46120-PiWE

Python on Gbar (HPC)

Summary

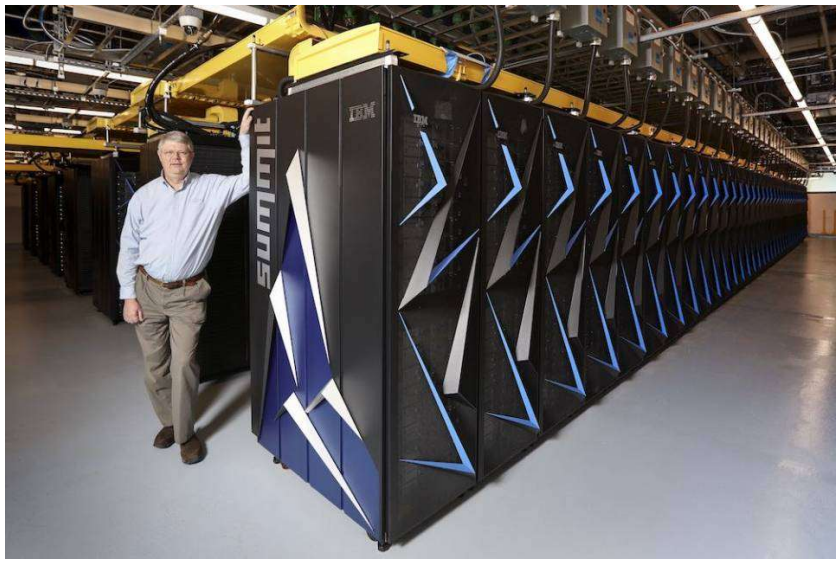
- Introduction to HPC systems
- HPC concepts
- Demo and course evaluation

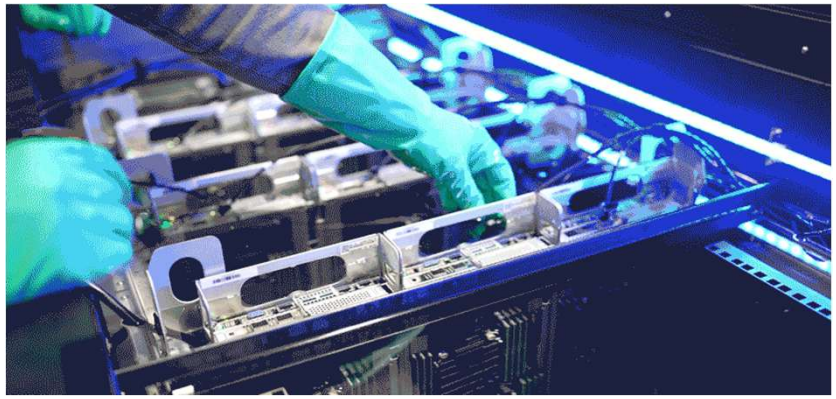
What is a HPC system?

- High Performance Computing
- The main goal is to run code in parallel for different purposes: Numerical Weather Prediction models, trainning ML algorithms, etc

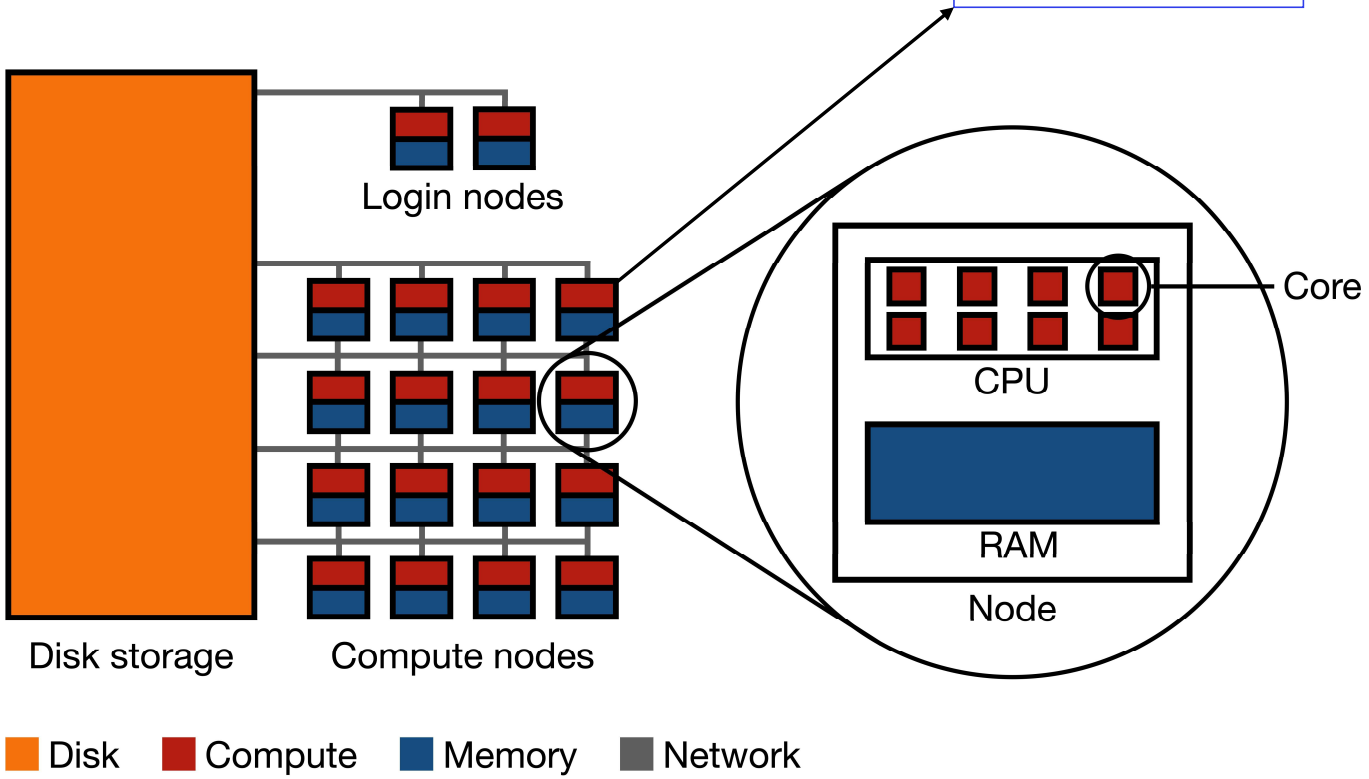
- They need a ver controlled environment of humidity and temperature and have huge and efficient cooling systems

- New prototypes are tested under special liquids for improving cooling





The HPC system



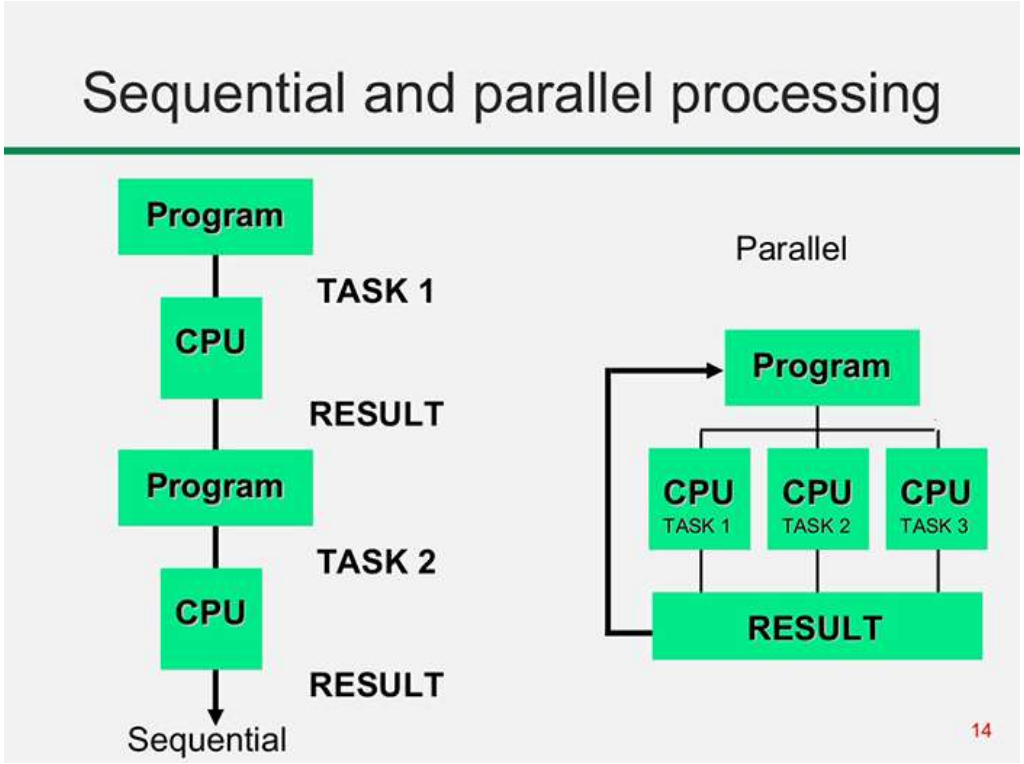
A single HPC node vs my laptop

	CPUs	RAM
My laptop	4	16 GB
HPC Gbar	20	250 GB
HPC Sophia	32	125-250 GB

	Total CPUs	Total RAM	HPC total disk
HPC Gbar	~7,840	~2.8 TB	2.02 PB
HPC Sophia	16,512	69 TB	6.15 PB

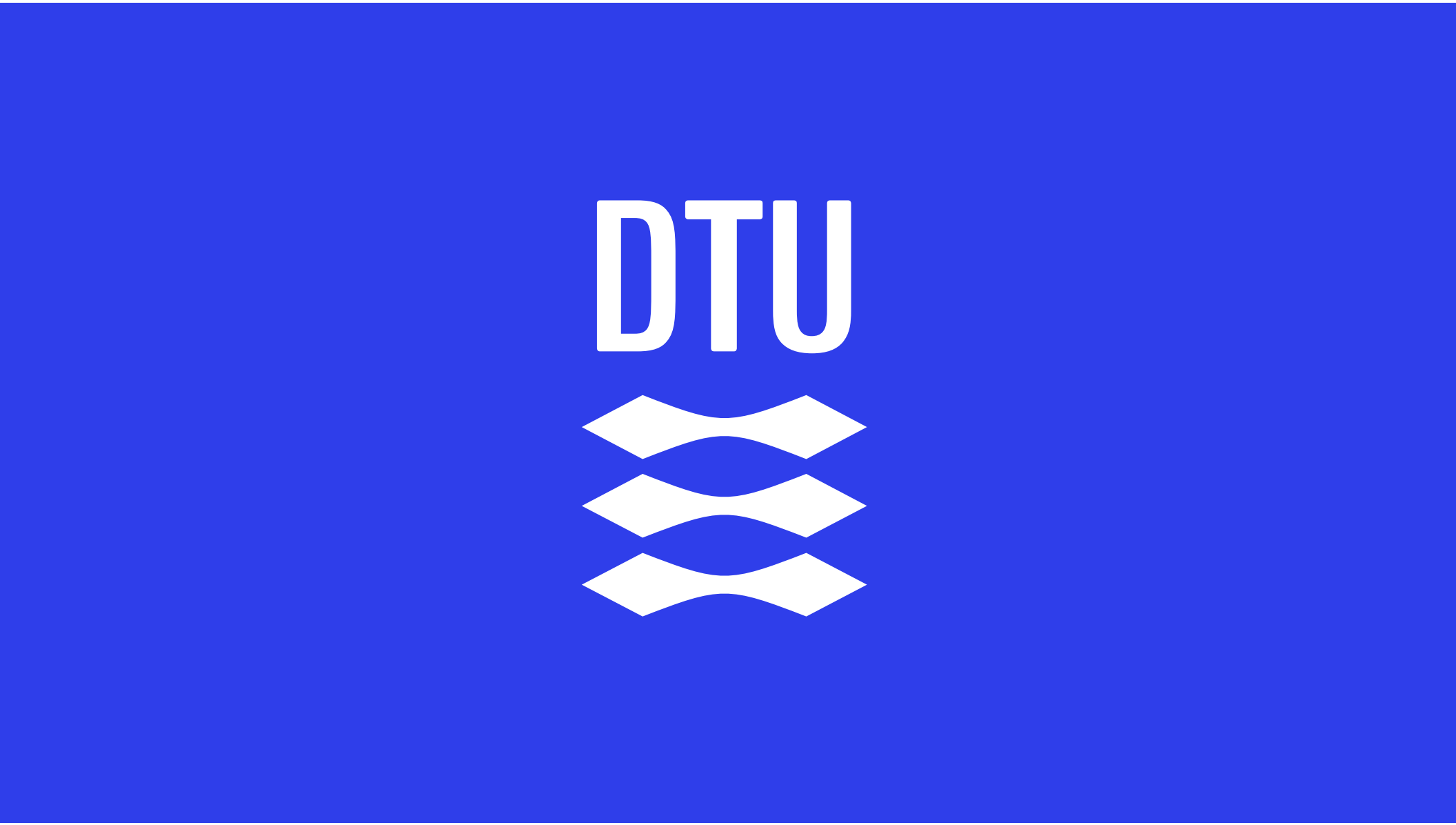
What's the advantage of a HPC system?

- Is a HPC system always faster than our laptop?: No
- Parallel programming is the key



DEMO (all together)

But first let's take 10 minutes and fill out the course evaluation:
https://evaluering.dtu.dk/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