
CASTOR in ATLAS (T0)

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- disclaimer

- these slides only report the T0 experience
- there's more *CASTOR* usage in *ATLAS*



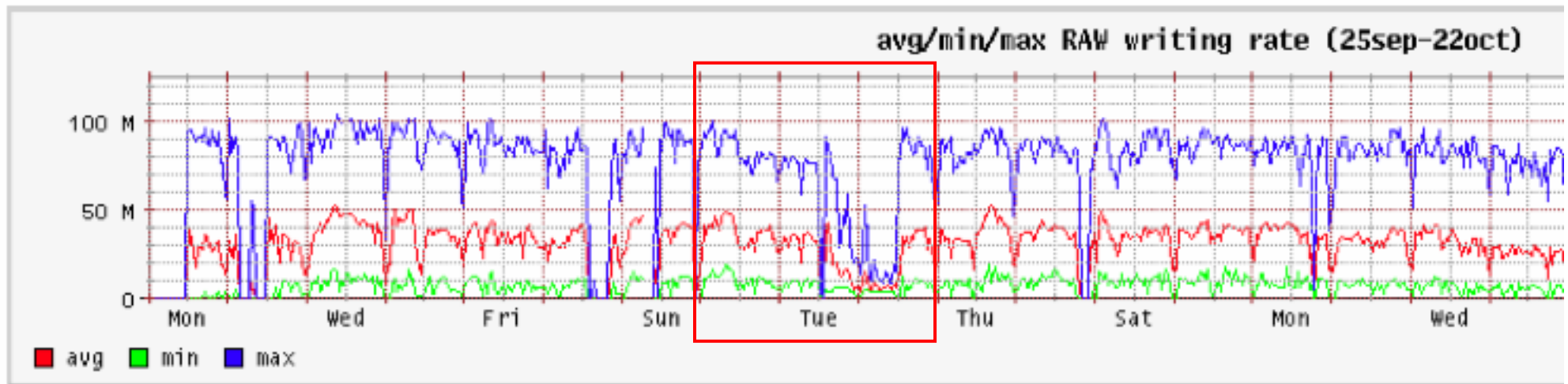
■ T0 test 25-9 -> 21/10

- ~ 1.5 PB of data was moved using 2.6 million rfcps
 - only 13K errors (0.5 %)
 - moved 0.5 PB in week 3 of test !
 - » that is 140% wrt nominal rate
 - ~ 200.000 rfcps per day
- CASTOR was main source of problems
 - unexpectedly because this was the 3rd time we were doing the same test



■ problems

- usually found by our monitoring
 - ex. service degradation over three days ending with a complete stop



■ problems (cont'ed)

- software/design bugs

- stuck rfcps due to an LSF API bug
- rfcps are serviced in random order
 - » can not safely ctrl-c rfcps
 - » 3 orders of magnitude difference in rfcps pending time [our hypothesis]
- migration does not respect time-order
 - » recent unprocessed RAW files are purged from disk while plenty of old processed files stay on disk



... on data export

- CASTOR ok, SRM not
 - some mysterious zero length files
 - likely FTS/SRM bug being unable to delete failed transfer attempts
 - strange combination of nsrm, rfrm, stager_rm, srm-advisory-delete to remove files and "free up" "locked" namespace entries
 - question: why so many user commands?
 - » rfrm = nsrm + stager_rm ?
 - mapping of (Grid) users, groups to service classes...
 - ... and security: protecting the namespace!!!
 - so far thanks Jan, Olof, Miguel for the manual interventions!
 - unclear error messages within the SRM layer
 - "Failed to retrieve TURL" when the source file simply doesn't exist or is zero size
 - » have seen the same message on other conditions (overload)
 - will need improvements to find free space:
 - parsing stager_qry output undesirable
 - » SRM v2.2 should solve this one!



■ conclusions

- we feel insufficient thought has been given to non-ideal CASTOR operation mode
 - e.g. when big backlogs exist
- we are worried about the not-yet-exercised tape-recall

