

Ligo/Virgo Data Transfer

Strain data $h(t)/h_{rec}$ file sizes and Virgo requirements

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LSC/Virgo meeting Amsterdam 24-9-08

Hrec-Online fluxes

- Produced in segments (only in locked or science mode)
- No lower bound per file (even 1 frame)
In VSR1/S5 average sizes ranged through:
16MB for 128s Ligo data
700MB for 3600s Virgo data
- The main requirement is not related to data transfer but to data storage in HPSS: file size should be $\geq 1\text{GB}$ to meet specifications given at Lyon
- It's an 'archiving' problem, conflicts with need of having small files for time delay and speed of computation

Solutions

1. Produce longer files natively: *DAQ/Analysis problem*
2. Compact files:
 - compaction and distribution should be done at single source, otherwise accept having different files at Lyon and Bologna
 - to compact the files they need to be time ordered (it wasn't the case in VSR1/S5)
The receiving part must have the list of the files to receive for a given period to trigger the compaction without making holes (-> adds connection oriented features and buffering delay)
 - increases the time delay for the end user (file length in seconds + buffering delay + compacting delay), unless also uncompact files are sent in parallel