

Integration of R environment with the Grid

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R, an environment for statistical calculations, is widely used in many fields by mathematicians, physicians, biologists and others. They usually have to handle huge amount of data. Therefore there is a need for significant computing power, larger than can be provided by a typical laboratory. Possible solution is concept of grid computing introduced in several years ago. From that time much progress in grid technology have been made. UNICORE (Uniform Interface to Computing Resources) is one of grid middlewares that have been successfully used in research and production. It makes distributed resources available in a seamless and secure way. UNICORE 6 provides a graphical client - which allows to load gridbeans – a graphical interface to applications. Gridbeans can be used to build simple jobs or can be treated as building blocks for workflows consisting of different tasks and operations. Here authors introduce gridbean for R enabling an integration of R environment with the grid middleware.

R gridbean is easy to use for both people who are used to work with R and beginners. The user interface contains a panel which makes possible writing commands or open previously saved scripts. There is also a field to input appropriate script arguments. Additional files with data can be upload by browsing and attaching them using dedicated graphical interface. Before a job is executed user can choose an appropriate target system or he can leave this to workflow service. Results are visible in an output panel as text and graphics. Based on the PDF renderer R gridbean enables to view plots and save them to the file as an image. All of the features make R gridbean a convenient tool for every R user who need significant computing power which is made available by distributed computing centers. As additional benefit user receives simple environment to handle data and statistical simulations.

References

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PDF Renderer website: <https://pdf-renderer.dev.java.net>

UNICORE website: <http://www.unicore.eu>