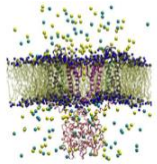
Séminaire AQMO

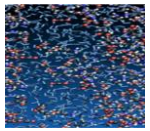
Rennes – 17 décembre 2020

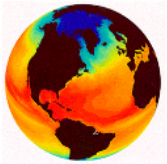
Le HPC un marché en mouvement

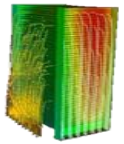
Recherche Scientifique

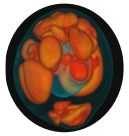

Biologie

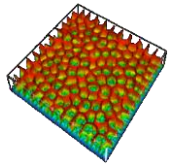
SHS


Chimie

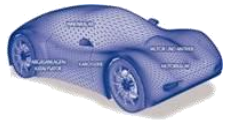

Climat


Energie

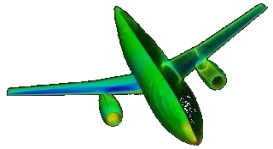

Astrophysique

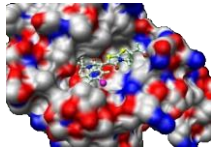

Matériaux

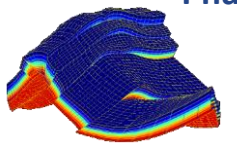
Innovation Industrielle


Automobile

Médecine Personnalisée

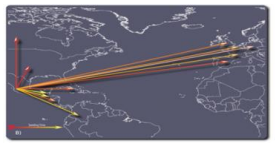

Aéronautique

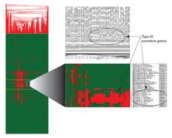

Pharmacie

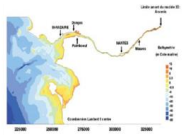

Exploration Pétrolière

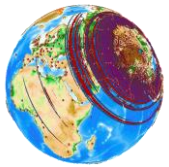
Prise de Décision

Gestion de Risque


Epidemiologie & Risques Biologiques


Sécurité


Impact Industriel


Risques Naturels

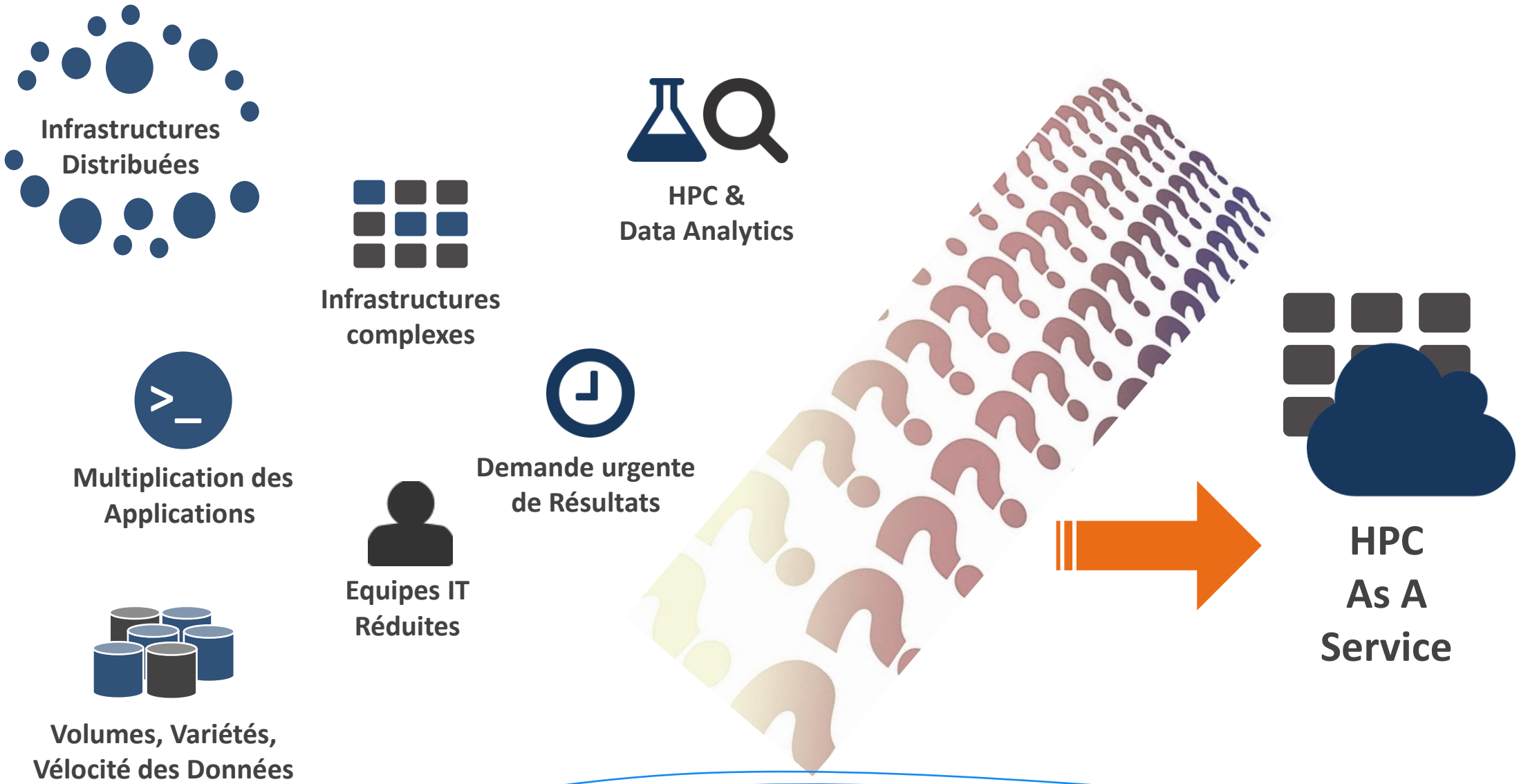
Smart City

La Donnée va au Calcul

Les Processus s'accélèrent

Le calcul va à la donnée

Qui devient un Service



GENCI – Une pyramide de Services HPC

Une mise à disposition de ressources HPC au service de la recherche scientifique

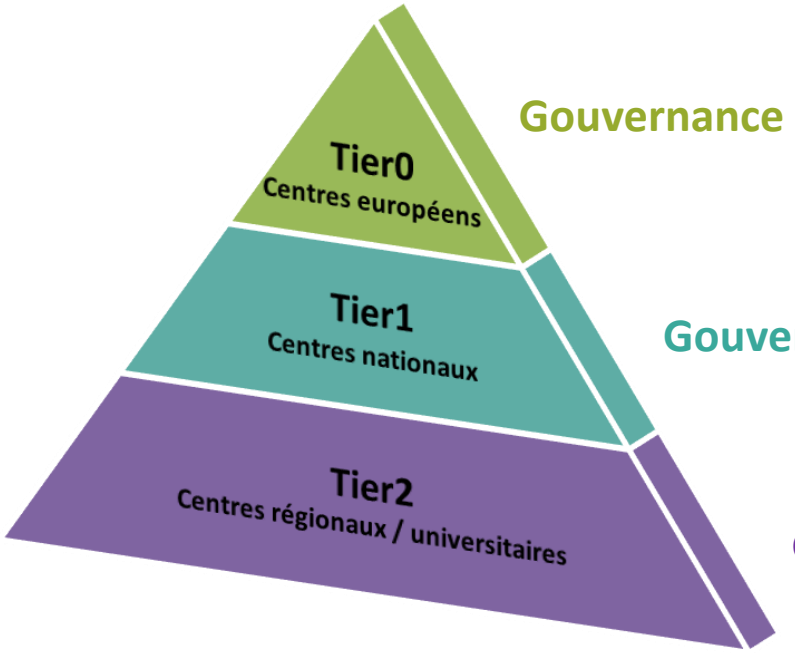
« 1000 Pflop/s »

EuroHPC Joint Undertaking

« 100 Pflop/s »

« 10 Pflop/s »

« 1 Pflop/s »



Gouvernance Intergouvernementale

PRACE

Représentation GENCI
7 supercalculateurs
(**Joliot-Curie pour France**)

Gouvernance nationale

GENCI

3 centres de calcul Nationaux

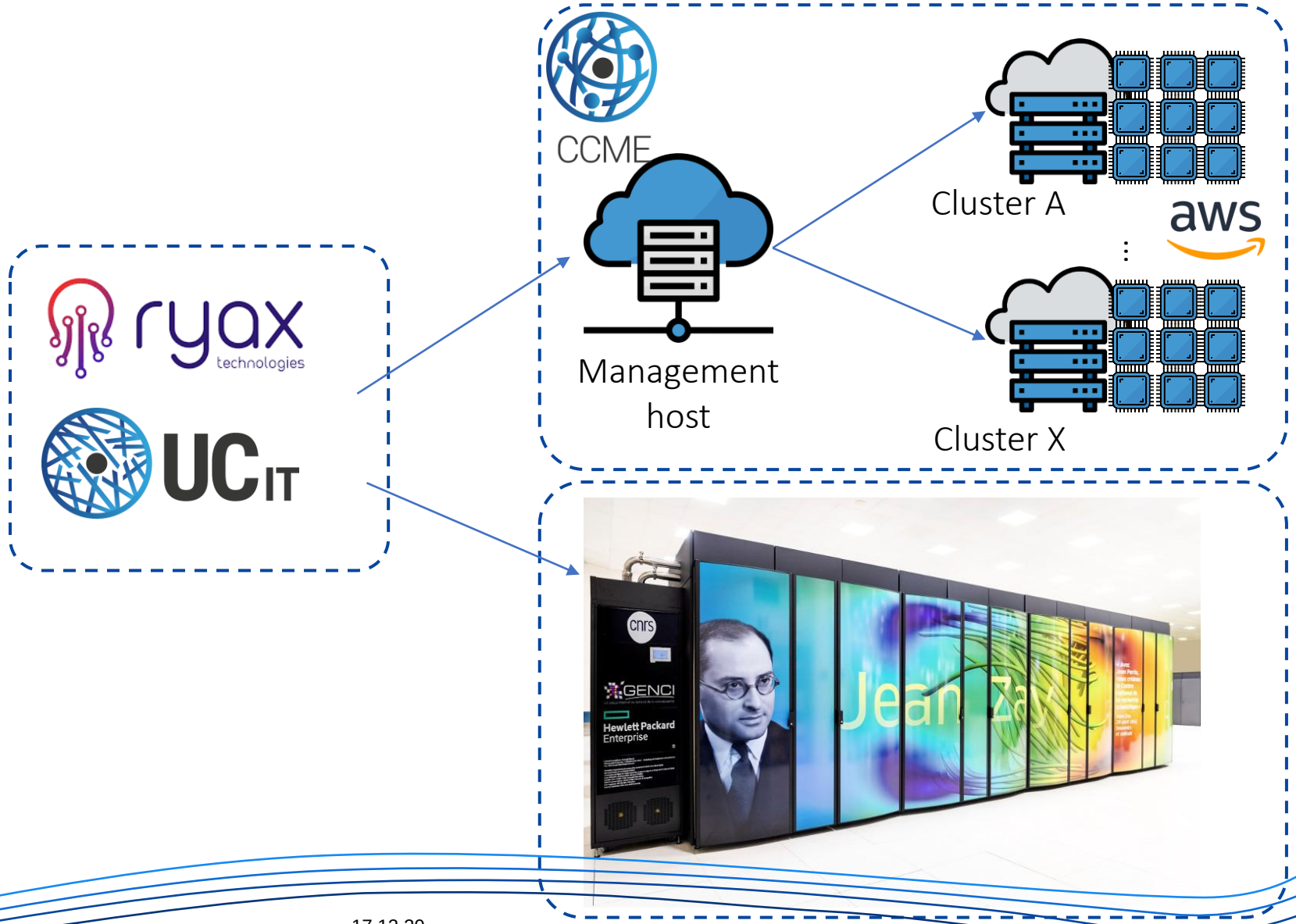
cnrs cea INES

Gouvernances régionales

EQUIP@MESO

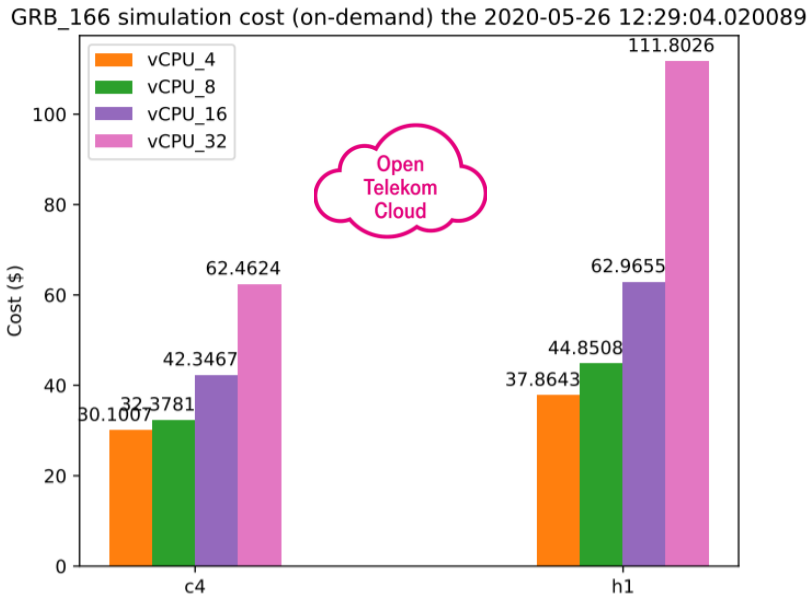
Coordination GENCI
17 partenaires

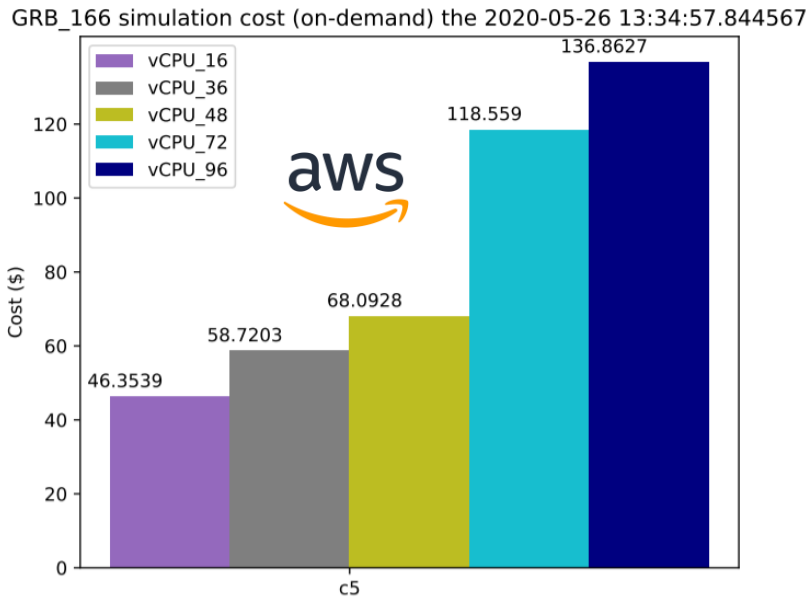
L’execution de la Simulation Numérique



HPCaaS – Comparaisons sur Sirane

Projection du coût annuel – Ville de Brest – Projection Quotidienne « normale »





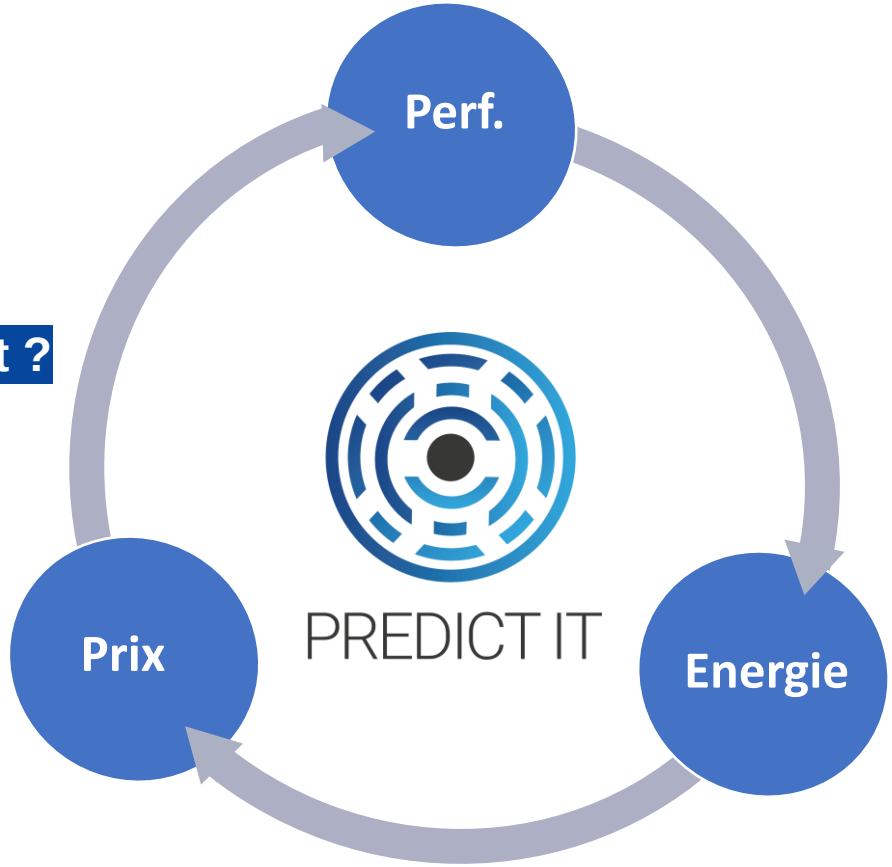
Instance	OTC C4	OTC H1	AWS C5	Idris
Coût	$62	$111	$58	N/A
Temps	113’568	147’432s	122’334s	118’762s
Nb Coeurs	32	32	36	40

1528 nœuds de calcul

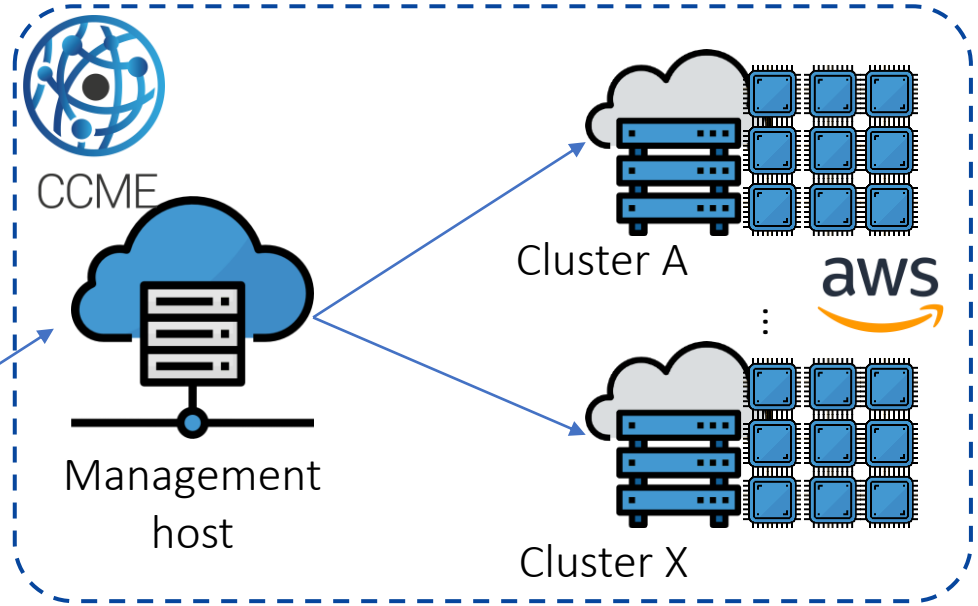
Un Framework de Sélection du « meilleur » Service HPC

Quand aurais-je mon résultat ?

A quel coût ?



Avec quel impact environnemental ?



SC19 Denver – La Qualité de l'Air s'expose à SuperComputing

Co-financed by the Connecting Europe Facility of the European Union