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Multi-platform Automated Software Building and Packaging

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One of the major goals of the EMI (European Middleware Initiative) project is the integration of several components of the pre-existing middleware (ARC, gLite, UNICORE and dCache) into a single consistent set of packages with uniform distributions and repositories. Those individual middleware projects have been developed in the last decade by tens of development teams and before EMI were all built and tested using different tools and dedicated services. The software, millions of lines of code, is written in several programming languages and supports multiple platforms. Therefore a viable solution ought to be able to build and test applications on multiple programming languages using common dependencies on all selected platforms. It should, in addition, package the resultant software in formats compatible with the popular Linux distributions, such as Fedora and Debian, and store them in repositories from which all EMI software can be accessed and installed in a uniform way.

Despite this highly heterogeneous initial situation, a single common solution, with the aim of quickly automating the integration of the middleware products, had to be selected and implemented in a few months after the beginning of the EMI project. Because of the previous knowledge and the short time available in order to provide this common solution, the ETICS service, where the gLite middleware was already built for years, was selected.

This contribution describes how the team in charge of providing a common EMI build and packaging infrastructure to the whole project has developed a homogeneous solution for releasing and packaging the EMI components from the initial set of tools used by the earlier middleware projects. An important element of the presentation is about the developers experience and feedback on converging on ETICS and on the ongoing work in order to integrate more widely used and supported build and packaging solutions of the Linux platforms.

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