

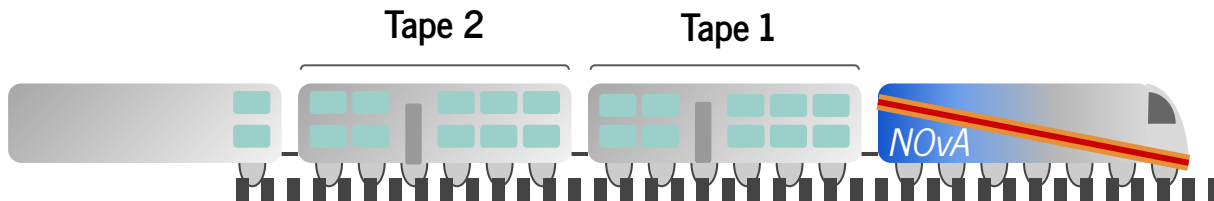
# Prestaging Woes: NOvA

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# Freight Train

- Brand new workflow started in March 2022 where we process files **tape by tape**.
- Motivation: we have many files from many trigger streams scattered over many tapes and prestaging is a major production bottle-neck.
  - ◆ Visit each tape **once only**.
  - ◆ Prestage and process all files from that tape before moving onto the next one



# Freight Train

- ◆ Two projects, **raw train** and **artdaq train**

## Raw train

- Prestage tapes
- Copy raw files to persistent
- Num. of tapes: 351
- Num. of files: ~1.1 million
- Total size: 1.34 TB

## Artdaq train

- Prestage tapes
- Send NuMI and cosmic files to ALCF for doing cosmic filtering on GPUs
- Process exotics files in FermiGrid
- Reco planned in the future
- Num. of tapes: 5003 (14 raw trains)
- Num. of files: ~6 million (6 raw trains)
- Total size: 2.63 PB (**2000 raw trains**)





# Freight Train: issues

- We have observed 3 main problems:
  - Prestaging getting stuck at the last 3 or 4 files of a tape.
  - Slow prestaging speed  $O(0.1 \text{ MB} / \text{s})$ .
  - Projects simply not starting.
- All of these problems require real, long-term solutions.

