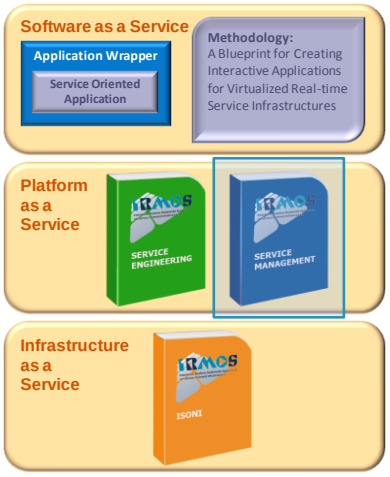
Service Management Tools

The Service Management Tools are placed in the Platform as a Service layer of the IRMOS architecture, acting as a link between the Software as a Service and the Infrastructure as a Service layers. They aim to support the provisioning and management of the IRMOS infrastructure through an open, service-oriented architecture. Their main role is to manage the negotiation, reservation, execution and monitoring of the Application Service Components (ASCs) and, at the same time, to address the real-time related performance requirements in a transparent way to the user while conforming to the Service Level Agreements (SLAs).



Key Features

- *Real-Time QoS Specification*: specification of applications and ASCs considering both structure and real-time QoS.
- *Event Prediction*: QoS-oriented service engineering for predicting QoS requirements contingent on application and resourcing events considering temporal profiles of ASCs.
- *Dynamic SLA Negotiation*: services for SLA negotiation and management supporting the dynamic negotiation (and re-negotiation) of Application-SLAs and dynamic discovery of resource providers (Technical-SLAs).
- *On-Demand Resource Provisioning*: provisioning services for ASCs on virtualized infrastructures through combination of workflow and service-based management wrappers enhanced to support temporal profiles.
- *QoS Event Monitoring*: monitoring services for measuring QoS at both application and technical levels supporting trigger events for runtime adaptability of resource provisioning estimation and decision making.

Building Blocks

- *SLA Negotiator* is responsible for interpreting the requests for negotiating Application-SLAs, whereas the *SLA Manager* queries, publishes, creates and updates SLAs and SLA templates.
- *Performance Estimation Service*: transforms high-level to low-level application requirements and estimates the optimal resources for its deployment (in terms of computing, storage and network). These low-level requirements are included in a Virtual Service Network Description (VSND) which is part of a Technical-SLA.
- *Discovery Service*: responsible for finding registered candidate IaaS providers, which meet the low level QoS constraints defined in the Technical-SLA.
- *Workflow Enactor*: orchestrates the ASCs that comprise the application workflows. It also enables the *Monitoring Service* which observes the consumption of resources during the execution of the ASCs and gathers information about both low-level and high-level performance parameters.

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

SEVENTH FRAMEWORK PROGRAMME