Press release

Dallas, November 15th

Green 500 : ranked 3d, GENCI's Adastra marks a new step towards a more sustainable HPC

The energy efficiency of GENCI (Grand Equipement National de Calcul Intensif)'s new supercomputer Adastra has been improved to reach now 58,2 GF/W, ranking Adastra as #3 position on the new Green500 list announced during SC'22. Adastra is ranking #11 in the November 2022 Top500 list with a 46.10PFlops measured performance.

This ranking has been unveiled on the occasion of the international Supercomputing event, some weeks after the final installation of Adastra during the summer at CINES (*Centre Informatique National de l'Enseignement Supérieur, Montpellier, France*) the national computing center, hosting site belonging to France Universités which is one of the Associate of GENCI.

GENCI and CINES have also been honored for this achievement being previously rewarded by the HPCWire Award for the "Best Sustainability Innovation in HPC" shared with HPE, AMD and other customers such as DoE/ORNL for Frontier and TDS as well as EuroHPC/CSC for LUMI.

Adastra is now available for French researchers from academia and industry addressing major stakes in climate research, new energies, development of new materials, biology, personalized medicine and innovative global approaches such as OneHealth, all using numerical simulation, HPDA and artificial intelligence.

Adastra is an HPE Cray EX4000 system based on 2 compute partitions, one hybrid composed of 338 accelerated nodes (each with one AMD Trento processor coupled with 4 AMD Instinct MI250x GPUs) and 536 scalar nodes (to be installed in Q1 2023, each with 2 dual-socket AMD Genoa processors and 768 GB of DDR5 memory), federated by an HPE Slingshot 11 interconnect.

From the right to the left : Stéphane Requena (GENCI), Wuchun Feng (Virginia Tech, Green500 representative), Gabriel Hautreux (CINES), Raphaël Godoffe (HPE)

Energy efficiency together with sustained performance on scientific applications has been a key driver of GENCI procurements on the 3 national centers since more than 10 years, based on a full TCO approach. This holistic approach spanning from technological watch to procurements becomes even more crucial with high energy prices.

These stakes have also been addressed at IDRIS (Institut du développement et des ressources en informatique scientifique). This national high performance computing center of the CNRS (Centre National de la Recherche Scientifique) will soon reuse the fatal energy of GENCI' Jean Zay supercomputer to heat more than 1000 houses located on the Orsay area (south of Paris), a first of the kind at this scale in Europe.

Ultimately, France is preparing to an upcoming application, under the lead of GENCI as Hosting Entity and co-lead of CEA (Commissariat à l'Energie Atomique)/TGCC (Très Grand Centre de Calcul - national center of CEA) as hosting Site, to the second call for hosting an Exascale system of EuroHPC, the European HPC initiative, where at this scale sustained performance and energy efficiency will be at the forefront of evaluation criteria alongside with the use of European technologies.

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About GENCI

Created by the public authorities in 2007, GENCI is a major research infrastructure. This public operator aims to democratize the use of digital simulation through high performance computing associated with the use of artificial intelligence, and now quantum computing to support French scientific and industrial competitiveness.

GENCI is in charge of three missions:
- to implement the national strategy for the provision of high-performance computing resources, storage and processing of massive data associated with AI technologies for the benefit of French open scientific research in conjunction with the three national computing centers
- support the creation of an integrated HPC ecosystem at the national and European levels
- promote digital simulation through HPC to academic research and industry scale

GENCI is a civil company, 49% of which is owned by the French government, represented by the Ministry of Higher Education and Research, 20% by the CEA, 20% by the CNRS, 10% by Universities represented by France Université and 1% by Inria.

About CINES

CINES (Centre Informatique National de l'Enseignement Supérieur) is a national HPC center located in Montpellier and attached to the French universities and higher education and research institutions. On behalf the CPU, it hosts and operates GENCI's Adastra supercomputer with dedicated HPC teams. In addition to HPC, CINES is also the national digital archiving center for research and hosts the IT resources of fifteen institutions through its label of national datacentre. https://www.cines.fr/en