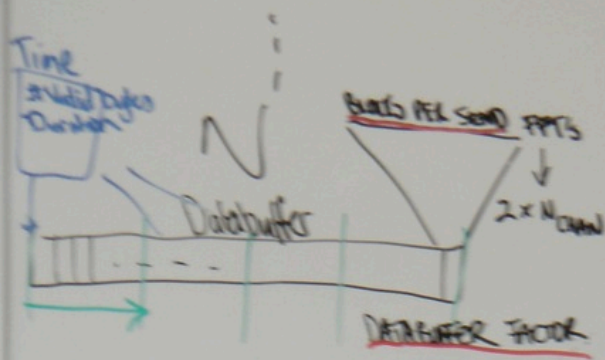


Some snapshots of the DiFX layout



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

NUM DATA SEGMENTS

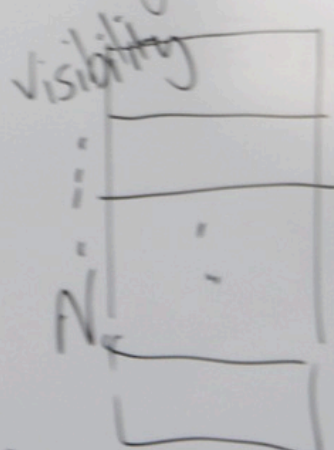
of reads from disk/module/network per loop around databuffer

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

Datastream limitations

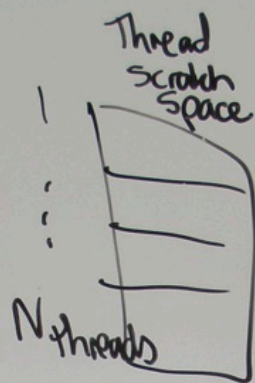
- Total databuffer length < available RAM
- Read size 'optimal'
- NUM DATA SEGMENTS ≥ 4
- Send size 'optimal'
- Segment duration ≤ 25

Fx Manager

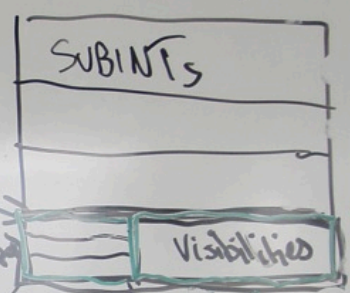


VISBUFFER LENGTH

BORRKS



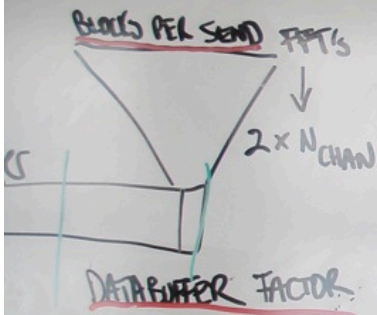
CORE 1
:
N



Baseband data (all relevant)

Blocks PER SEND + (used) BLOCKS (typically)

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



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

MENTS

disk/module/network
databuffer

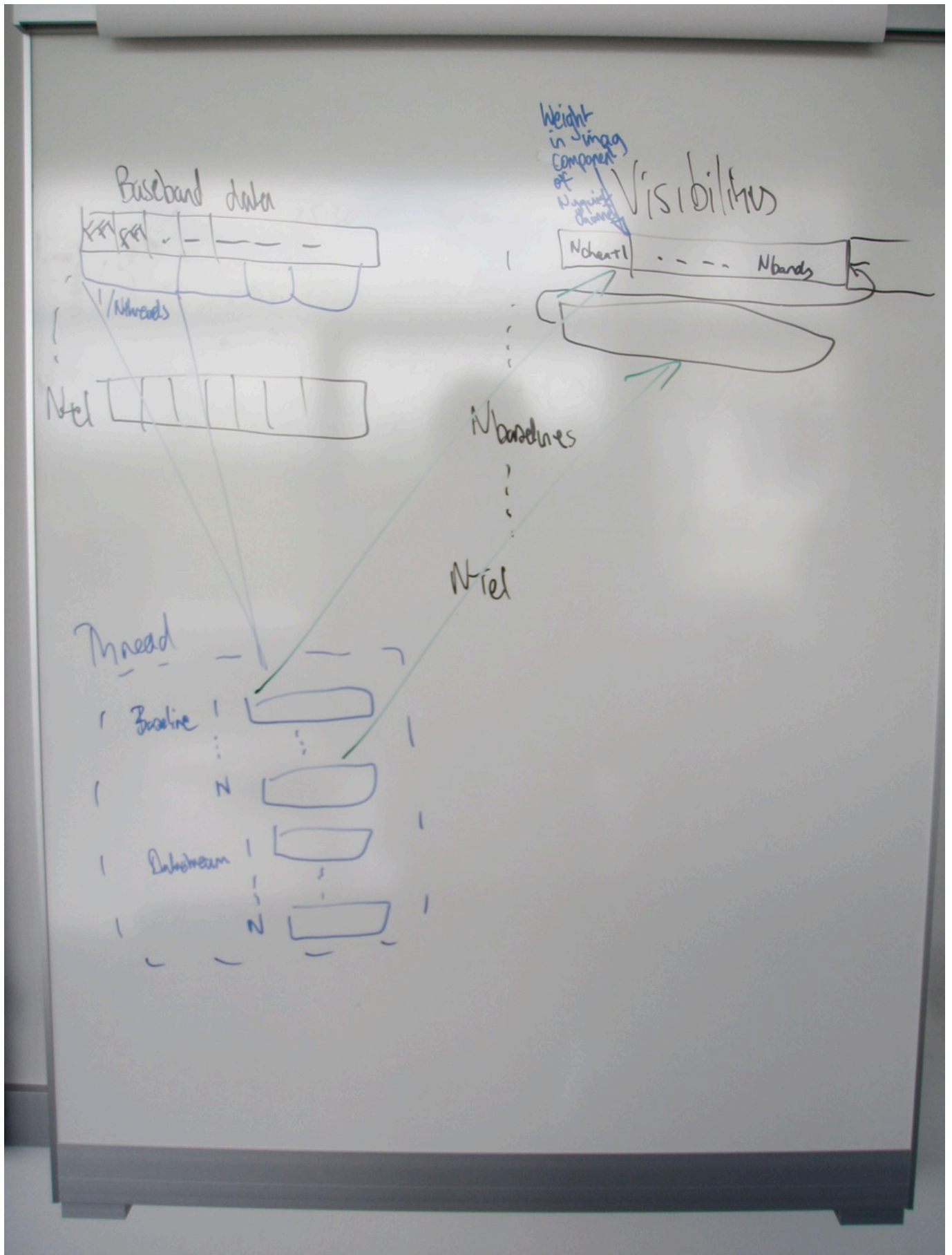
$$\left[N_{\text{freq}} + N_{\text{baselines}} \right] \times N_{\text{bands}} \times N_{\text{chan}} \times 8 \text{ (bytes)}$$

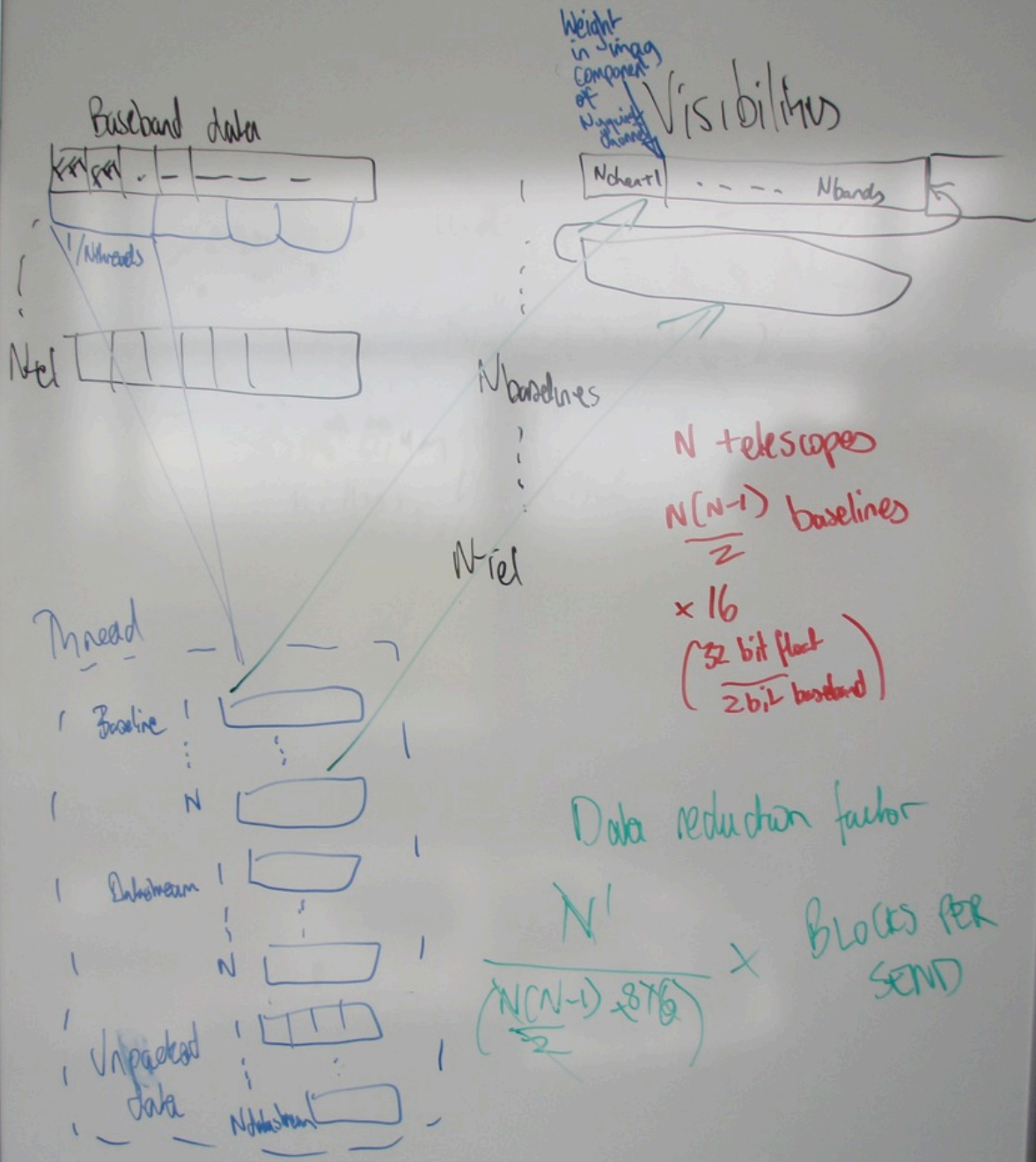
$$\text{bytes} = 2 \times N_{\text{chan}} \times \text{BPS} \times \text{Data buffer factor} \times \left(\frac{N_{\text{bands}} \times \text{bits}}{8} \right) \times \left[\frac{1}{2} \right]$$

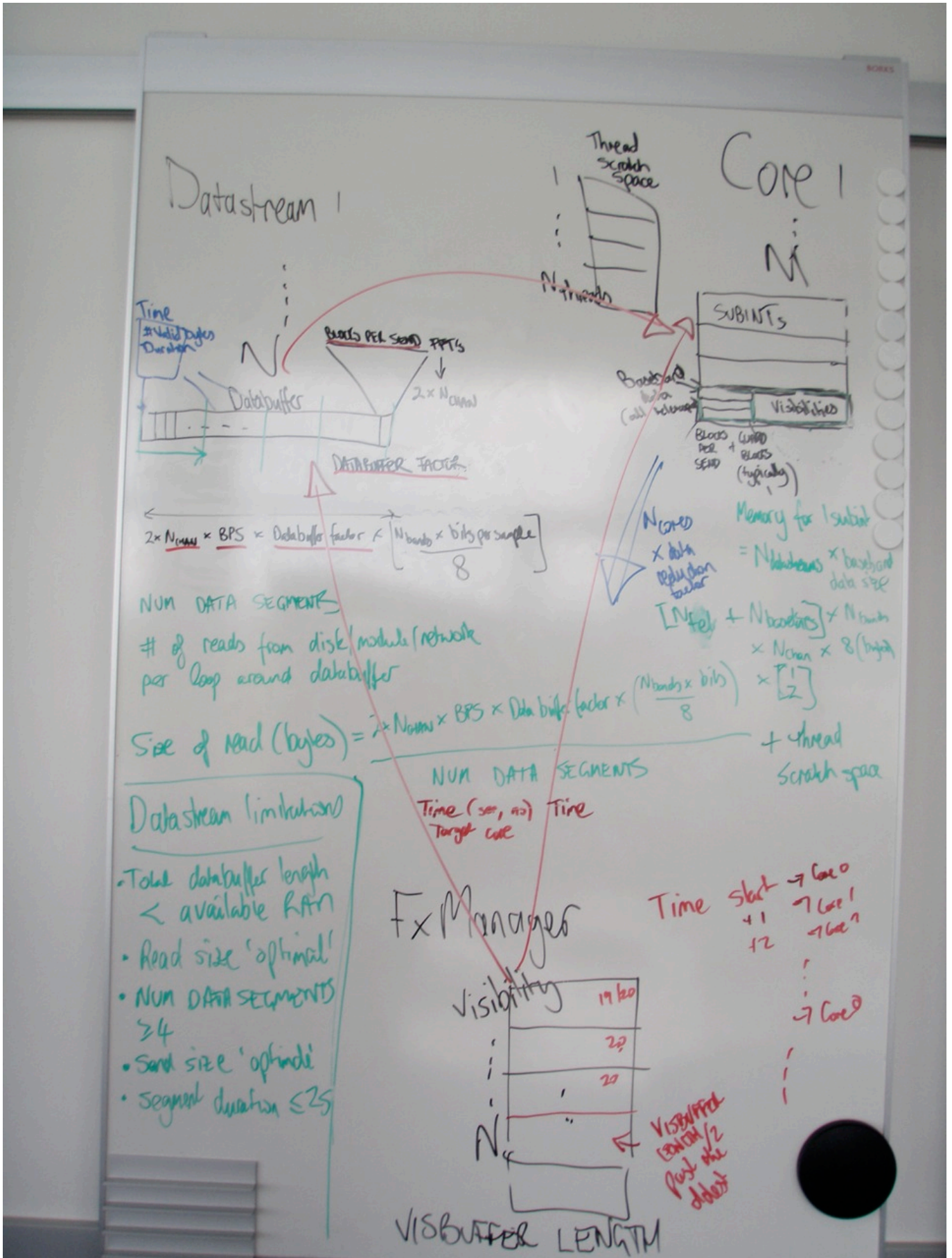
NUM DATA SEGMENTS

+ thread Scratch space

what is
math







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