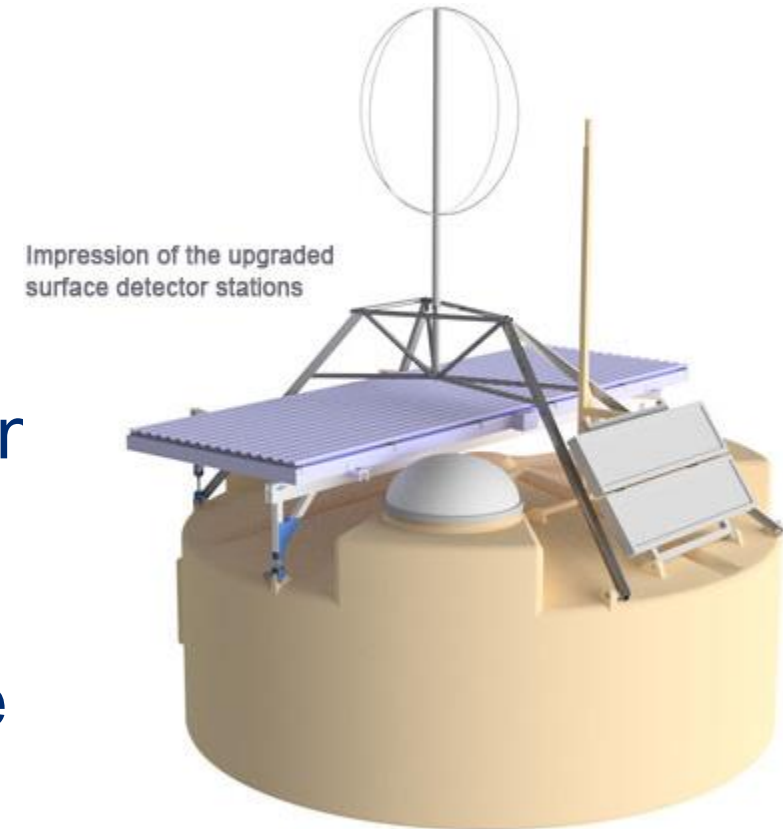


LHCONE and VO auger

Jiri Chudoba

Pierre Auger Observatory

- Astroparticle physics experiment in Argentina
- Data taking since ~2000
- Various hardware upgrades under construction and gradual implementation
 - radio array (AERA)
 - new plastic scintillators (AugerPrime)
- Observations to be done for many more years (at least 2030)



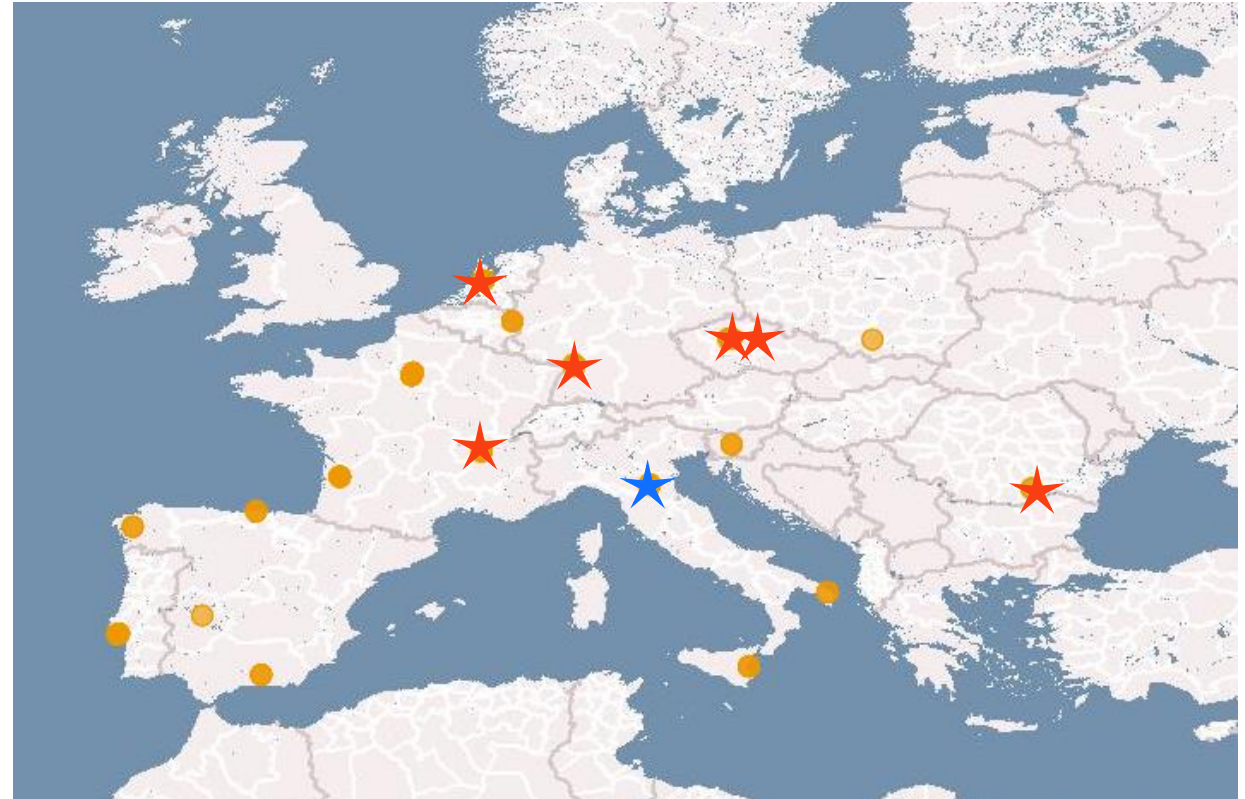
Auger Data

- Primary data from detectors moved to CC Lyon (France)
 - low volume for all but radio data
- Simulation data produced at several EGI sites
 - “master copy” iRODS at CC
 - merging and checking locally at prague1cg2
 - DIRAC, DIRAC File Catalog, FTS at CERN, cvmfs

Location of Storage elements

★ Sites with high traffic
(for *auger*)

★ Sites with planned
high traffic



List of files and their location (DFC)

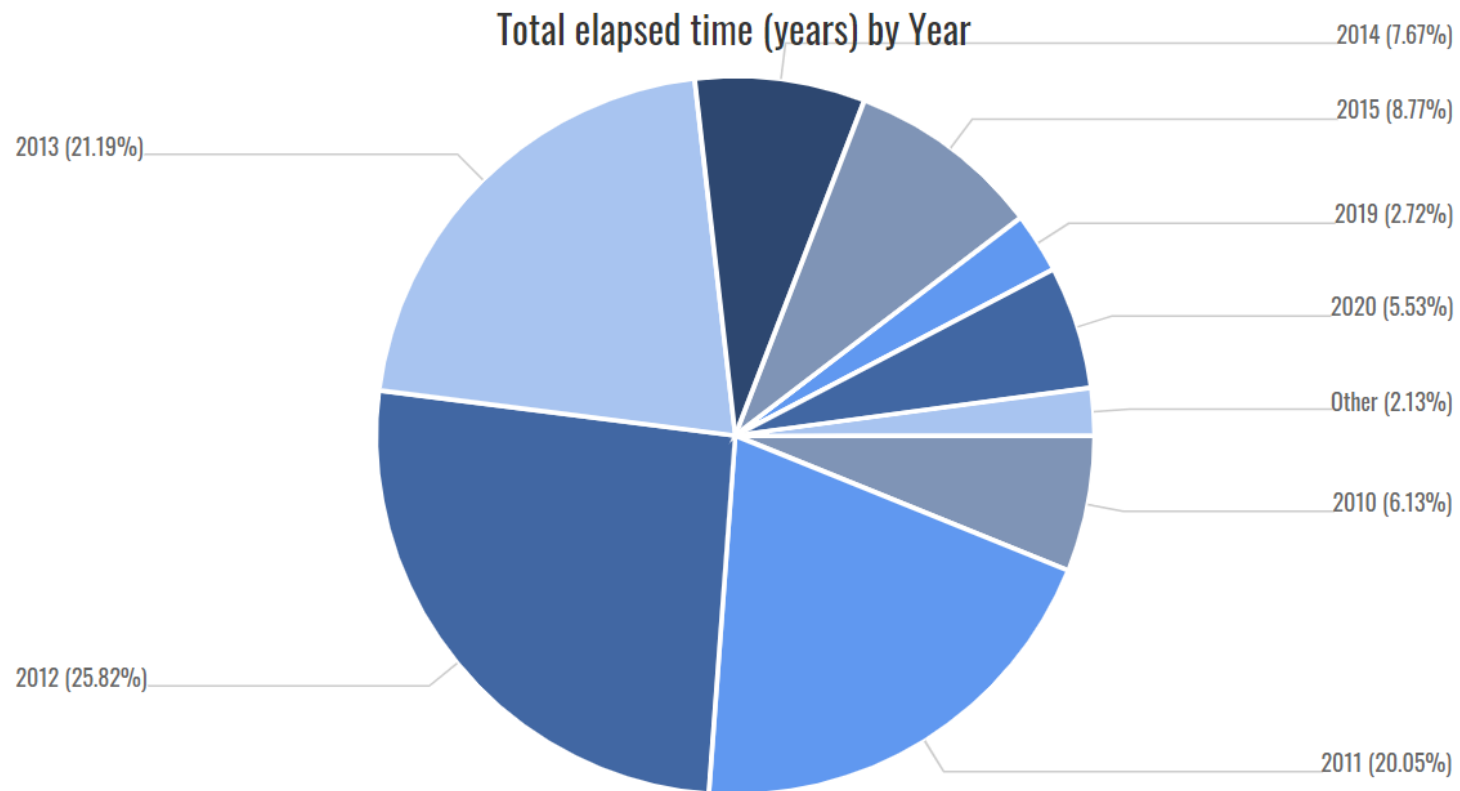
Storage Element	Size	Replicas
CESNET-disk	53,821,291,484,546	212986
FZU-proddisk	6,207,137,918,161	90061
LAL-disk	2,276,837,597	69
SIGNET-disk	2,177,830,183	61
CBPF-disk	4,005	1
UNAM-disk	13,806,536,906	5341
ROISS-disk	14,469,908,682,299	46739
FZU-disk	128,396,864,287,941	938200
FZK-disk	12,167,699,408	347
DIRAC-USER	2,228,237,740,028	40056
M3PEC-disk	2,185,872,385	56
NIKHEF-disk	2,553,953,749,547	18581
CESGA-disk	100,000	1
Total	207,710,008,743,006	1352499

CPU usage in 2020

VO Admin — Normalized Elapsed time (hours) by Resource Centre and Quarter

Resource Centre	Jan 2020 — Mar 2020	Apr 2020 — Jun 2020	Jul 2020 — Sep 2020	Oct 2020 — Dec 2020	Total	Percent
ICN-UNAM	0	117,347	2,776,335	2,833,859	5,727,542	9.65%
NCG-INGRID-PT	0	0	0	8	8	0%
NIKHEF-ELPROD	0	1,796,312	11,090,298	11,280,379	24,166,988	40.73%
RO-13-ISS	0	5,555	582,273	546,345	1,134,174	1.91%
prague_cesnet_lcg2	7,219	1,237,313	10,504,738	13,159,807	24,909,078	41.98%
prague_lcg2	284	1,654,880	1,734,967	1,610	3,391,741	5.72%
Total	7,503	4,811,408	26,688,611	27,822,009	59,329,531	
Percent	0.01%	8.11%	44.98%	46.89%		

CPU usage 2006 - 2020



Plans

- Peak usage of thousands of cores during MC productions
- Peak transfers of tens of TB per week
- Total generated data volume on grid will not exceed 1 PB in 2 years