

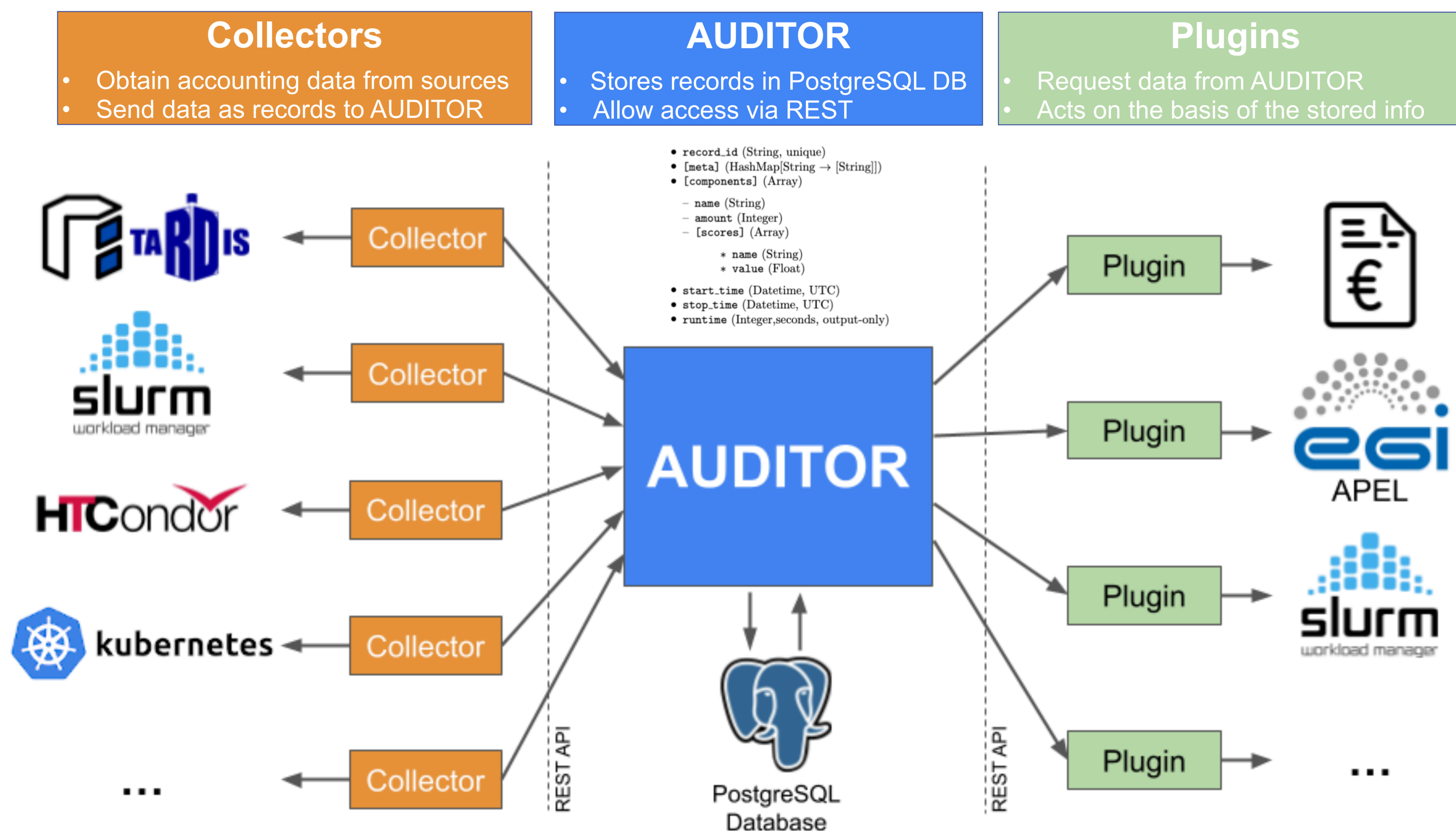
Accounting of (HPC) Resources with AUDITOR

Michael Boehler (Albert-Ludwigs Universität Freiburg (DE)), et al.
 michael.boehler@physik.uni-freiburg.de

Introduction

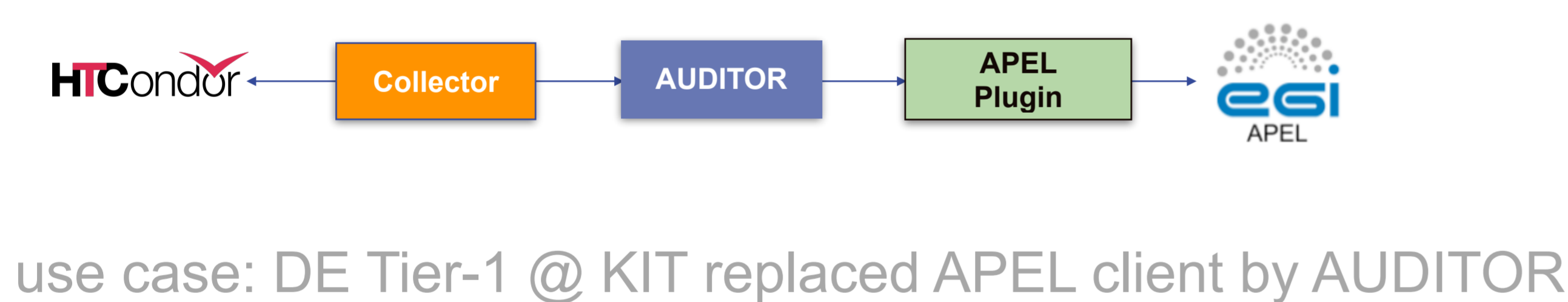
- AUDITOR is a multi purpose accounting ecosystem
- Suitable for accounting of combined resources e.g. via COBaID/TARDIS

The AUDITOR Accounting Ecosystem



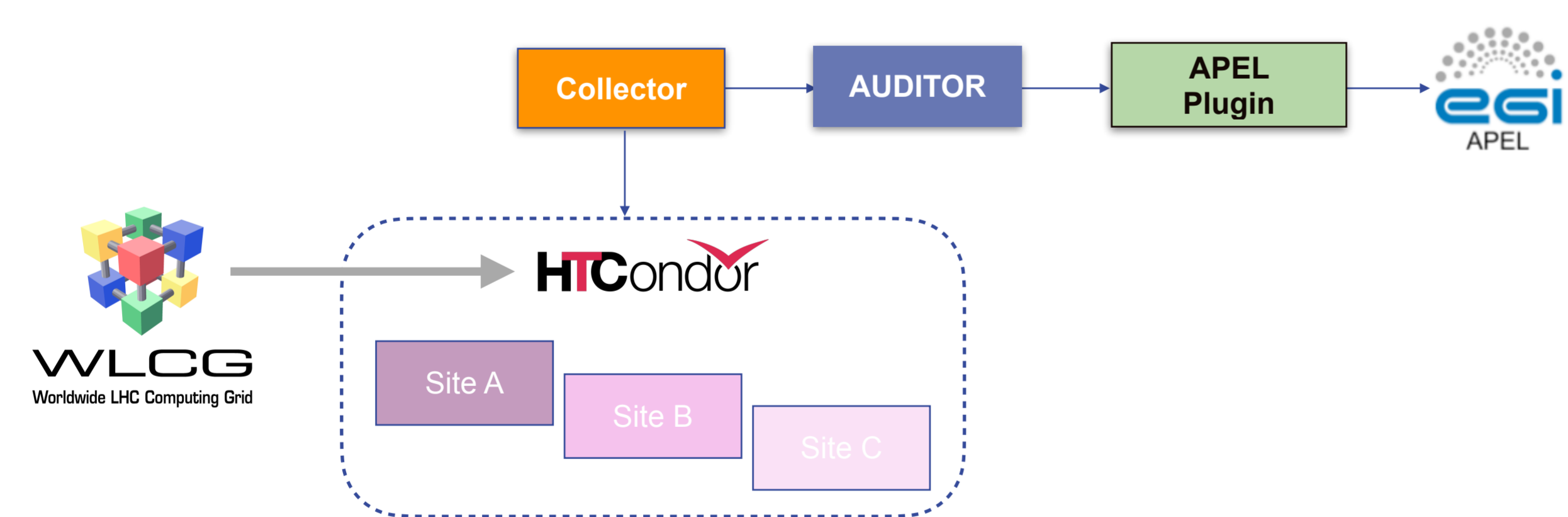
Selected Accounting Use Cases

1. Replace EGI Accounting by AUDITOR Pipeline



Submit Host	Apr 2024	May 2024	Jun 2024	Jul 2024	Total	Percent
htcondor-ce-2.kit.gridka.de	274,816	179,885	0	0	454,701	8.34%
htcondor-ce-1.kit.gridka.de@htcondor-ce-1.kit.gridka.de	10,201,871	11,568,000	1,392,046	0	23,161,917	19.79%
htcondor-ce-2.kit.gridka.de@htcondor-ce-2.kit.gridka.de	8,278,891	6,245,382	0	0	14,524,274	12.29%
htcondor-ce-3.kit.gridka.de@htcondor-ce-3.kit.gridka.de	1,853,897	4,672,054	0	0	6,525,951	5.59%
htcondor-ce-4.kit.gridka.de@htcondor-ce-4.kit.gridka.de	7,477,639	708,394	0	0	8,186,033	6.90%
ppc.kit.gridka.de	640	0	0	0	640	0%
ppc.kit.gridka.de	428	1,629	893	0	2,950	0%
htcondor-ce-4.kit.gridka.de	0	7,891,571	5,728,147	4,206,424	17,826,142	15.2%
htcondor-ce-3.kit.gridka.de	0	2,440,371	4,473,327	16,958,825	23,872,523	20.3%
htcondor-ce-2.kit.gridka.de	0	1,820,223	9,975,181	4,750,747	16,546,151	14.1%
htcondor-ce-1.kit.gridka.de	0	2,049,567	5,723,855	4,816,423	12,589,845	10.7%
Total	33,991,314	58,625,350	24,479,348	18,192,276	135,288,288	100%

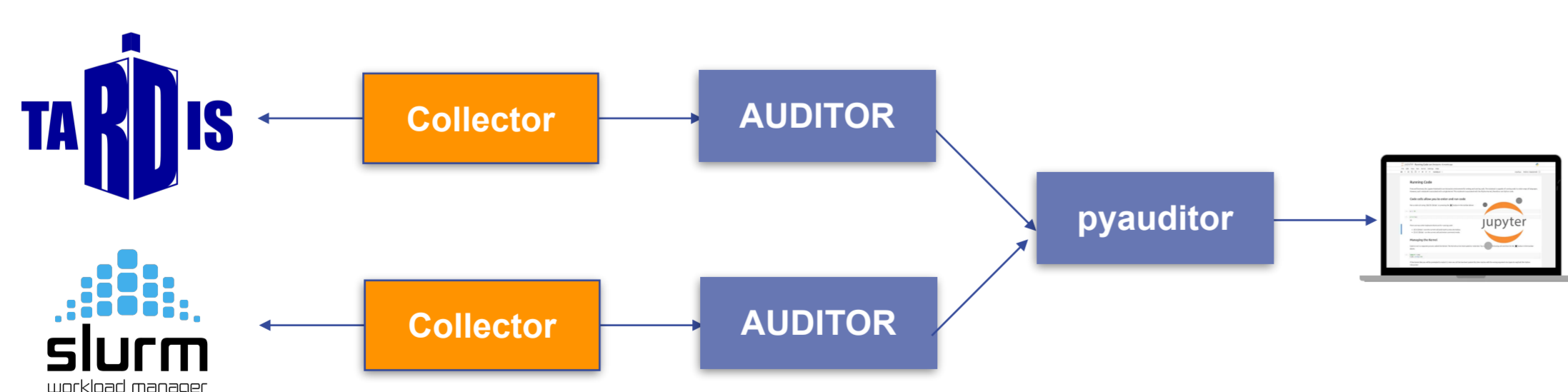
2. Account resources behind one CE for different providers



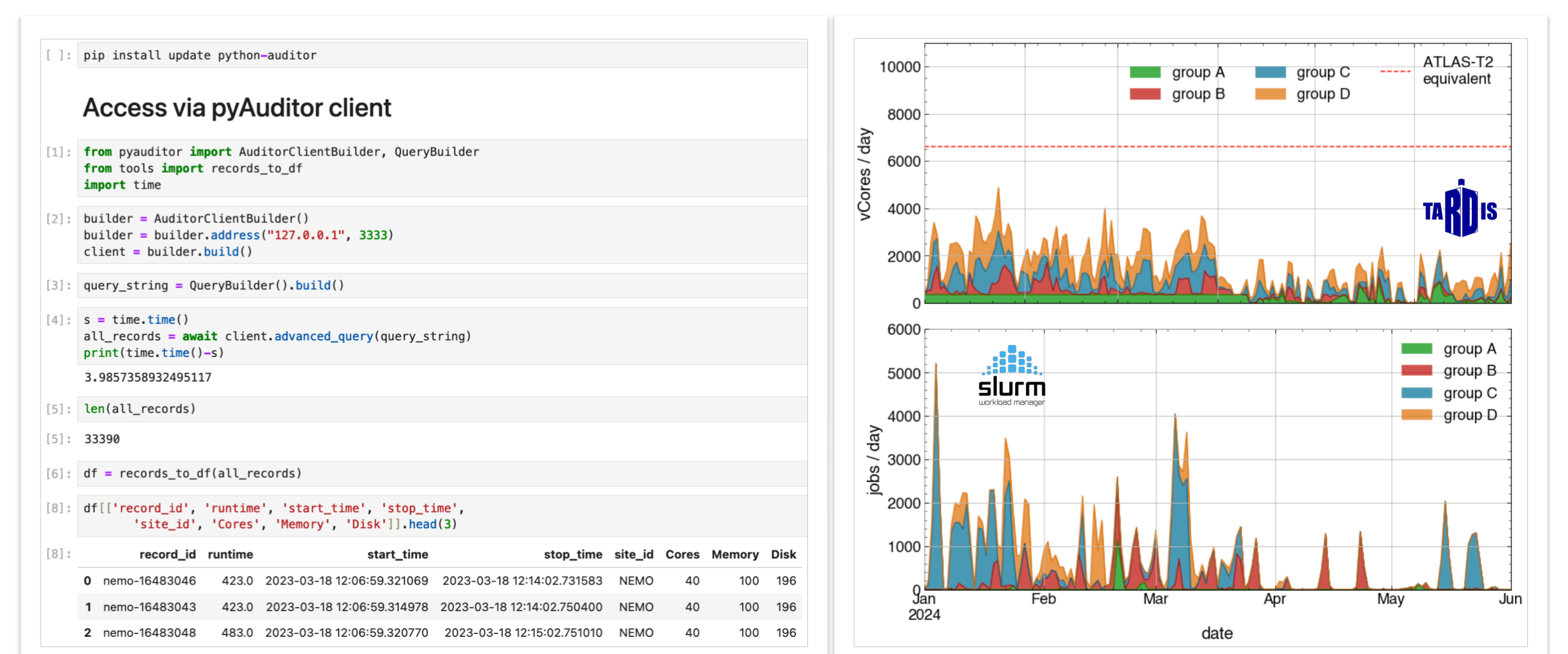
Submit Host	2023	2024	Total	Percent
cloud-htcondor-ce-1.kit.gridka.de	1,106,259	0	1,106,259	82.32%
cloud-htcondor-ce-2.kit.gridka.de	61,173	176,411	237,584	17.68%

3. Collect Accounting data (from several source)

→ create combined report



use case: ATLAS Tier-3 @ UniFR integrates HPC resources, accounting of HPC done by TARDIS Collector, of ATLAS Tier-3 s by Slurm Collector, combined plots created via pyauditor client in jupyter notebook (few lines of code)



References:

- [1] Boehler, M., Gamel, A. J., Kroboth S., et al. (2024). AUDITOR: Accounting for opportunistic resources [10.1051/epjconf/202429504008](https://doi.org/10.1051/epjconf/202429504008)
- [2] Boehler, M., von Cube, F., Fischer, et al. (2024). The accounting ecosystem AUDITOR (v0.6.2). Zenodo. [10.5281/zenodo.13239266](https://doi.org/10.5281/zenodo.13239266)
- [3] Software Repository: github.com/ALU-Schumacher/AUDITOR/



[1] [2] [3]