

Process support for tools interoperability

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Abstract

Commercial tools are heavily used, relatively cheap, well maintained and provide powerful functionalities. Composing these tools in order to build larger applications raises a lot of difficulties not found in component based system. Our work seeks at building a platform that makes entities of various types (component, COTS, tools, etc.) interoperate in order to build a new application. We call this new kind of application a federation.

Our federations use workflow as a support for applications integration and interoperability. In this approach, the process is not defined in term of tools and their parameters; instead, the process is high level and describes only abstract steps without knowledge on how these steps will be carried out. Therefore, the federation offers a means to describe and control the synchronization between the abstract and executable process, and a set of concrete tools. The federation ensures that the execution of the abstract level involves a compatible real execution at the concrete level. Indeed, the real execution requires the collaboration of several tools. The description on how the abstract level is refined into the real execution satisfies consistency rules and interoperability paradigms.

We think our work contributes by providing a high level view in which the application can be described, independently from the real tools specificities, and by providing the means to describe the application behavior and the tools can be used and modified flexibly and dynamically.

Keywords: Federation, tools, interoperability, Software Engineering Environment, component, Process support.