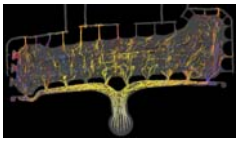
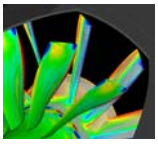
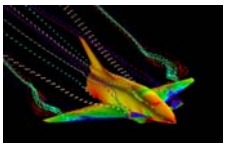
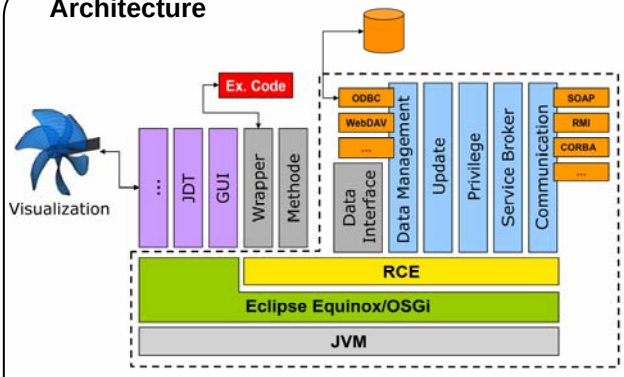
Reconfigurable Computing Environment

The Reconfigurable Computing Environment (RCE) is a service oriented software framework to manage collaborative engineering processes. It hides the complexity of heterogeneous and distributed IT systems behind a common user interface and hereby enforces secure and uniform access of data and services. RCE is application independent and can easily be adapted to a variety of application domains.

Architecture



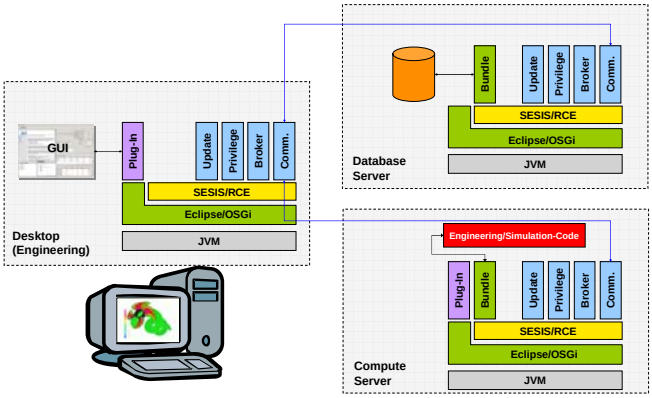
RCE is a plug-in based system written in Java on top of the Eclipse framework. Required extensions to Equinox are implemented in an additional layer named RCE:

- Base services: data management, service localization, privilege management, …
- API for accessing base services by other plug-ins
- Integration existing applications using wrapper technology
- Use of any existing Eclipse plug-ins

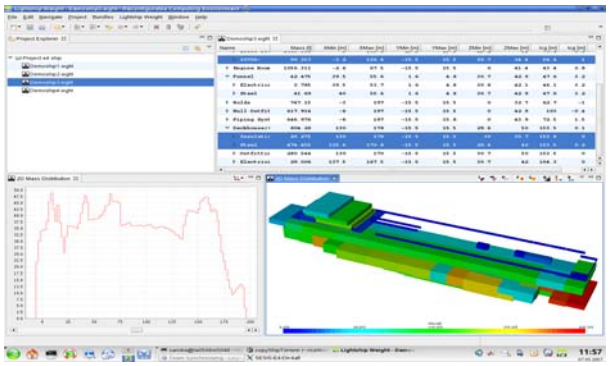
Distributed Computing

RCE is runnable in a distributed environment on Unix and Windows systems and is used as a Grid Computing application.

- Installation of RCE on each participating computing resource
- Different specifications of the platform (client, application server, DB server, …)
- Transparent access of remote plug-ins via RMI, SOAP, CORBA, …
- Transparent access of files and data models over networks



Simulation Environment



RCE supports engineers to manage complex simulations in a collaborative environment.

- Basic workflow management for coupling simulation codes
- Exceeding the lifecycle of existing applications by integrating them
- Providing a graphical user interface
- Definition of macros

RCE is currently under development within the SESIS project (http://www.sesis.de), funded by the German Federal Ministry for Economics and Labour (BMWi).

RCE is used within the D-Grid project PartnerGrid (http://www.partnergrid.de), funded by the German Federal Ministry of Education and Research (BMBF).

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