

IRMOS Application Blueprint

Future Internet applications raise the need for environments that can facilitate real-time and interactivity without major modifications in the application domain. IRMOS provides Software as a Service solutions to enable the adaptation of applications for cloud-based platforms. In principle, all applications are suitable to be executed in the IRMOS environment as they are, without any kind of adaptation or modification. Nevertheless, the concrete characteristics of IRMOS, mainly focused on providing infrastructure with Quality of Service guarantees, request specific steps to be performed on the applications side in order to exploit the maximum of the platform offerings. To this direction, IRMOS provides a Methodology for creating or adapting interactive multimedia applications for virtualized service infrastructures along with an Application Wrapper for service-oriented applications.



Key Features

- Methodology for *Application Development* in order to split up a monolithic application into application service components.
- Methodology for *Describing Application Service Components* in order to capture all requirements (e.g. resource needs and functional parameters), which need to be fulfilled for the service to run on IRMOS.
- Methodology for *Modeling the Application*, consisting of service components and their interconnections.
- Methodology for *Defining Resources* on high and low level, for *Defining Functional Parameters* and for *Providing Information for Benchmarking*.
- Methodology for *Packaging Components* for automatic deployment.
- *Application Wrapper* enabling service-oriented applications to be executed on IRMOS.

Supporting Tools

- *Service Modeling Environment*: a dedicated open source tool (Papyrus) that contains a profile for modeling application service components using UML2 and produce automatically an Application Service Level Agreement to be negotiated with Platform as a Service Providers.
- *UML, SoaML, MARTE and Finite State Machine Models*: models and activity diagrams capturing the interactions between several application service components, the application parameters and the resource specifications.
- *Benchmarking Environment*: a framework enabling application service components benchmarking under different resource configurations.
- *Application Wrapper*: the wrapper, besides enabling the application execution, also communicates with three scripts in order to configure, control and monitor the application.

The IRMOS Project is partially funded by the EC Seventh Framework Programme FP7/2007-2011 under grant agreement n° 214777

Further information: <http://www.irmosproject.eu>

