MELUXINA

HIGH PERFORMANCE
COMPUTING IN LUXEMBOURG

LuxProvide

KEY PARAMETERS

- Under the governance of the Ministry of State and the Ministry of Economy
- 100% subsidiary of LuxConnect
- Founded in July 2019
- Headquartered in Bissen

WHY

We exist to contribute to Luxembourg's ambition as a digital front runner through helping customers in Luxembourg and beyond grasp the opportunities of the 21st century data economy.

MISSION

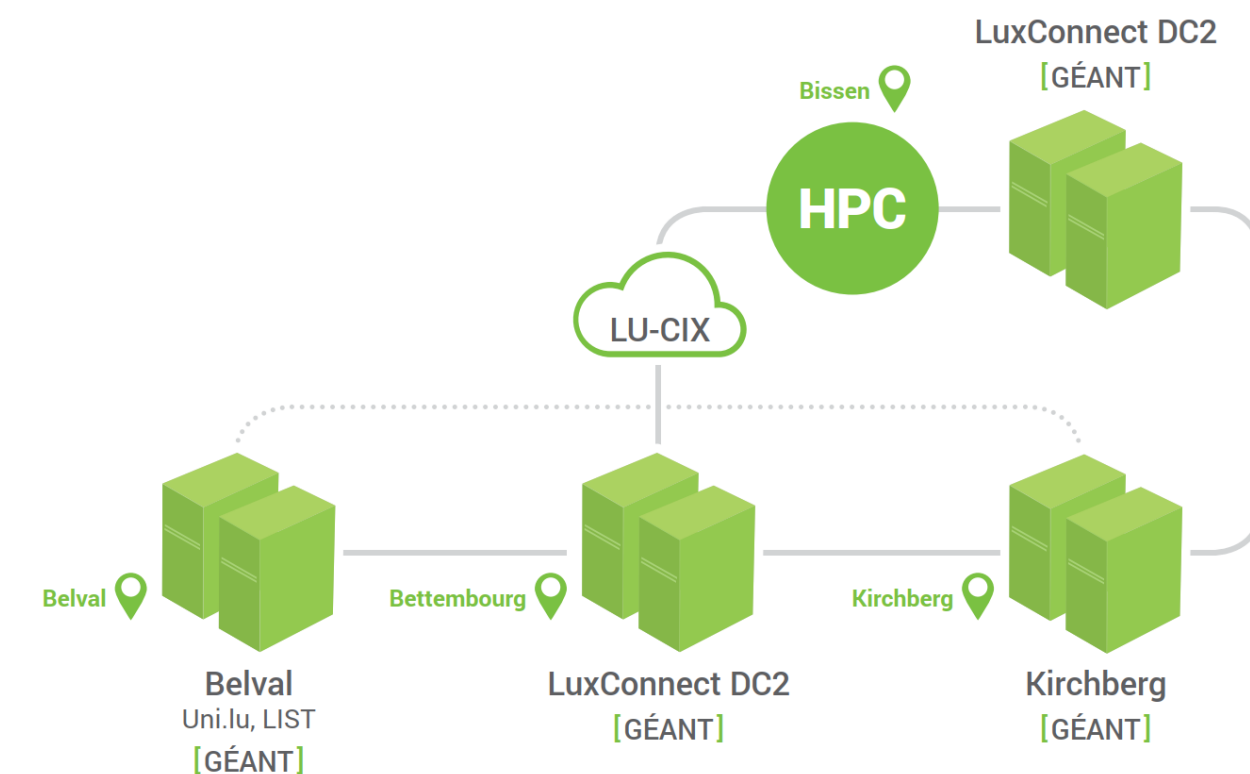Empowering our digital future together

Data Center DC2 in Bissen: State-of-the-art infrastructure for MeluXina

- 100 % green electricity & cooling supplied from Kiowatt

- Free Cooling below 11°C outside temperature

- Low PUE of 1,3 constantly measured and monitored

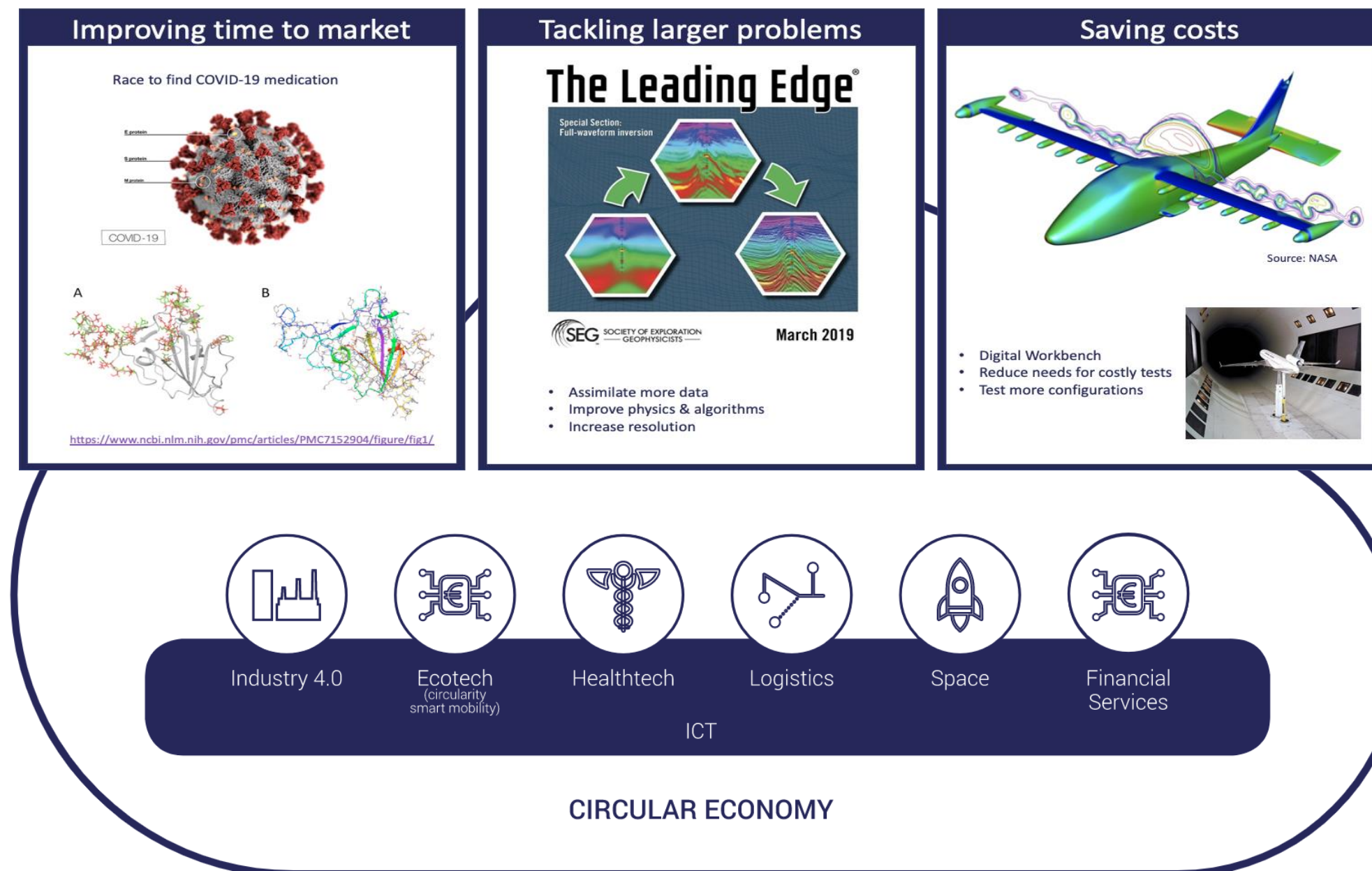- ISO27001 Security management certification

Luxembourg, "fiber rich" country in the heart of Europe

- Over 1.700 km of optical fiber cables deployed on the territory of Luxembourg

- 20 breakouts to the neighbouring countries

- Very short latencies to international internet hubs

- Integration of MeluXina into the European GEANT network

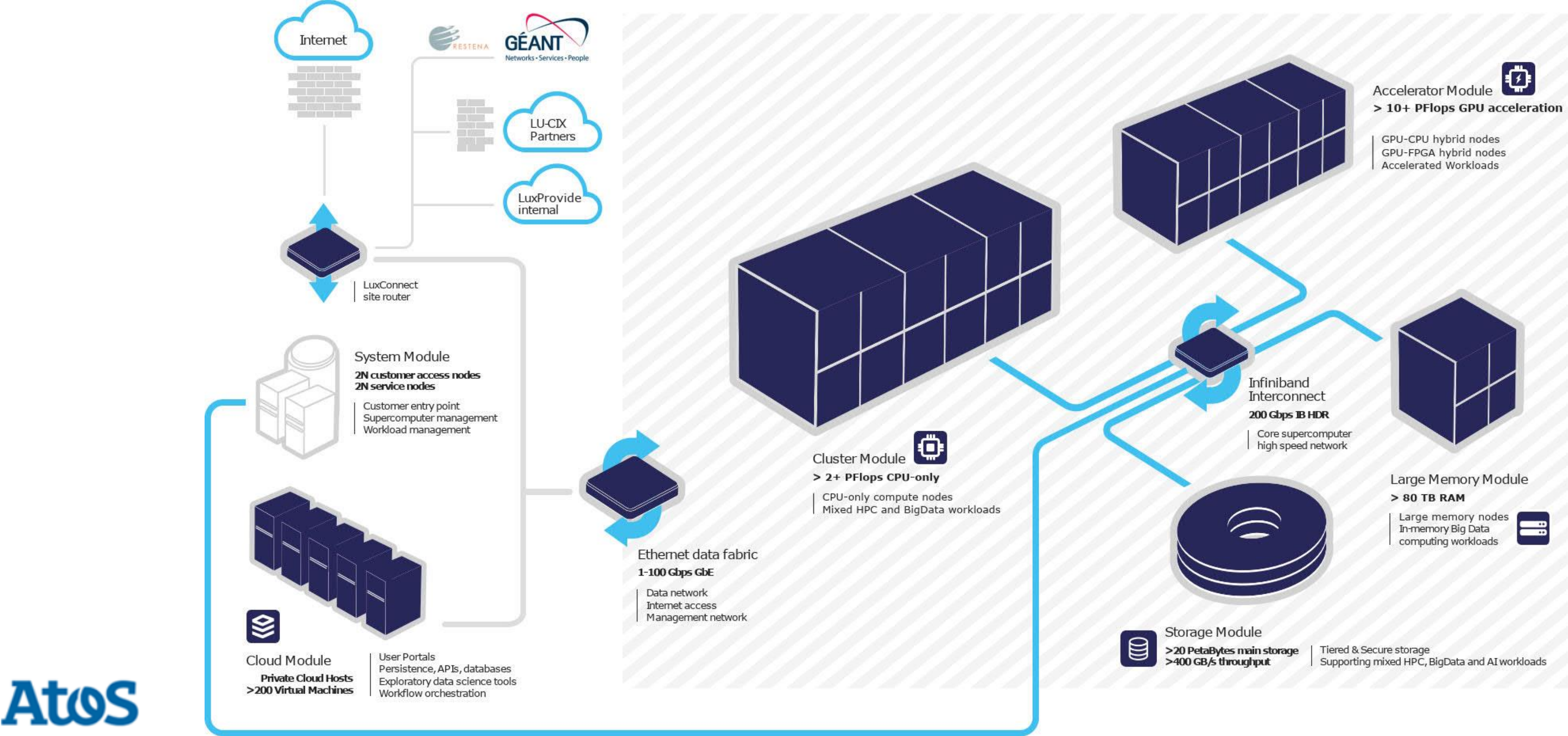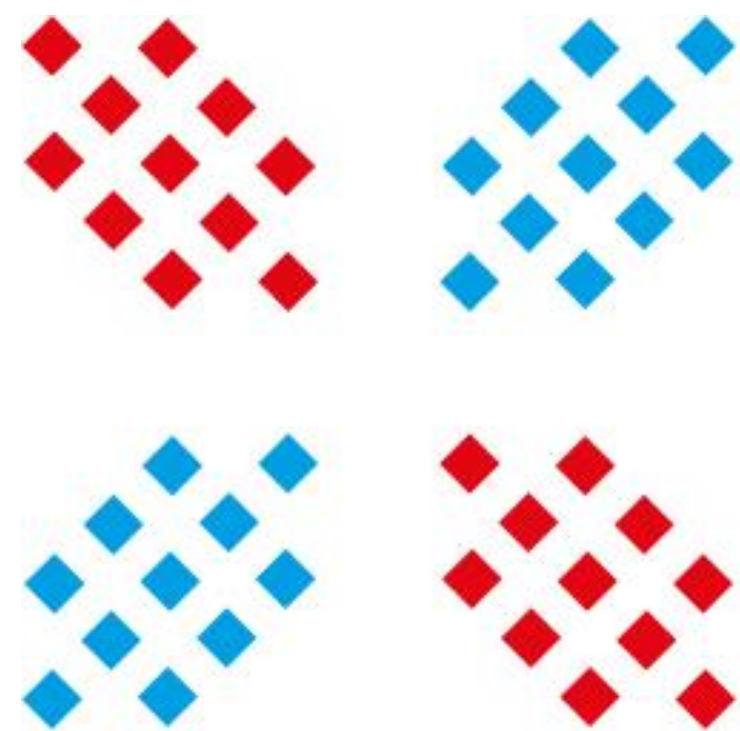Round trip delay in milliseconds

MeluXina, a Cornerstone for Digital Lëtzebuerg

- Focus on **INDUSTRY** and especially **SME**'s and **RESEARCH**
- One-stop shop with **EASY** and **USER-FRIENDLY** access to HPC/HPDA capacities and competencies

MeluXina, Modular Supercomputer Architecture

Internet

RESTENA

GÉANT
Networks · Services · People

LU-CIX
Partners

LuxProvide
internal

LuxConnect
site router

System Module
2N customer access nodes
2N service nodes

Customer entry point
Supercomputer management
Workload management

Cloud Module
Private Cloud Hosts
>200 Virtual Machines

User Portals
Persistence, APIs, databases
Exploratory data science tools
Workflow orchestration

Ethernet data fabric
1-100 Gbps GbE

Data network
Internet access
Management network

Cluster Module
> 2+ PFlops CPU-only

CPU-only compute nodes
Mixed HPC and BigData workloads

Accelerator Module
> 10+ PFlops GPU acceleration

GPU-CPU hybrid nodes
GPU-FPGA hybrid nodes
Accelerated Workloads

Infiniband Interconnect
200 Gbps 1B HDR

Core supercomputer
high speed network

Large Memory Module
> 80 TB RAM

Large memory nodes
In-memory Big Data
computing workloads

Storage Module
>20 PetaBytes main storage
>400 GB/s throughput

Tiered & Secure storage
Supporting mixed HPC, BigData and AI workloads

Atos

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