



Puhti RHEL8 upgrade

CSC 2022



Why are we upgrading the operating system?

- HPC systems are procured with operating system that is supported by the vendor.
 - Current CSC national systems Puhti and Mahti use Redhat Enterprise Linux (RHEL).
 - Both Puhti and Mahti started production with RHEL release 7.
- RHEL7 development ended in 2019 and only critical bug fixes are provided by the vendor.
 - Security updates will end in 2024.
- Mahti was upgraded in June 2022.

What will *not* change

- Data and programs under /scratch, /projappl and /users (home directories) will remain the same.
 - If you have modified your login scripts you may have unexpected behaviour.
- Most of the applications that are provided as modules are still available as new compilations.
 - Puhti has over 800 software modules available and we will drop older compilers, libraries and application versions.
 - If you really need older versions, please contact servicedesk.

What will change?

- If you have compiled any applications they do require recompilation in most cases.
- Default compiler changed from Intel to Gcc.
 - Intel is in the middle of a transition to a new compiler technology.
 - Both new and old Intel compilers are still available, but module names are different.
- Default MPI changed from hpcx-mpi to OpenMPI.
 - hpcx-mpi is actually an OpenMPI version with vendor-picked dependencies.

What will change (cont.)?

- We will use virtualized login nodes and names of login nodes will change.
 - New names are `puhti-login11.csc.fi`, `puhti-login12.csc.fi`, `puhti-login14.csc.fi` and `puhti-login15.csc.fi`.
- If you have services in cPouta that accept connections for Puhti you'll have to update the security groups.

Containers and Python

- Most containers *should* work out-of-the box
 - Some containers use host resources and may require a rebuild with RHEL8 base image
- Python scripts do not in principle depend on the operating system, but many libraries have system dependencies and may require attention.
- CSC provided Python environments may have version and package modifications.
 - Tykky environments should work similarly to other containers.
- Python2 finally dropped (support from developers ended Jan 1st 2020).

Timeline

- Upgrade will be done during the service break on 4th and 5th of October.
- www.puhti.csc.fi (Open OnDemand) will be available on 7th of October.

Questions?