

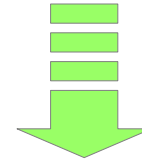
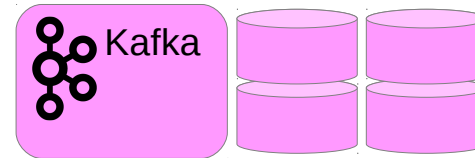
LSST / ZTF

Event stream processing

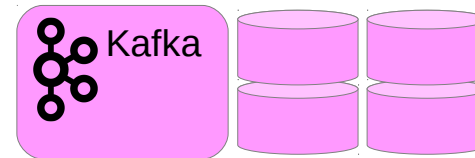
LSSTUK - Lasair workshop
Edinburgh
October 2018

Dave Morris

Kafka stream – ZTF/LSST

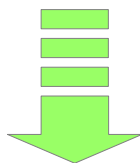
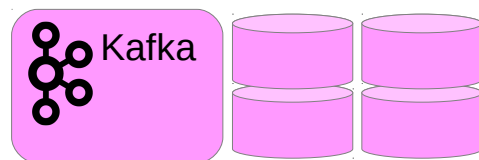


Kafka mirror - Edinburgh

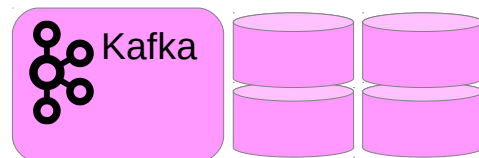


Target data rates

Kafka stream – ZTF/LSST



Kafka mirror - Edinburgh



Full bandwidth firehose

minimum 10^4 events per visit (40 sec)

4ms/event

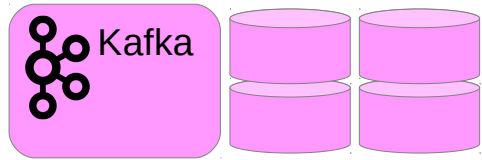
target 4×10^4 events per visit (40 sec)

1ms/event

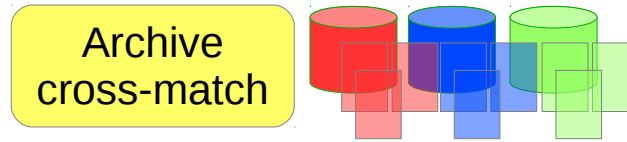
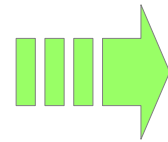
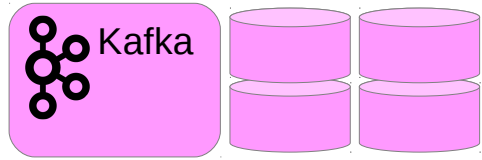
stretch 10^5 events per visit (40 sec)

400 μ s/event

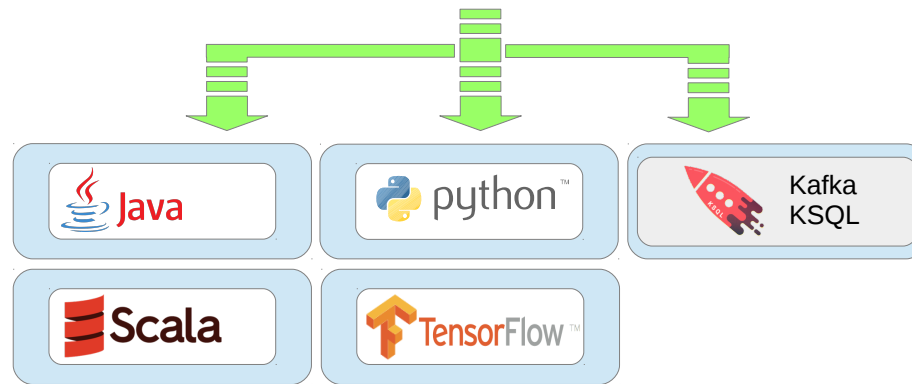
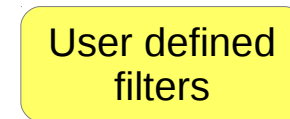
Kafka stream – ZTF/LSST



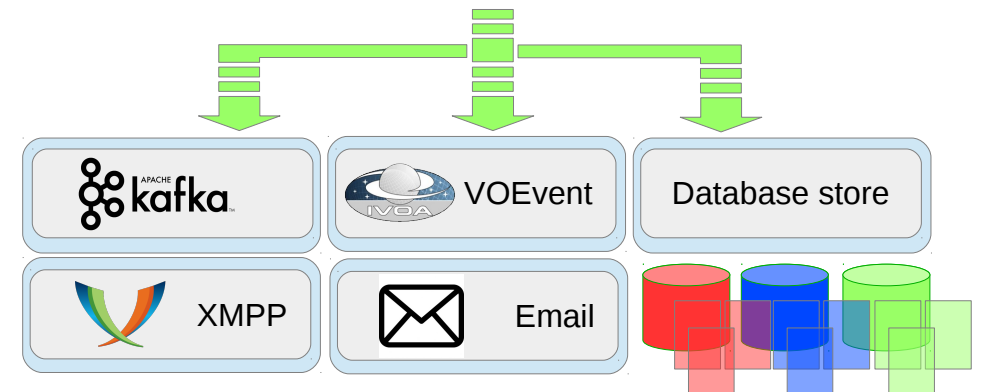
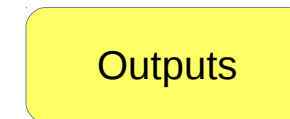
Kafka mirror - Edinburgh



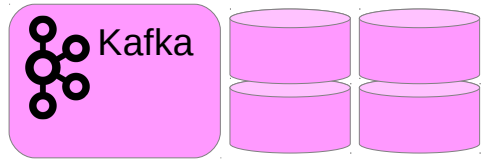
1kHz .. 10kHz



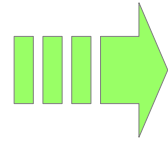
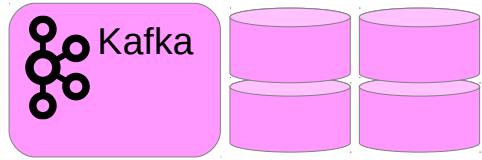
1Hz .. 10Hz



Kafka stream – ZTF/LSST



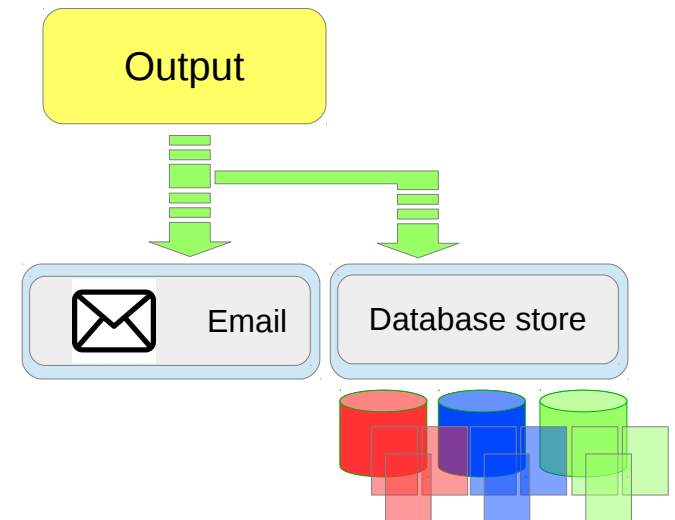
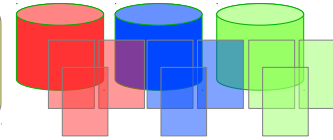
Kafka mirror - Edinburgh



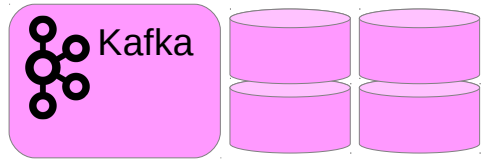
1kHz .. 10kHz

Watchlist
cross-match

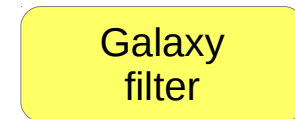
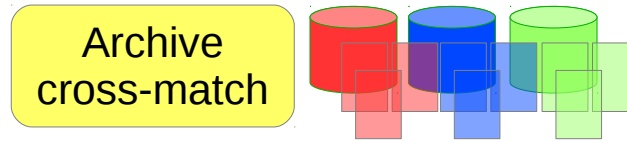
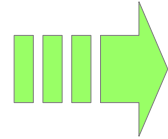
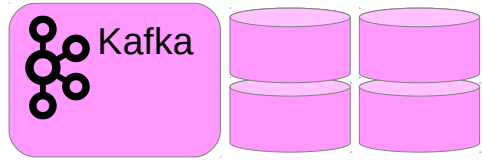
1Hz .. 10Hz



Kafka stream – ZTF/LSST



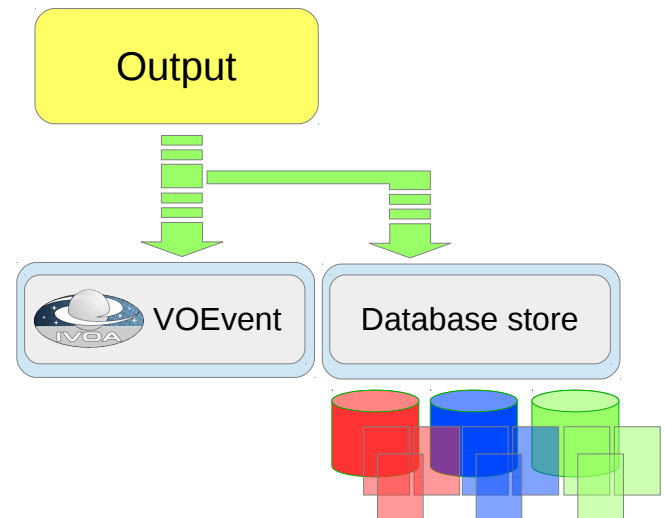
Kafka mirror - Edinburgh



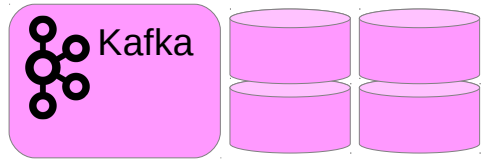
1kHz .. 10kHz



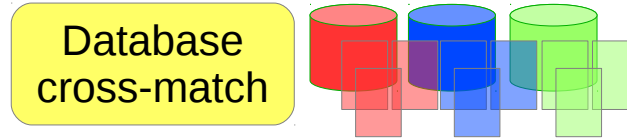
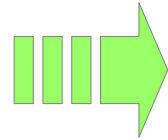
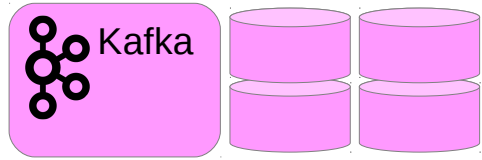
1Hz .. 10Hz



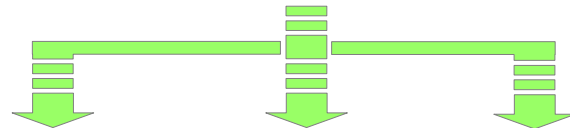
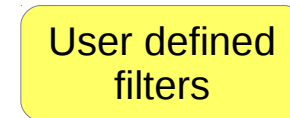
Kafka stream – ZTF/LSST



Kafka mirror - Edinburgh



1kHz .. 10kHz



1Hz .. 10Hz

