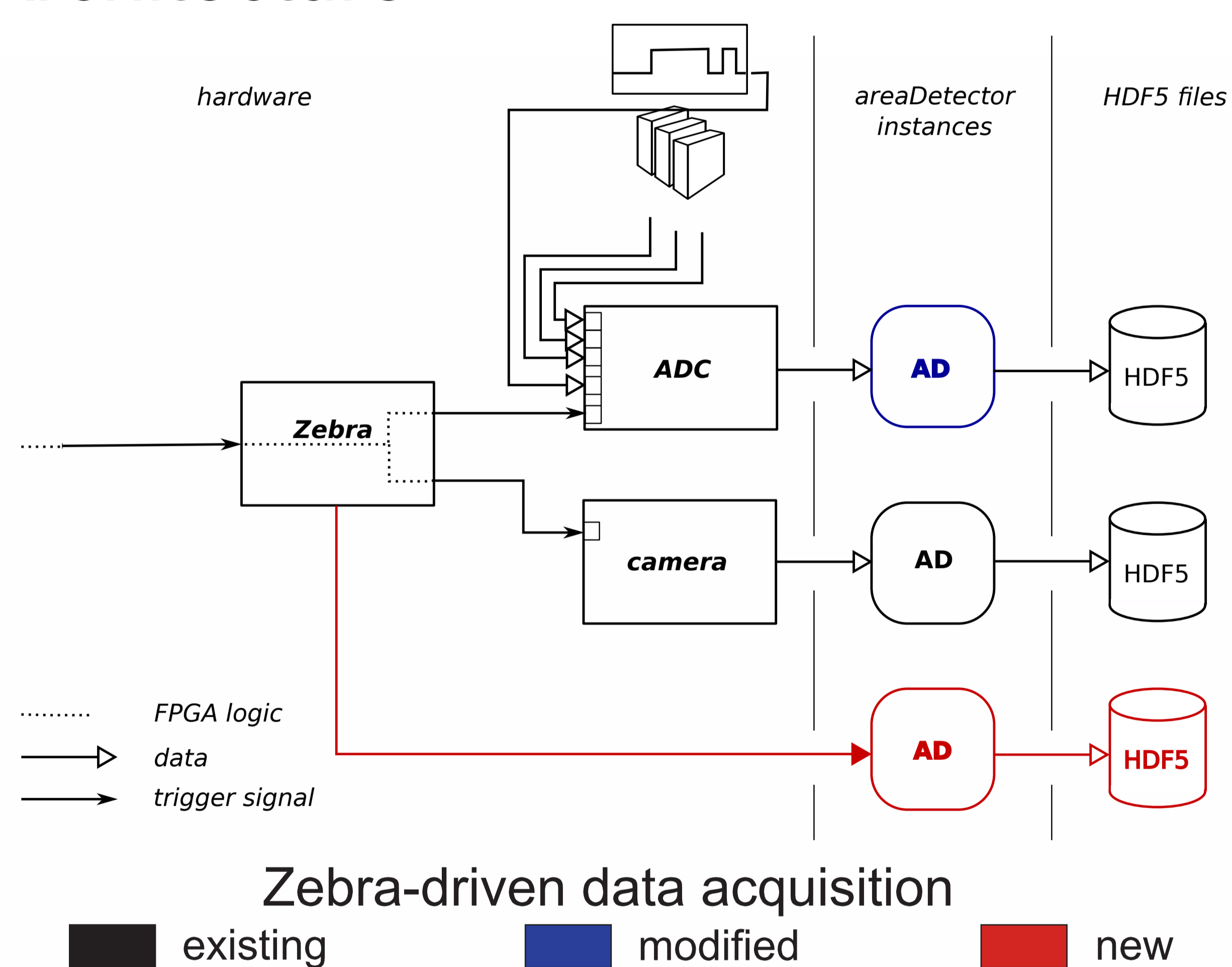
Data Flow from ADC



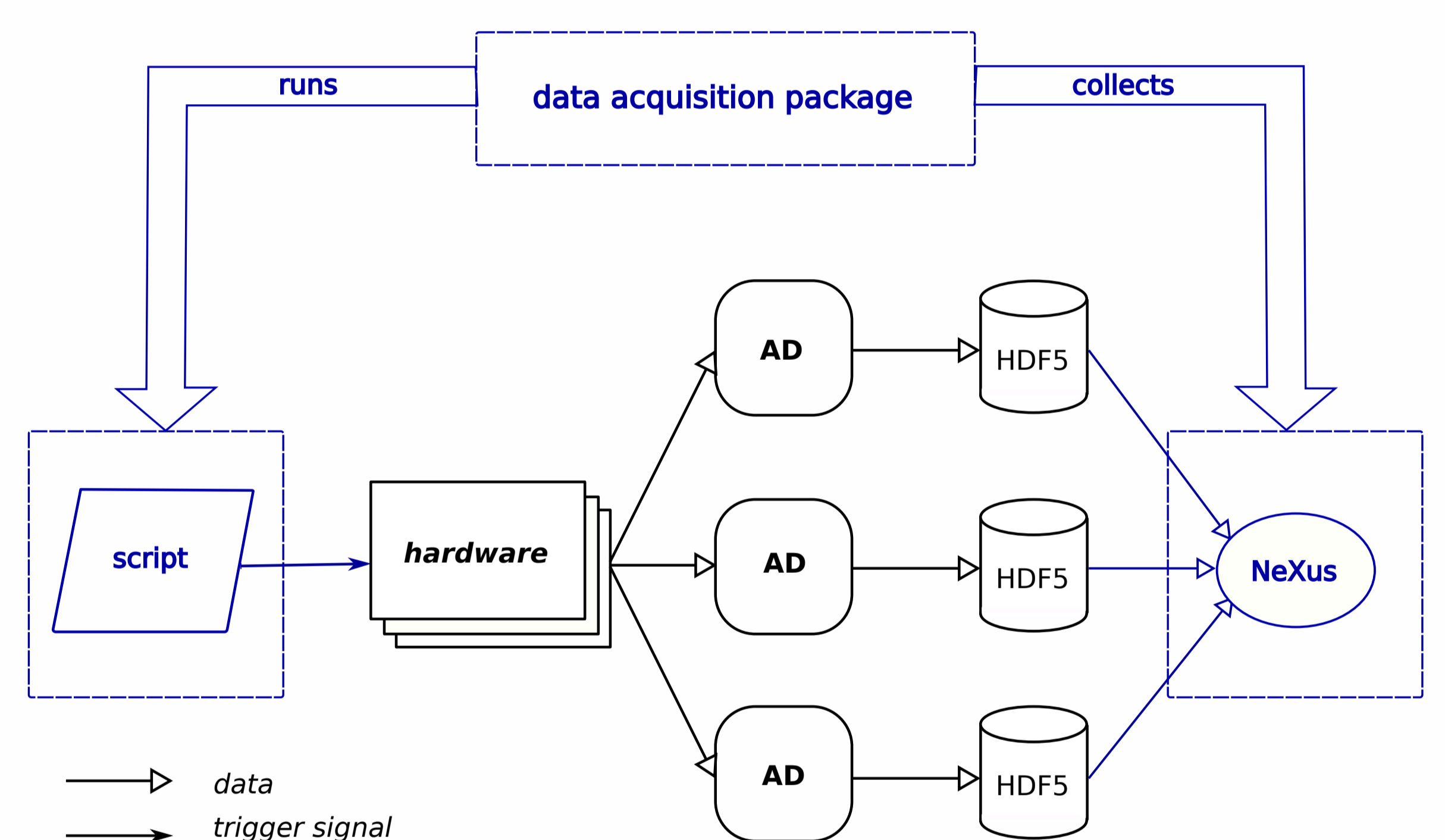
Data flow in the areaDetector plugin chain

■ TCP/IP stream ■ raw data stream ■ resampled stream

Architecture

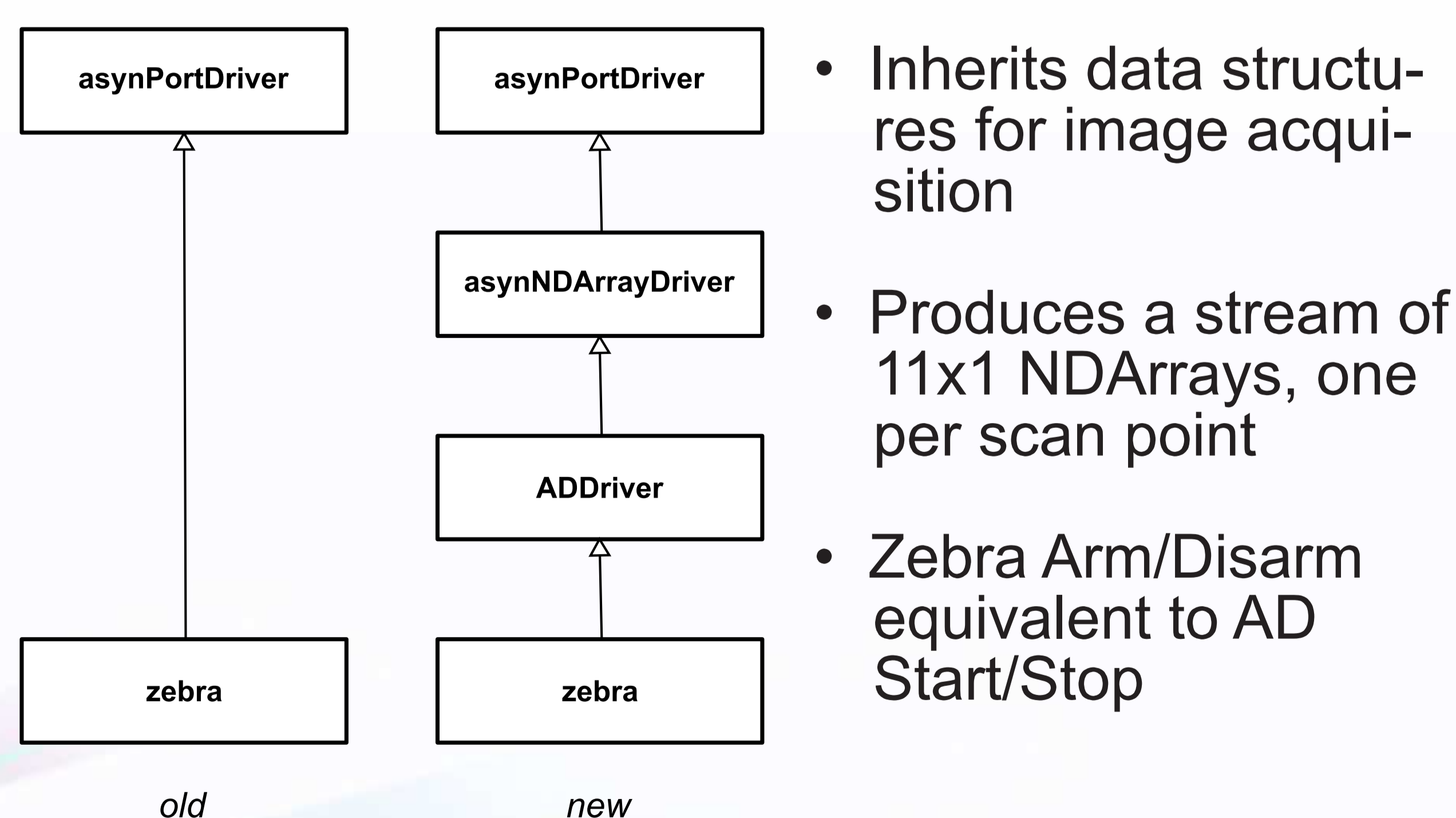


Integration



Role of high-level data acquisition package

Zebra Driver Modifications



Old Vs. new inheritance tree

Conclusions

- Three or more parallel pipelines allow modular integration into larger systems.
- Hardware triggering ensures synchronised data from multiple devices at higher frame rates.
- Drivers derived from areaDetector provide a unified interface to configure the system.
- The areaDetector plugin chain is essential for added overall flexibility.
- Some care when choosing queue or frame sizes may be required.