NKFADC500 GUI DAQ Development

10th. May. 2017

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NKFADC500 GUI

Data array size (1 Byte / address)
128 ns : 128 Bytes = 0.125 kB
256 ns : 256 Bytes = 0.25 kB
512 ns : 512 Bytes = 0.5 kB
1024 ns : 1024 Bytes = 1 kB
2048 ns : 2048 Bytes = 2 kB
4096 ns : 4096 Bytes = 4 kB
8192 ns : 8192 Bytes = 8 kB
16384 ns : 16384 Bytes = 16 kB
32768 ns : 32768 Bytes = 32 kB
But first 32 Bytes are using for common parameters.

The data transfer from a DAQ to a PC is composed of a bulk of data.

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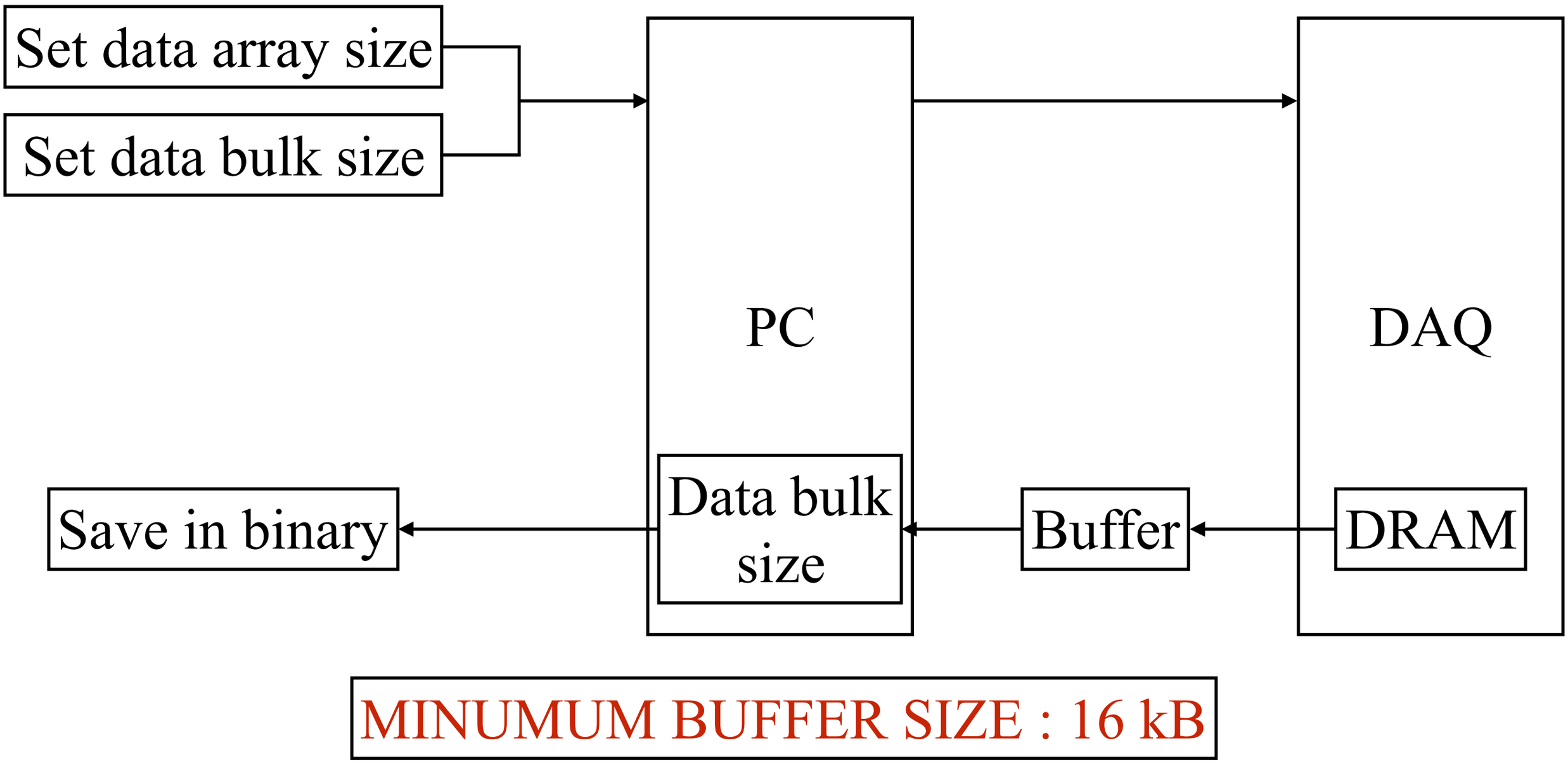

MINUMUM BUFFER SIZE : 16 kB

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Original algorithm

1. Data bulk size : 10 MB
2. Read the buffer size.
3. If the buffer size is larger than data bulk size, write data into an array and save it in a binary format.
4. Print out data.
5. Repeat this process for all activated modules.
6. This type is not intuitive and if cancel the job during the run, there is a very high risk of the rack of coincident events in other modules.

Revised algorithm 1

1. Same as above but print out data a module by a module.
2. This type is also not intuitive and if the trigger rate is small, it takes a lot of time to fill the memory.

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Revised algorithm 2

1. Do not set the data bulk size.
2. Read the buffer size.
3. If there is any amount of data, write data into an array and save it in a binary format.
4. Print out data for every moment.
5. Because the minimum buffer size is 16 kB, data array which is smaller than 16 kB should be paused until the buffer is filled.

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Future plan

1. Test with the NIM clock pulse.
2. Confirm the DAQ code.
3. Start making a decoder.