

CSC computing resources for GIS

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CSC, 8.10.2018



CSC – Suomalainen tutkimuksen, koulutuksen, kulttuurin ja julkishallinnon ICT-osaamiskeskus

GIS training 2018/19

<https://www.csc.fi/training>

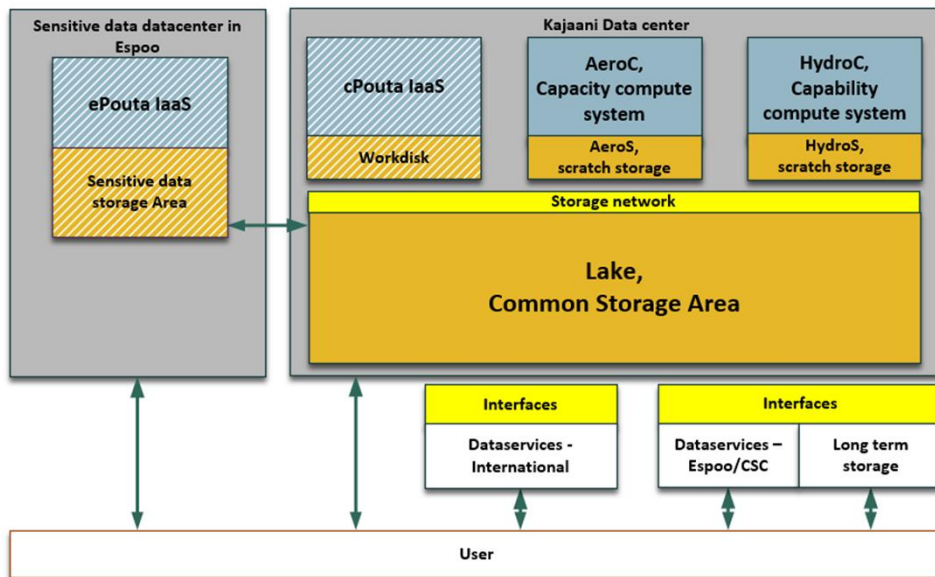
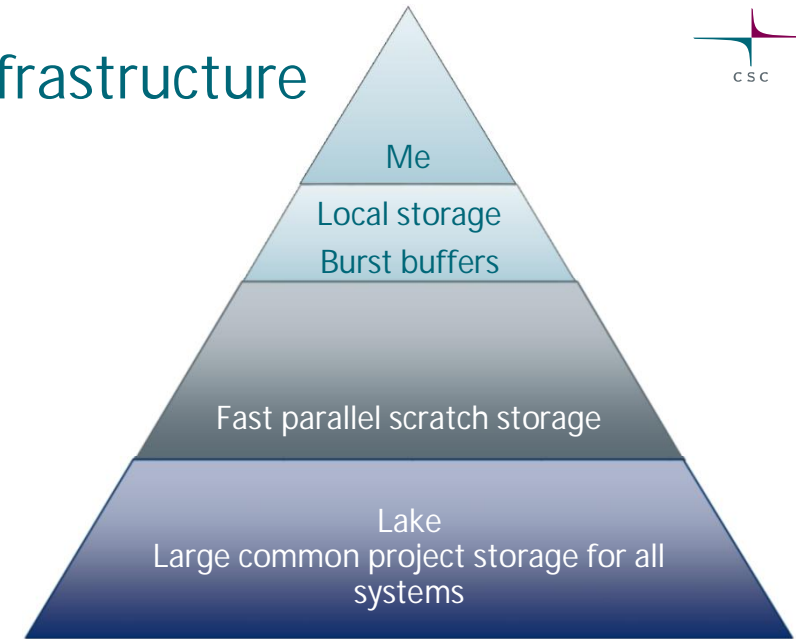
- 24-25.10.2018 Geocomputing with CSC computing resources
- 12-14.11 Introduction to GIS Python
- (15.11 Using Taito and R for spatial analysis, Turku)
- Google Earth Engine
- Geospatial data analysis with R
- Lidar data analysis
- Webinar: Paituli, cPouta for GIS
- Archive includes material of past courses

CSC general courses

- Linux 1, Linux 2, Advanced Linux
- Using CSC Environment Efficiently
- Python in high-performance computing
- cPouta Cloud
- R ??

DL2021 - Data management and computing infrastructure

1. 33 M€ Procurement programme for Data management and computing infrastructure development
 - o User base widens – research and education at universities, and universities of applied science, open academic research at research institutes
 - o Upgrading current infrastructure – but also more focus on containers, data, datasets and AI



Main drivers, use cases, for new infrastructure

1. Large-scale simulations
2. Medium-scale simulations
3. Data-intensive computing
4. Data-intensive computing using sensitive data
5. Artificial intelligence
6. Internet of Things (IoT) and data streams

Main new features for users



- Big object storage area
- Running Docker-like containers in "Taito"
- More capacity -> shorter queues for batch jobs
- More modern system libraries -> less problems with software installation

Timetable



- Final offers received last week
- The provider of the new system should be clear in autumn 2018
- New "Taito" in 1H/2019
- New "Sisu" in 2020

DL2021 pilot projects in a nutshell



- Joint project for enabling a critical capability and/or making a proof-of-concept study for new services or use cases in DL2021 environment
- Roughly 1-2 pm specialist effort from CSC's side, expecting the research institute to commit to contributing a similar volume
- Needs to be (related to) public research
- CSC reserves the right to select the initiated projects. Prioritization criteria:
 - Transferability i.e. how well other stakeholders can benefit from the outcome of pilot
 - Research institute commitment (pm's)
 - Synergies with other proposed DL2021 pilot projects

On-site support



- A CSC specialist would be available for on-site support for one day a week for about 1 year.
- NLS
- Viikki: SYKE, LUKE, Elvira
- VTT
- Meilahti: THL, HY
- Kumpula: FMI, HY
- Aalto

New Taito, software

Will be installed:

- R-spatial
- Python (geoconda)
- GDAL, Proj4, geos
- Zonation
- PDAL
- QGIS
- (LasTools)

What else?

- GRASS
- SagaGIS
- Taudem
- ??

New Taito, data

Will be available:

- Paituli data
- SYKE open data
- LUKE VMI
- GeoCubes

What else?

- NLS automatically classified lidar data
- NLS orthophotos
- OpenStreetMap
- Sentinel (mosaic)
- ??
- Other concerns: format, virtual rasters, etc ?

Workshops?

- Lidar data analysis
- Satellite data analysis
- Spark/Hadoop + spatial data
- Routing
- Machine learning + spatial data
- Exercise env for courses
- DataCubes
- ??

Contact

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