Project specification

Context

This project is developed as a semester project, in the frame of different courses of the Department of Telecommunications and Computer Science of the College of Engineering and Architecture of Fribourg, Switzerland.

The topic of this project is the POP model, a model for object-oriented parallel computing on the grid, already implemented in the C++ and Java languages. This model introduces new syntax elements to the underlying language and handles the inter-process communication transparently to the developer.

Goals

The main goals of this semester project are, firstly, to provide a feasibility study of an implementation of the POP model using the Python programming language and secondly to exercise the project management skills of the student while developing a real-world project.

The time given to accomplish the project is not enough to provide a complete implementation of the model, but this doesn't exclude the development of some proofs of concept which can be reused later to code the final implementation.

1. Technical goals

1.1. Provide a detailed analysis of the communication process between two remote POP-C++ endpoints and the underlying protocol(s). This study shall be detailed enough to be able to implement a compatible programming model;

1.2. Study different possible approaches to implement the POP model in Python and choose the one that best suits the task;

1.3. Conceive the Python-oriented syntax to apply the POP model and provide enough proofs of concept to illustrate the inner working;

1.4. (if there is enough time) Begin to code a first Python implementation of the model.

2. Managerial goals

2.1. Exercise the project management skills learned in the frame of the different courses;

2.2. Manage a project from its beginning to its end, while consolidating the acquired knowledge in both management and tools exploitation.

Deadlines

15. October 2010	Delivery of the project specification.
20. October 2010	First presentation about the progress of the project.
4. February 2011	Delivery of the final documents.
Week EX1	Oral defense