

Towards more common build tools - experience with using spack in HEP

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Software development in high energy physics follows the open-source software (OSS) approach and relies heavily on software being developed outside the field. Creating a consistent and working stack out of 100s of external, interdependent packages on a variety of platforms is a non-trivial task. Within HEP, multiple technical solutions exist to configure and build those stacks (so-called build tools). Furthermore, quite often software has to be ported to new platforms and operating systems and subsequently patches to the individual externals need to be created. This is a manual and time consuming task, requiring a very special kind of expert knowledge. None of this work is experiment-specific. For this reason, the HEP Software Foundation (HSF) packaging working group evaluated various HEP and non-HEP tools and identified the HPC tool “spack” as a very promising candidate for a common experiment-independent build tool. This contribution summarizes the build tool evaluations, presents the first experience with using spack in HEP, the required extensions to it, and discusses its potential for HEP-wide adoption.

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