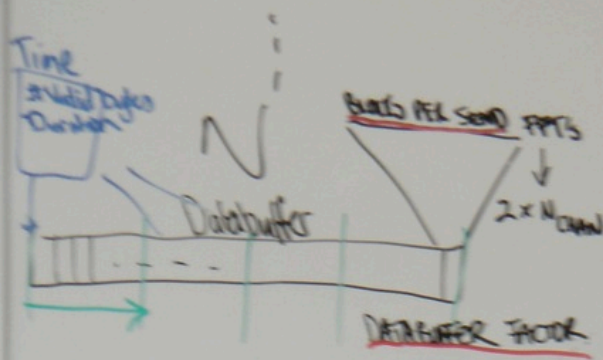


# Some snapshots of the DiFX layout



$$2 \times N_{chan} \times BPS = \text{Data buffer factor} \times \left[ \frac{N_{chan} \times \text{bits per sample}}{8} \right]$$

NUM DATA SEGMENTS

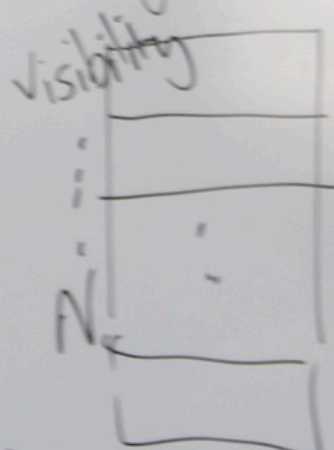
# of reads from disk/module/network per loop around databuffer

$$\text{Size of read (bytes)} = \frac{2 \times N_{chan} \times BPS \times \text{Data buffer factor} \times \left( \frac{N_{chan} \times \text{bits}}{8} \right)}{\text{NUM DATA SEGMENTS}}$$

## Datastream limitations

- Total databuffer length < available RAM
- Read size 'optimal'
- Num DATA SEGMENTS  $\geq 4$
- Send size 'optimal'
- Segment duration  $\leq 25$

## Fx Manager



VISBUFFER LENGTH

BORRS

am 1

DATA BUFFER FACTOR

Thread  
scratch  
space

N threads

CORE 1  
:  
N

Baseband data (all telescopes)

Blocks PER SEND + (used) BLOCKS (typically)

buffer factor  $\times \left[ \frac{N_{bands} \times \text{bits per sample}}{8} \right]$

disk/module/network  
databuffer

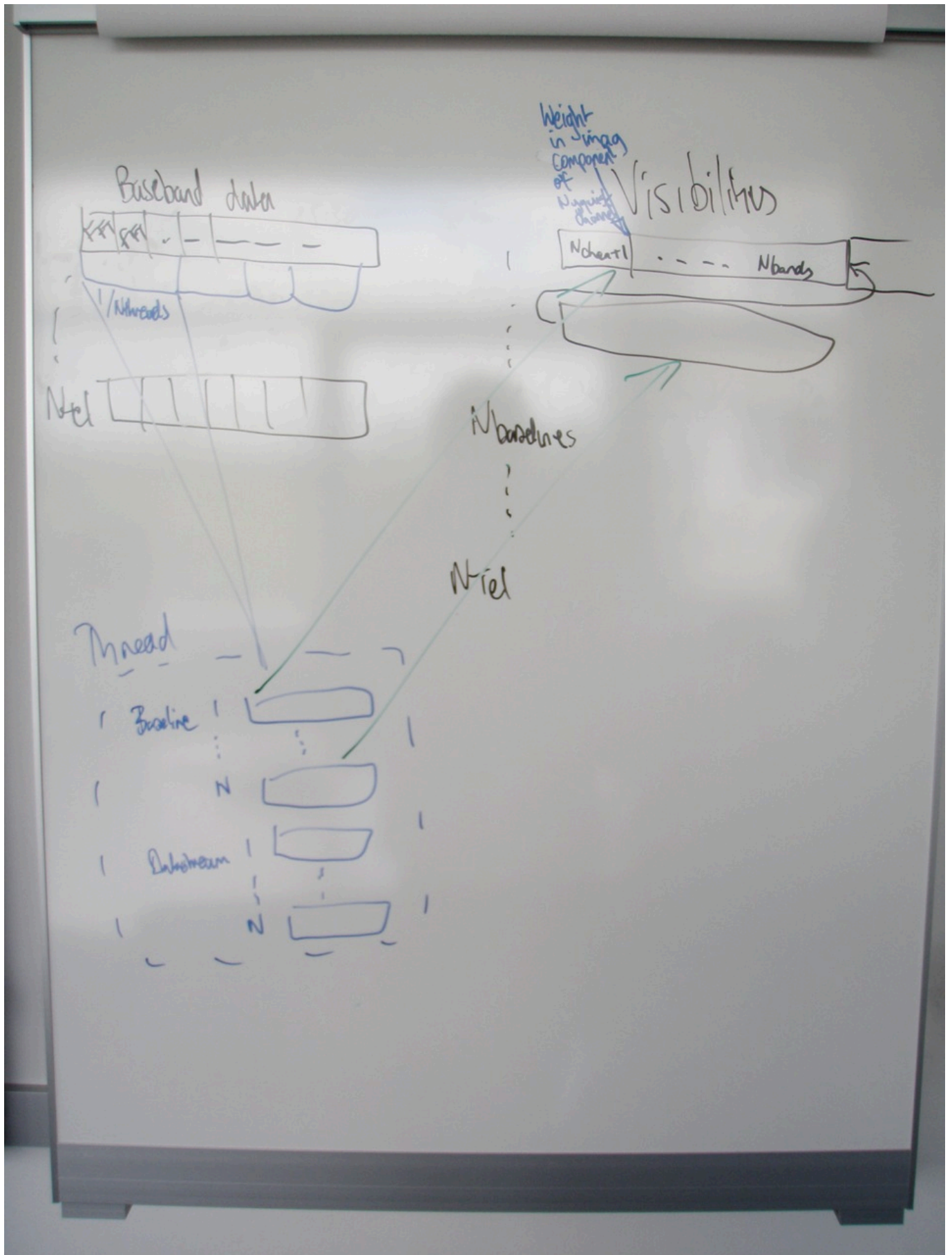
bytes) =  $2 \times N_{chan} \times BPS \times \text{Data buffer factor} \times \left( \frac{N_{bands} \times \text{bits}}{8} \right) \times \left[ \frac{1}{2} \right]$

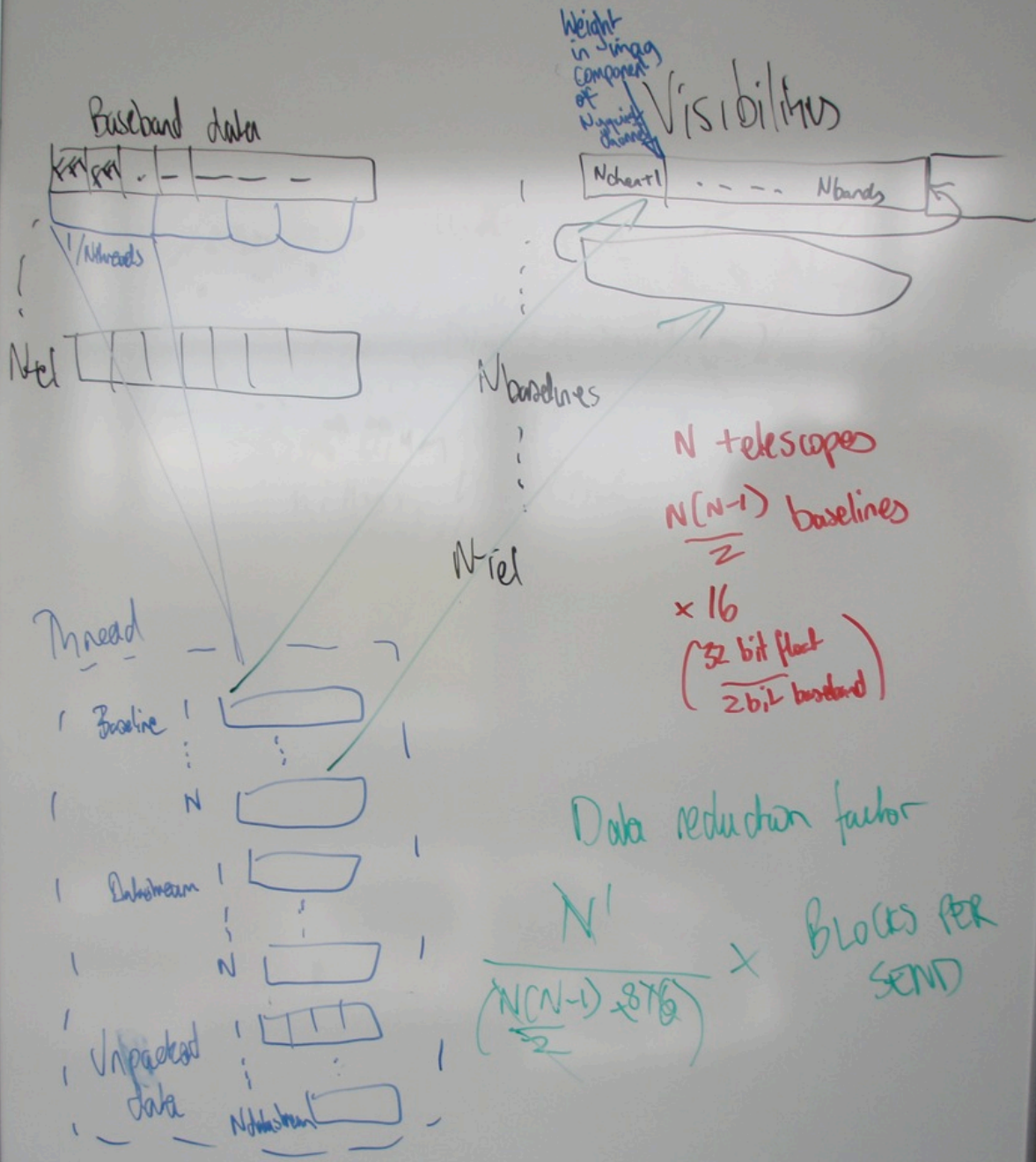
NUM DATA SEGMENTS

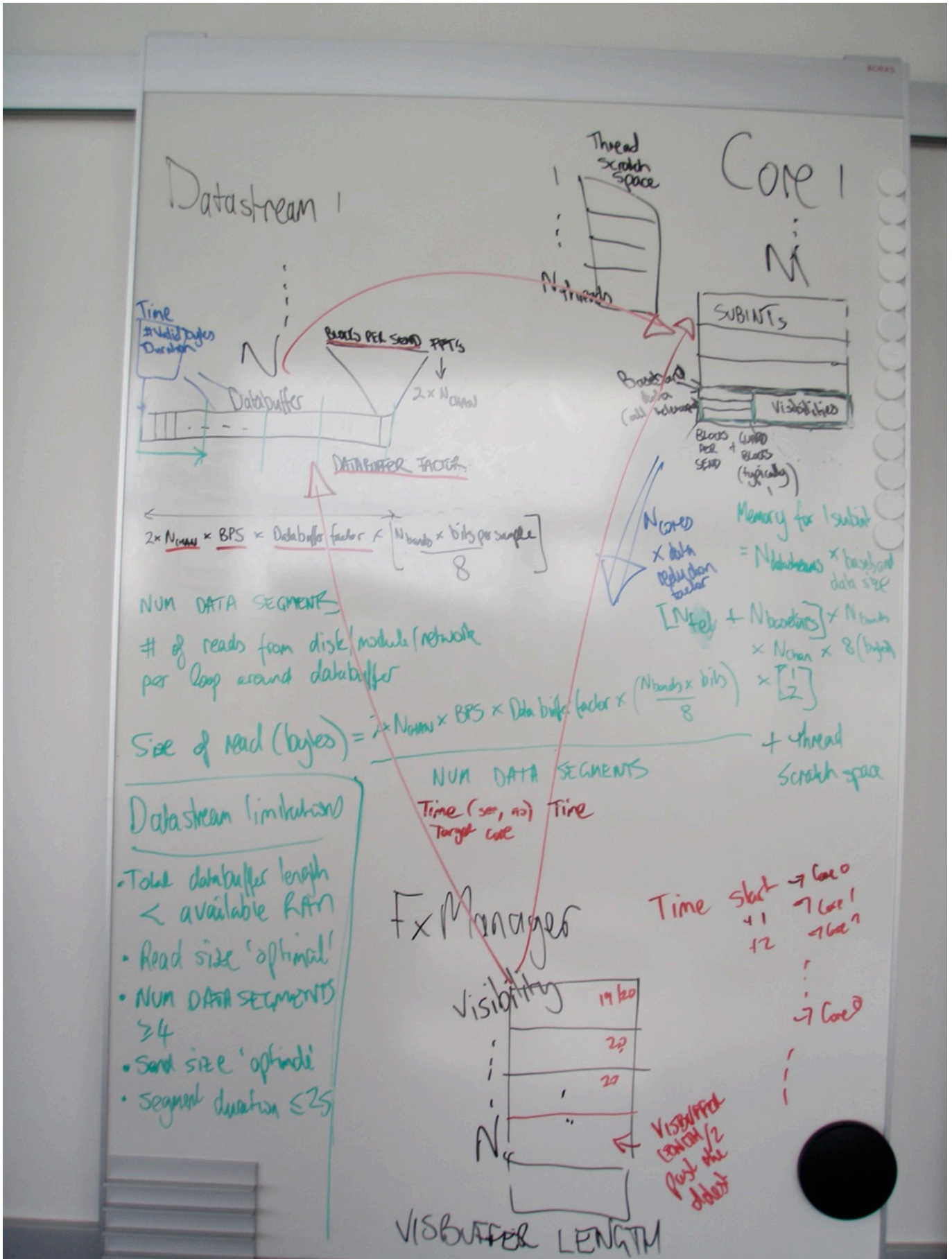
$\left[ N_{freq} + N_{baseline} \right] \times N_{bands} \times N_{chan} \times 8 \text{ (bytes)}$

Memory for 1 subint  
=  $N_{channels} \times \text{baseband data size}$

+ thread  
scratch space







From:

<https://www.atnf.csiro.au/vlbi/dokuwiki/> - **ATNF VLBI Wiki**

Permanent link:

<https://www.atnf.csiro.au/vlbi/dokuwiki/doku.php/difx/whiteboard>

Last update: **2015/10/21 10:08**

