

**CoreGRID: European Research Network on
Foundations, Software Infrastructures and
Applications for large scale distributed, GRID and
Peer-to-Peer Technologies**

**WP3, Task 3.1
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Task 3.1: Basic Programming Models




Leader: EIA-FR

**Participants: ISTI/CNR, INRIA, UNIPI, UBE, WWU
Muenster, UNCL, UNI PASSAU, UOW, VTT, VUA**

The main goal of the research activity covered by this task is the development of suitable programming models for the implementation of the single components used in the GRID framework.

Subtask 3.1.1 Programming model




Subtask 3.1.2 Communications



From JPA2

Task 3.1 *Basic programming models*
related to the definition of a programming paradigm suitable to be used to program the single component building a GCM application. In particular, this task aims at both defining such programming model and at designing suitable techniques to optimise the communications (point to point as well as collective) taking place between and within components, i.e. inter and intra component. The single components taken into account here are either sequential or parallel components.

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Suggested by SAB and Steering Committee

Consider restructuring the activities of WP3 according to a list of research topics (related to WP3.1)

- ***Programming models for the single component***, that is which are the more suitable programming models that can be exploited in the implementation of a single component
- ***Communications (inter and intra component)***, concerning point to point and collective communication implementation and optimisation
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In collaboration with other WP3 tasks

- *Component run time support*, concerning the features/mechanisms needed to run components on grids as well as the (optimized) run time systems supporting component execution
- *Interoperability*, that is all the problems related to the possibility of run component programs interacting constructively with non component software built according to existing grid standards as well as with component software developed according to different component models

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Coming deliverables




D.PM.04: Basic features of the Grid Component Model (assessed) (M24)

D.PM.06: Programming models for the single GCM component: a survey (M24)

We need contributions of ALL partners involved in WP3.1

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Basic programming models/tools in CoreGRID

Some of..

- ProActive (D.Carmel, INRIA)
- Ibis (Th. Kielmann, VUA)
- POP-C++ (P.Kuonen, EIA-FR)
- Superscalar (M.R.Badia, UPC)
- ASSIST (M.Danelutto, UNIPI)
- ...

We need a portal on CoreGRID web site where all these tools are available

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Magic word: Integration

We must collaborate...

- Enhance the WP3 web site
- Increase usage of electronic communications
 - Breeze provided by SWITCH
- Create a CoreGRID labelled tool
- To have a CoreGRID team at the next Grid PlugTest

We need ideas and volunteers

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Discussion

- To decide about (co)-responsible persons for
 - Deliverables D.PM.04 and D.PM.06
 - Could leads to collective papers to be published somewhere and be recycled for the deliverable
 - The WP3.1 web site maintenance
 - Part of the WP3 web site
- To think (decide) about
 - Having a CoreGRID labelled component programming tool (steps in call 6..??)
 - Having a CoreGRID team at the next GRID plugtest
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Topics mentioned during the session

- WP3 is interested be more involved in the GRID PlugTest event because it close from the on-going research activities in WP3
 - How to create a stronger collaboration between Grid Plugtest and CoreGRID and to make a «CoreGRID report» out the event
 - To open Grid PlugTest to others tools
 - To add a a « more industrial » test for instance GRID web services interoperability
 - To think about having CoreGRID teams using « composite » tools for the Grid PlugTest
- To combine WP3.1 deliverables with published papers
- To postpone WP3.1 deliverables after the next Grid PlugTest

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