

ATLAS Plan for Tape Challenge '22

Xin Zhao (BNL)

Tape Challenge meeting, March 3rd, 2022

Dates

- Second week of March (7th~11th) : A-DT test for CMS
- Third week of March (14th~18th) : DT test for ATLAS/CMS/LHCb
- Fourth week of March (21st~25th) : A-DT test for ATLAS/LHCb

Plan for DT week (March 14th~18th)

- Monday, Tuesday
 - Full chain tape write test : P1/SFO -> T0 disk/tape <-> T1 tape/disk
 - Two beam time("fill"), each lasts for 12h (8am~8pm CET)
 - Activities during the fill
 - SFO will be generating all streams (fake) RAW data at 8GB/s.
 - T0 batch farm to produce (fake) derived data at 2GB/s
 - Data streams to CERN EOS and CTA: 10GB/s, total 864TB, file size 5GB
 - RAW data export from T0 to T1 tape : 8GB/s
 - Main stream (peak rate of 3.5GB/s) data will be sent to one T1 per fill (FZK and INFN)
 - The rest of the (delayed) streams(~4.6GB/s) will be distributed among other T1s based on MoU share
 - Derived data export from T0 to T1 disk (at 2GB/s)
 - Production tape read (from T1s) continues at lower rate
- Wednesday through Friday
 - Dedicated test of peak export rate against individual T1s : T0 EOS → T1 tape
 - Fake data from SFO will be re-used
 - FTS throughput setting will be used to control the inbound rate to T1 tape (set to 3.5GB/s)
 - Production tape read (from T1s) continues at normal rate
- Fake data to be deleted after the challenge: scope name "data_test"

date	Start time (CET)	duration	Raw data streams	Target site
March 14th	8am	12h	All streams (SFO fill1)	main stream to FZK
March 15th	8am	12h	All streams (SFO fill2)	main stream to INFN
March 16th	8am	12h	Main stream (fill1)	NDGF
	2pm	12h	Main stream (fill2)	BNL
	5pm	12h	Main stream (fill1)	TRIUMF
March 17th	8am	12h	Main stream (fill1)	PIC
	2pm	12h	Main stream (fill2)	RAL
March 18th	8am	12h	Main stream (fill1)	IN2P3
	12pm	12h	Main stream (fill2)	SARA
	2pm	12h	Main stream (fill1)	BNL(2)

Schedule of peak (export) rate test for T1s

Plan for A-DT week (March 21st ~ 25th)

- Business as usual : normal tape write and tape read activities from production
 - Tape write : data consolidation
 - Run3 target : 5.1GB/s overall
 - Tape read : Data Carousel in full speed
 - Run3 target : 8.4GB/s overall
- T1s to control max tape write rate
 - Set FTS throughput limit for inbound traffic to its tape endpoint :
(5.1GB/s * MoU) or above

