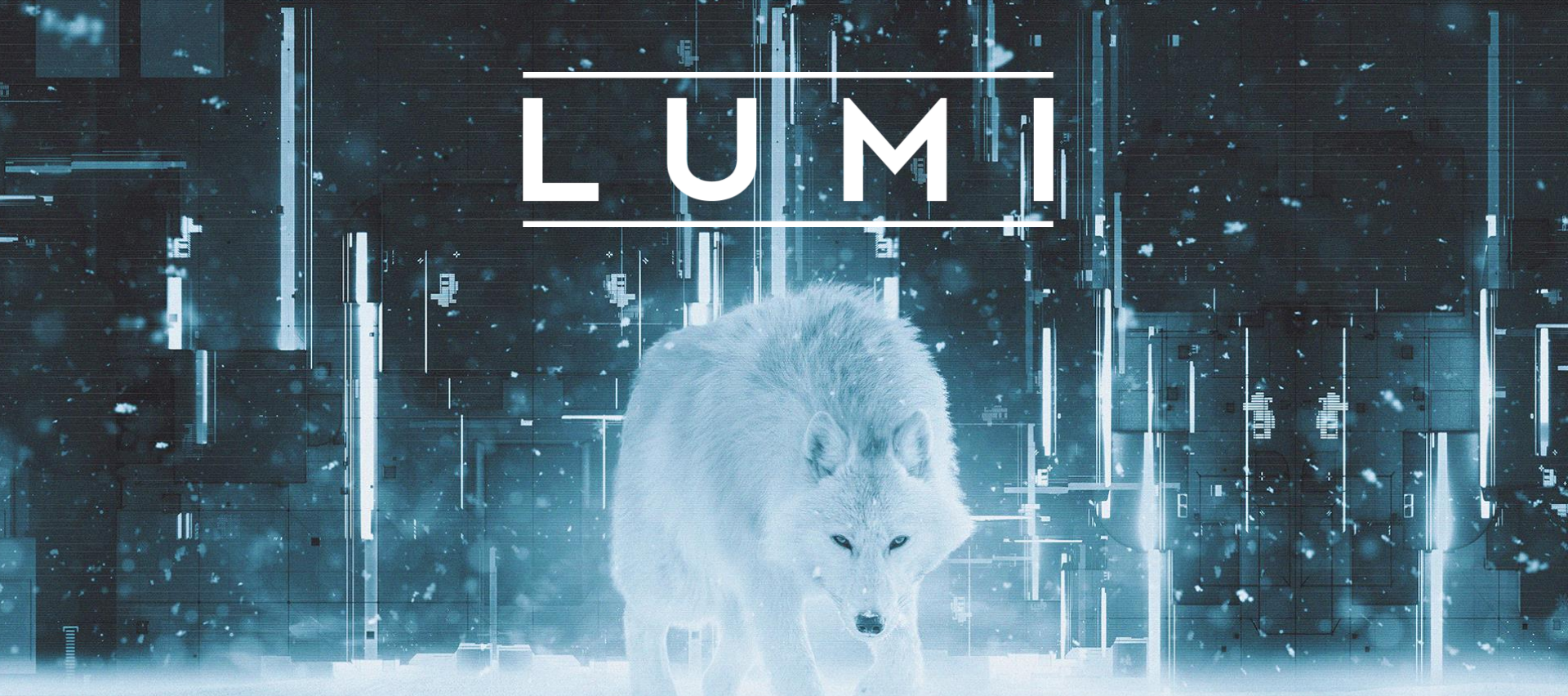

LUMI update August-September 2024

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Main LUMI stack: 24.03

LUMI

- Motivation:
  - CPE 24.03 is the only one fully validated on the current system configuration (current libfabric build + ROCm 6 + SUSE 15 SP5)
  - Could move from the start as the stack was sufficiently ready since we had an early test system for the first time
- New developments happen exclusively on 24.03 unless an older version could solve a burning problem with little effort
- Already a fairly complete set of EasyBuild recipes for software, but focus on recent versions of packages
  - We don't support versions older than 2 years unless it only requires little effort
  - Old software and new compilers don't always go together well if the author was not careful following standards, and packages have disappeared temporarily from the LUMI stacks due to compatibility problems with new compilers
  - Software with commercial licenses (anyone say VASP?) slower to appear as we may need help from partners with access to a valid license
- Default answer in case of problems will often be: "move to 24.03 as then we can exclude a number of causes".

Other stacks

LUMI

- All LUMI stacks now use ROCm 6.0 instead of the version they were built for
- LUMI/23.12:
  - Cray PE 23.12 was built for ROCm 5.7, but we run it with ROCm 6.0
  - Mostly the same software as 23.09
  - Offered as-is with little extra development from LUST
- LUMI/23.09:
  - Cray PE 23.09 was built for ROCm 5.2 and 5.5, but we run it now with ROCm 6.0
  - CPU software seems mostly OK
  - Recompiled precompiled GPU software with ROCm 6.0 and updated all toolchain modules.
  - Hope to fully support it after the update was based on a plan to update to ROCm 5.7.
- Older LUMI stacks offered "as is" without any support
  - Compiling GPU software with EasyBuild will likely fail and easyconfigs have been mostly archived
  - Already compiled software may or may not run

Other stacks (2)

LUMI

- CrayEnv: Some version updates of packages (mostly build tools)
- Will offer Spack configuration when ready
  - Changes in the LUST team will slow down this a bit compared to previous system updates
  - As usual, spack is offered "as is" but we cannot do any development in Spack packages
  - We may encourage the use of spack environments more over the use of a more classic stack as we have now as that seems to solve problems we've run into
- Cannot tell much about stacks in /appl/local
  - Container updates for /appl/local/containers in the works. Expect AI containers that use newer versions of software (some are there already)
  - CSC has been working hard on checking and updating software in /appl/local/csc. Much is already there

Minor changes

LUMI

- Small change in the EasyBuild-user setup, but only EasyBuild experts will notice
  - Basically renamed a directory to align more with the EasyBuild conventions, and do the renaming behind the scenes when you load the EasyBuild-user module.
- Change in how module spider works on LUMI (not yet fully implemented)
  - We realise that cache rebuild times are very high on LUMI
    - But using a system cache is also troublesome on LUMI
  - Changes:
    - Spack-installed modules no longer included automatically in the spider cache.
    - A loophole is implemented request a full indexing:
      - Either set LUMI_FULL_SPIDER to a nonzero value in your .profile
      - Or by loading a module
    - Results may not always be consistent: If the cache is regenerated when more modules are available, they will show up until the cache is regenerated.
      - Minor issue as it will always produce more results than you expect, not less
  - With this change, we also developed a mechanism to make local software stacks available via modules