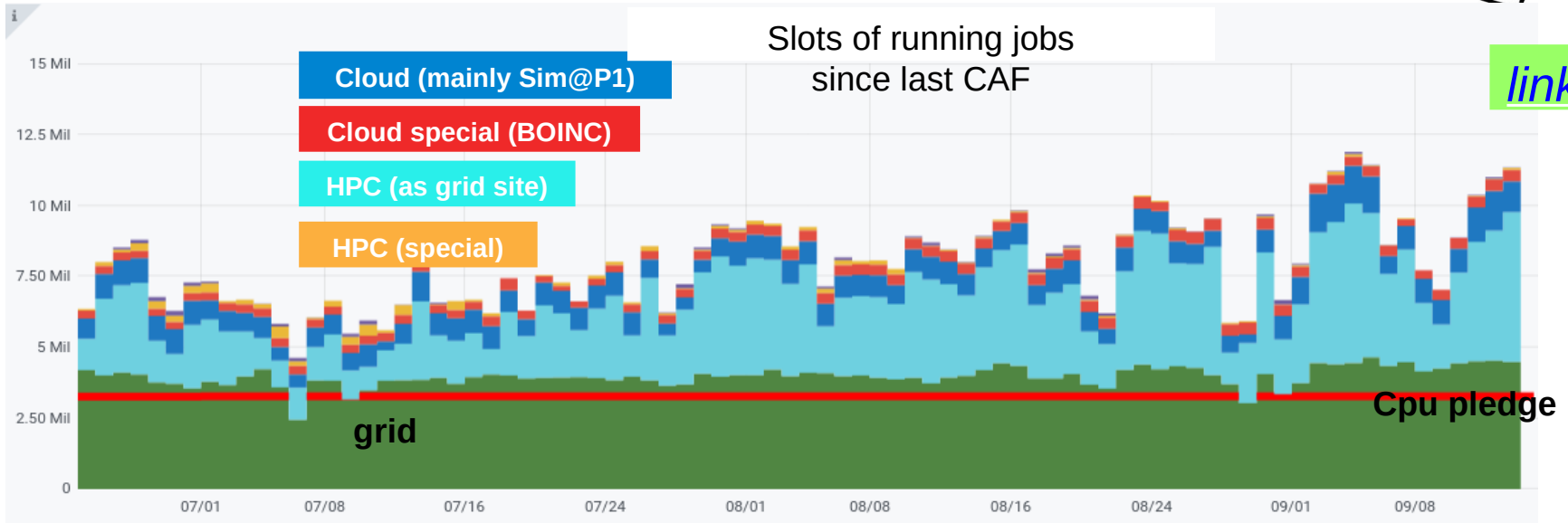


Introduction

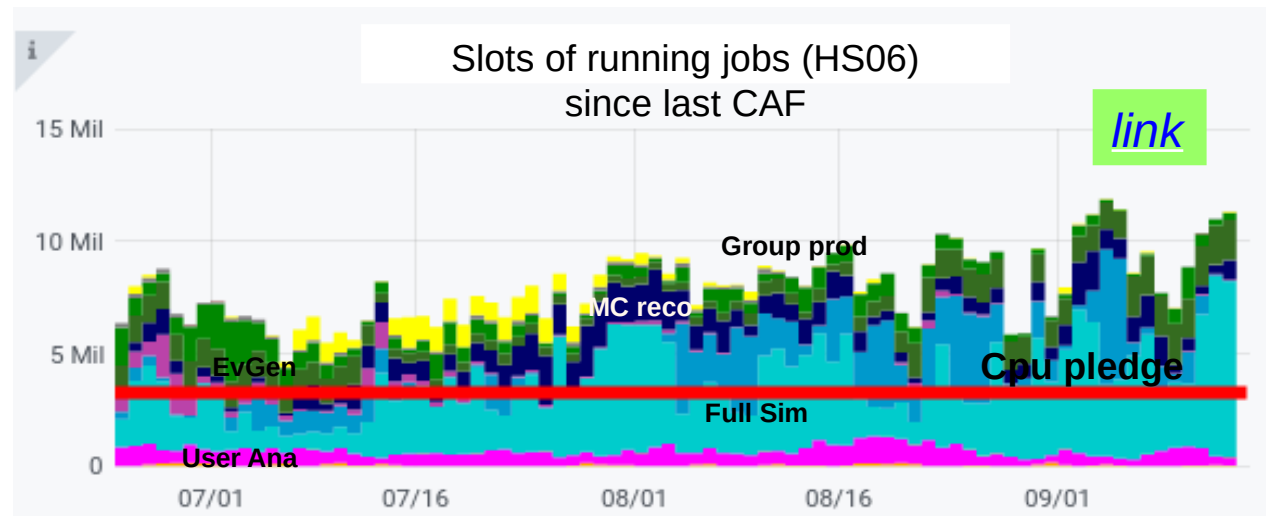
Frédéric Derue, LPNHE Paris

Calcul ATLAS France (CAF) meeting
16th September 2021



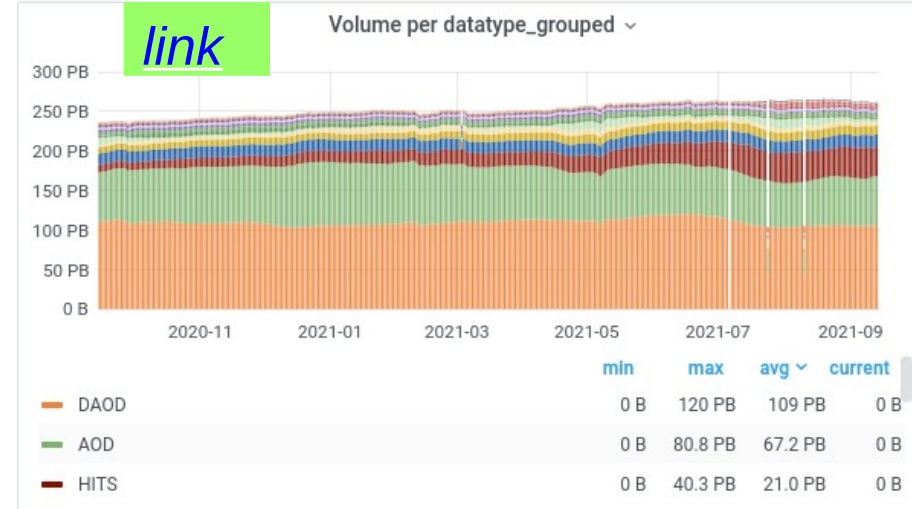
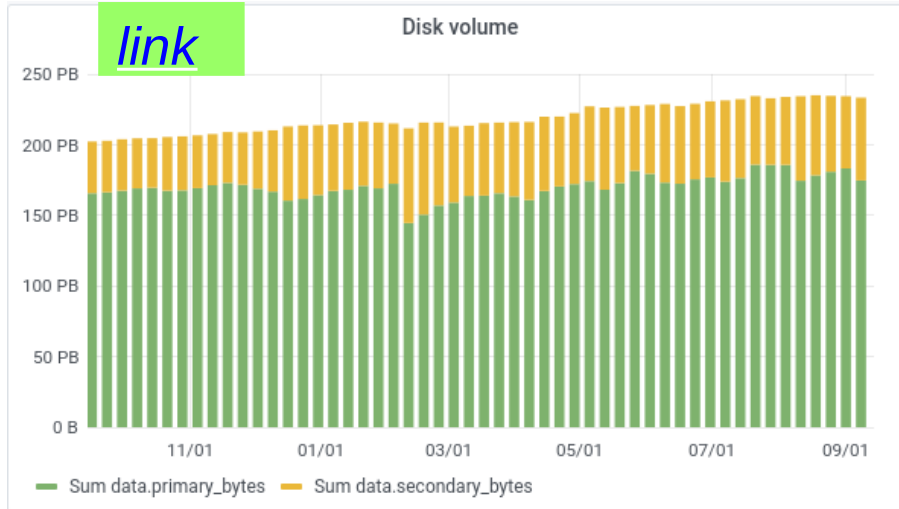
• Smooth computing operation

- >500k jobs/d on grid (above pledge), HLT farm, HPC, cloud, gpu
- ~79% MC simu, reco, evgen
- 9% user/group analysis



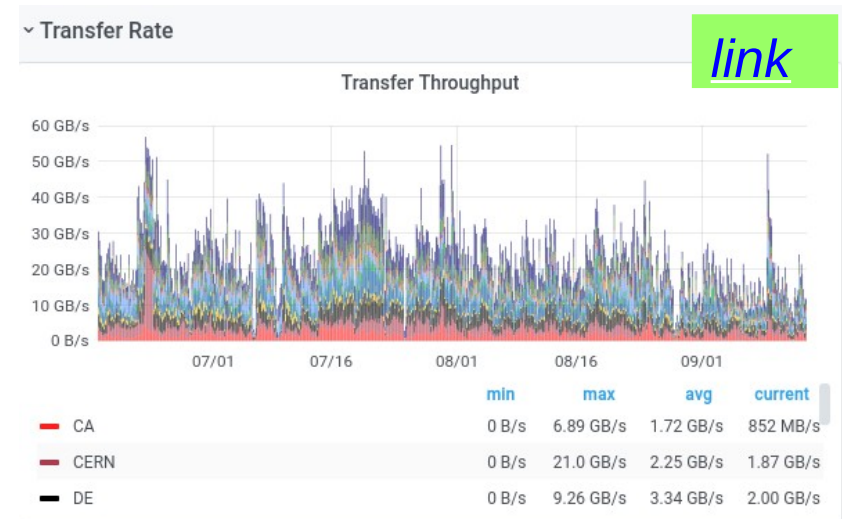
● Storage evolution

- >500 PB disk+tape used
- disk pledge of 270 PB – 235 TB filled



● Data movement (per day)

- moving ~2 PB /d
@15-20 GB/s with peaks at 60 GB/s
- deleting ~2 PB/d



- **Status**

- cf. presentation at GDB 8th September 2021 [slides]
- Network Data Challenge 1st week of October
- Tape Challenge 2nd week of October

- **Network Data Challenge 2021 goals**

- Commission HTTP-TPC
- Demonstrate we can fill 10% the bandwidth that is requested at HL-LHC scale
 - ⇒ HL-LHC network challenges parameters

- **Tape Challenge goal**

- Goal is to validate tape bandwidth on WLCG tape sites (Tier0, Tier1s and even Tier2 if available), at the Run3 scale, for all experiments
 - ⇒ Tape Data Challenge parameters

⇒ to be discussed during « report LCG-FR »

- **Discussion between S&C conveners, Eric, Andrea and Fred end of April**
 - ATLAS uses the Oracle databases in Lyon IN2P3 for conditions data access and for AMI
 - end of campus Oracle licences
 - who will pay now ? (i.e in spring 2022)
 - Move AMI main at CERN + keep replicate at CC-IN2P3
 - ensure feasibility/schedule with AMI people
 - could live with one of the existing CC licence ?
 - next status meeting by September ?

[link](#)

- Quite substantial increases requested for 2023 owing to a few main factors
 - Reduction in our allocation for 2022 compared to our request
 - Significant increase in delayed stream and RAW data size
- We understand informally that this is in line with the increase CMS will request

		2022 agreed @ April 2021 RRB	2023 Request @ March 2022 RRB	Balance 2023 wrt 2022
CPU	T0 (kHS06)	550	740	34.5%
CPU	T1 (kHS06)	1300	1536	18.1%
CPU	T2 (kHS06)	1588	1877	18.2%
CPU	SUM (kHS06)	3438	4152	20.8%
Disk	T0 (PB)	32	40	25.0%
Disk	T1 (PB)	116	136	17.5%
Disk	T2 (PB)	142	167	17.4%
Disk	SUM (PB)	290	343	18.3%
Tape	T0 (PB)	120	174	45.0%
Tape	T1 (PB)	272	353	29.8%
Tape	SUM (PB)	392	527	34.4%

Table 6: Summary of the preliminary requests for computing resources in 2023.

[link](#)

- Currently using *substantial* opportunistic CPU resources (HPC, Tier0, HLT farm)
- These resources come without any additional **disk**
- We account for *some* opportunistic CPU in the 2023 request
 - Less than we are currently using, of course, because these are not pledged resources; they could disappear at any moment!
- For us currently, **disk** pledges are more critical than **CPU** pledges
 - If you have a budget shortfall, contact us and let's understand together the possible way out:
 - In general, if you have to choose, please try to ensure you meet the disk pledge!
 - We know that there are ordering delays; please let us and WLCG know if you won't be able to fulfill your pledge on time

[link](#)

Main topic for the day: LHCC November Review / R2R4

- Review in November ([Mandate](#)), documents due October 1
- Focus on “**Common Software Activities**” (CSAs)
 - [DOMA](#), [Generators](#), [Simulation](#), [ROOT “Foundations”](#), Analysis ([Python/ROOT](#))
 - Talks today on Gen and Sim; [next Tuesday on DOMA](#), next Friday in AMG on ROOT and Analysis
- Experiments asked to report on
 - **Involvement in and impact of CSAs**
 - **R&D plans for Run 4**, emphasizing role of **Accelerators and HPCs**
 - For each CDR priority area:
 - List milestones and key technical deliverables at least to TDR (end 2023)
 - Evaluate resource impact, identify key personnel and estimate expertise/effort needed
- **Several useful exercises undertaken in this review**
 - Milestones, deliverables, effort estimates for various HL-LHC R&D areas
 - Updates of the HL-LHC resource estimates with improved understanding

DDM / DOMA review for LHCC on 14th September

<https://indico.cern.ch/event/1072666/>

- Annual meeting between CAF and FR ATLAS users, december 9th 2021 meeting [<https://indico.in2p3.fr/event/24112/>]
- **Morning**
 - a report of CAF and S&C activities of the current year (<1 hour)
 - Lab/group reports
- **Afternoon**
 - readiness for Run 3 ? but more precisely what ?
 - ⇒ talk on software ? Component Accumulator
 - discussion with S&C conveners + ICB chair
 - in particular for personpower involvement
 - opportunity that group leaders are present