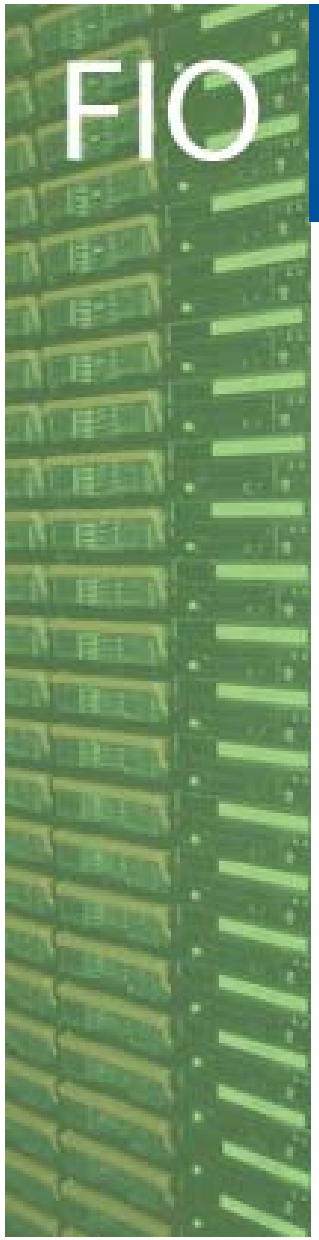

Fabric Infrastructure and Operations

CERN IT Department

CCRC Tape Metrics Tier-0

Tim Bell

January 2008

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Switzerland
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Why measure tape ?

- Capacity planning
  - Do we have enough equipment ?
  - Is it being used effectively ?
- Root cause analysis
  - When performance issues are found, can we identify the root causes after the event ?
- Trend Analysis
  - Follow changes during and after challenges to ensure that improvements are real

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Daily Metrics for tape

- File size
  - Average size of files to/from tape per day
- Repeat mounting percentage
  - Share of mounts for tapes which have been mounted over 5 times in a day
- Data transfer per mount
  - Average of data is transferred for each mount
- Total Rate
  - Data written per-VO divided by total time on drives including mount, unmount, positioning and data transfer

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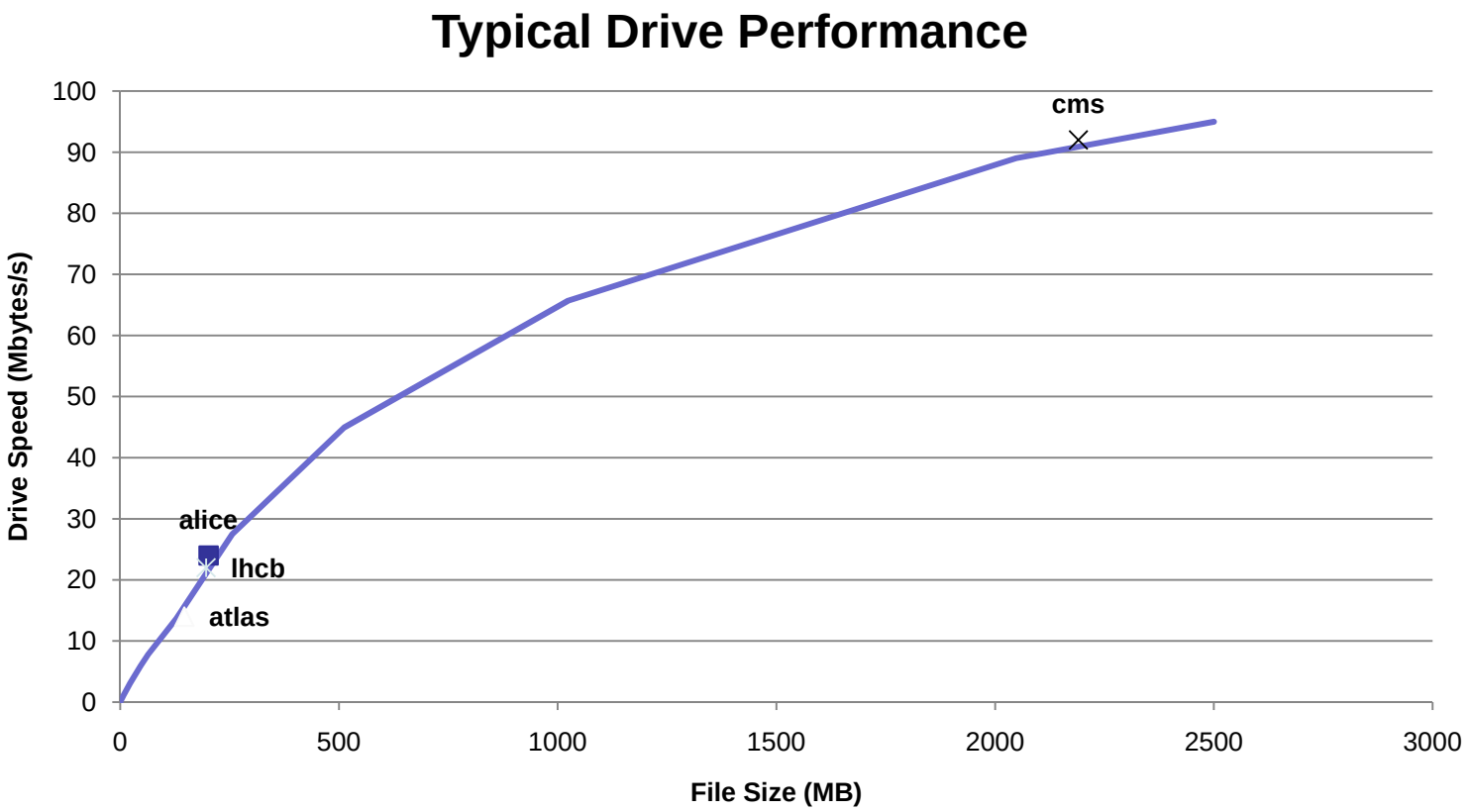
File size and performance



Alice	Atlas	CMS	LHCb
200 MB	150 MB	2200 MB	200 MB

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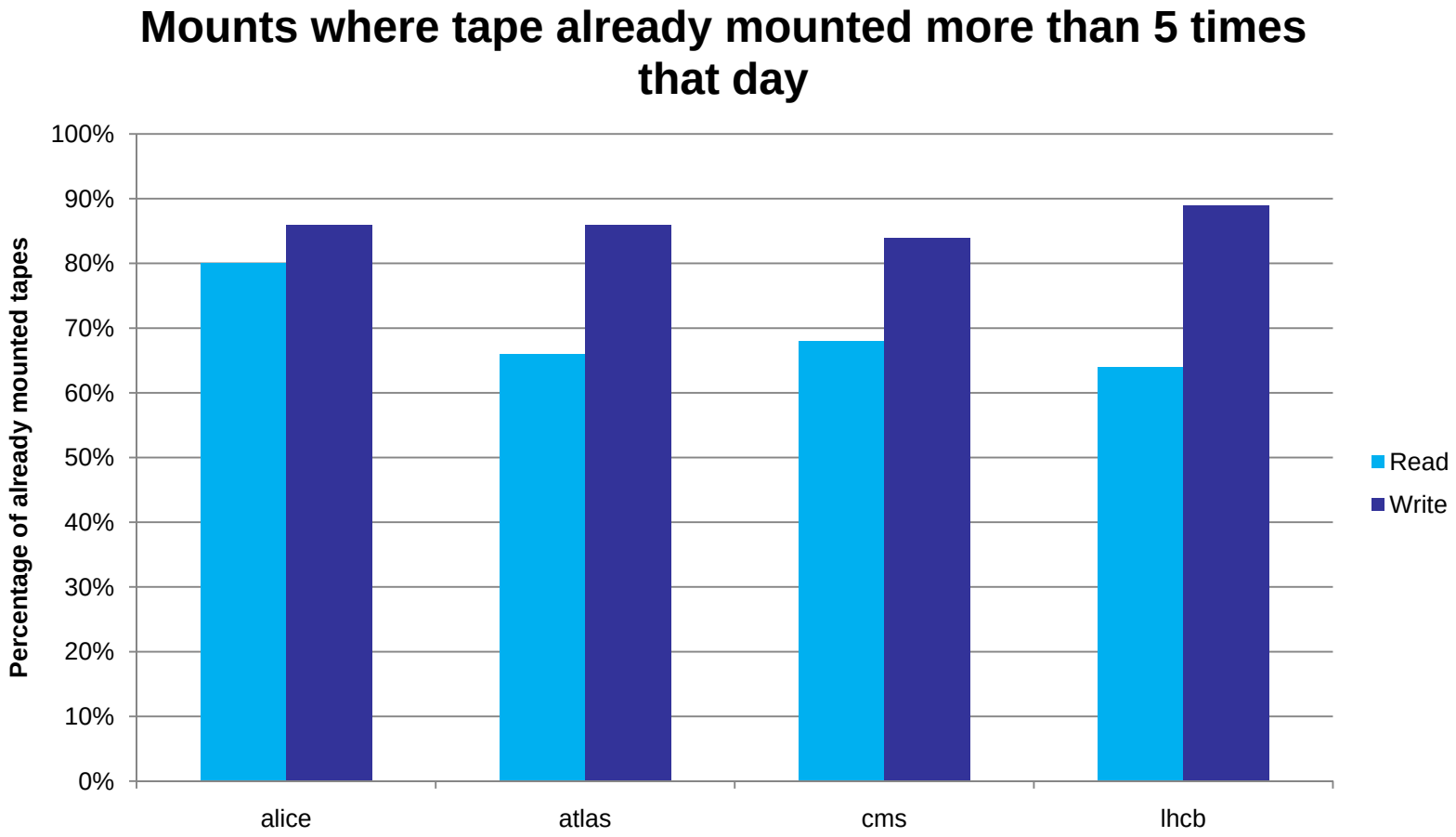
Repeat Mounting



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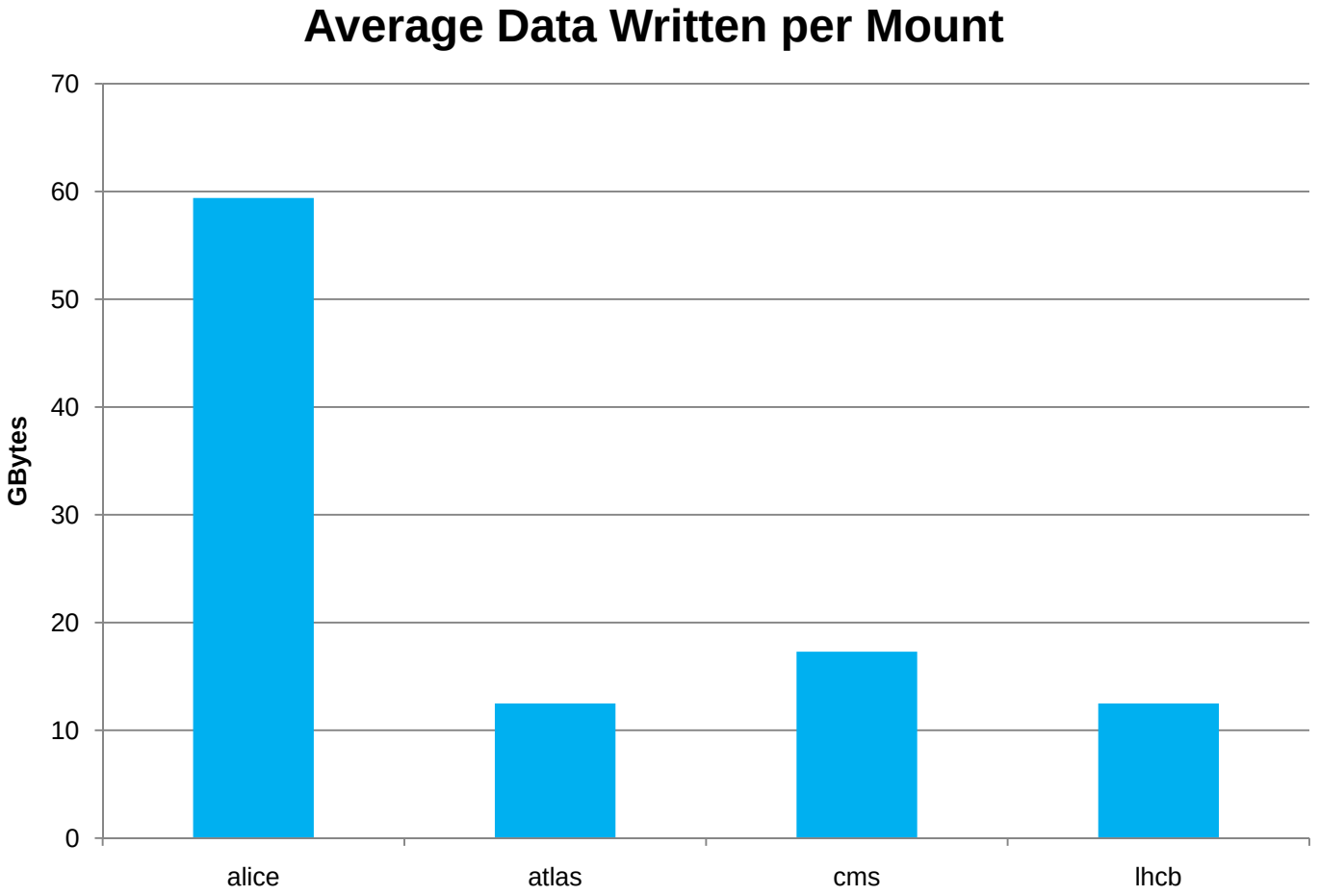
Repeat Mounting - Write



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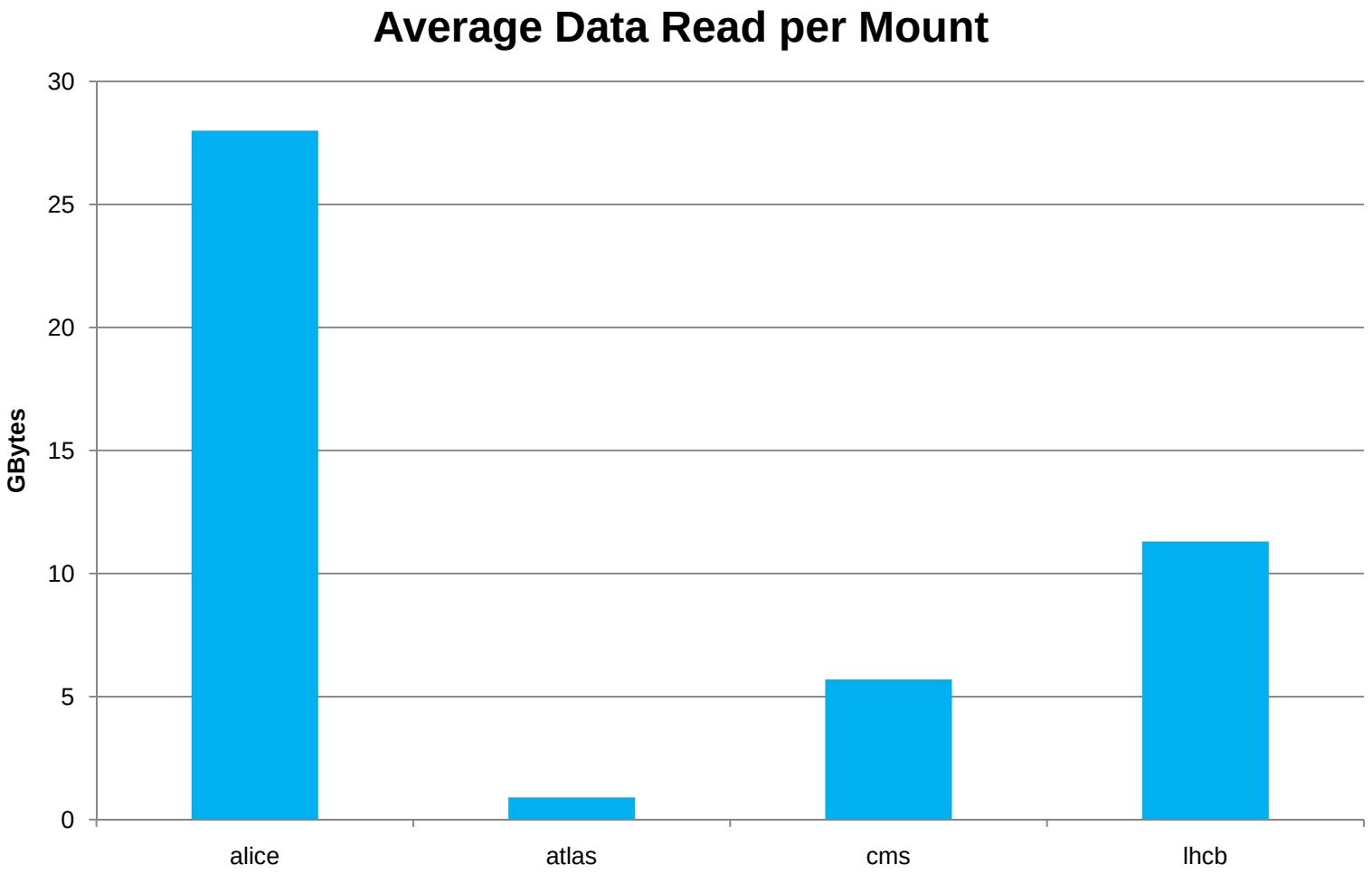
Repeat Mounting - Read



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FIO

Total performance to tape

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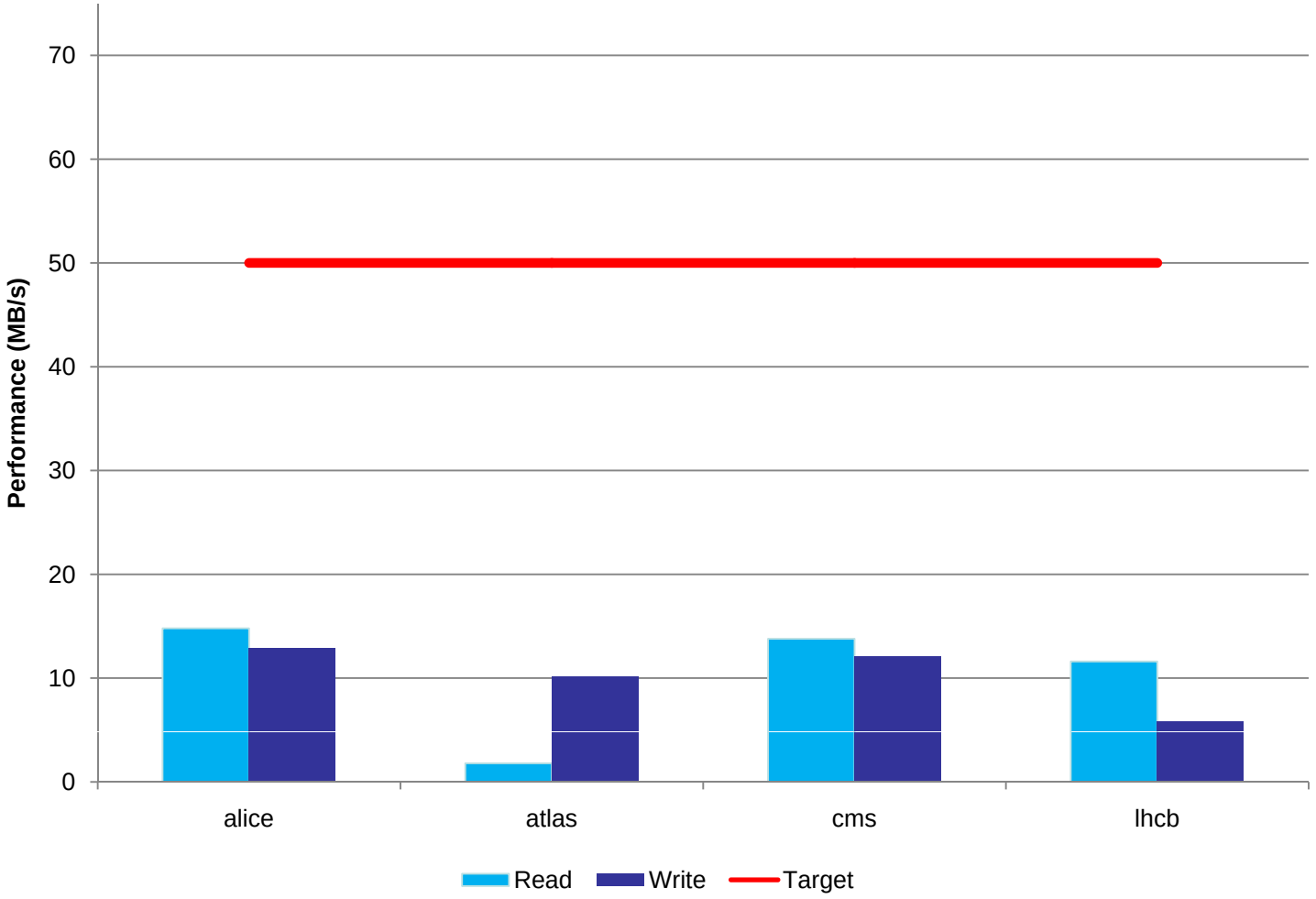

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Aims

- Record the performance during CCRC
  - Per VO / per day
- Establish baseline performance with a consistent view between all Tier-0/1s
- Check capacity matches requirements per VO and per site
- Identify improvements
  - Experiment code
  - HSM policies
  - HSM algorithms

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