Data collection handover protocol

# Configuration

Data collection has its persistent configuration which is used if no other configuration is specified.

Other components may specify other temporary configurations as needed.

# Pre-sampling

When no other data collection is specified, the sampling is running in collecting data in a secondary round buffer with overflows ignored but read head advancing to point to the oldest valid sample.

When data collection is triggered, a number of pre-samples are copied in the main buffer; the number is min of available samples and configured max pre-samples. That number is placed in the header of the buffer.

Sampling is immediately resumed sending data to the main buffer in linear mode.

NOTE: Writing persistent configuration restarts presampling.

# Concurrency considerations

Data collection has the following priorities, in descending order:

1. A Process requiring the diagnostic buffer (whether for data collection or for anything else)
2. Data collection triggered by a physical event
3. Data collection started by user

A higher-priority event discards any previously collected data, possibly except independently running presampling.

The user may stop data collection at any time, except if a process is running.

## Process interface

The standalone data collection, including pre-sampling, is aborted if a process is started that needs a diagnostic buffer. All collected data is discarded.

A process may start its own data collection, always in linear mode.

Upon completion, a process may choose to stop data collection or leave it running until it fills the buffer.