Work package 2: Job-Monitoring and automated User-Support

HEPCG-Workshop

April, 27 2006

Goal:

Project proposal:

„The development of tools to enable the user to obtain easily understandable information about the status of his/her jobs, intermediate results and possible sources of failure yielding an automated support of the users."

Partners

- Technische Universität Dresden

  – Zentrum für Informationsdienste und Hochleistungsrechnen

  – Institut für Kern- und Teilchenphysik

- Universität Siegen

  – Betriebssysteme und verteilte Systeme

  – Experimentelle Teilchenphysik

  – Zentrum für Informations- und Medientechnologie (ZIMT)

- Bergische Universität Wuppertal

  – Fachbereich Physik

  – Institut für angewandte Informatik

- Associated partner: Forschungszentrum Karlsruhe

Tasks

1. The build-up of an information system about the status of jobs and a grid-wide evaluation system

2. The development of an expert system to classify job failures

3. The development of a system to analyse intermediate results and to allow interactive user response during job execution

- Scenario 1: a typical analysis or simulation in HEP consists of hundreds to thousands of single jobs running in a Grid
  - need intelligent Job-Monitoring for the users (graphical overviews, statistical vies, detailed data etc.)
- Scenario 2: provider – How many of my resources are used ? Do I need to extend them (e.g. more disks, more network) ?
  - need monitoring and analysis of the usage of the resources by the (thousands of) user jobs (graphical displays, statistical analyses etc.)
- TU Dresden
- People involved:
  - Heiko Lacker
  - Ralph Müller-Pfefferkorn
  - Reinhard Neumann
  - Thomas William

- Scenario: 100 of 200 jobs fail – currently, failure reasons can be found only by taking a view on every single job
  - need automated identification of job failures
  - expert system to support users
    - not only realise failure reasons but provide solutions
- Universität Wuppertal in co-operation with FH Niederrhein (Prof. P. Überholz) and FH Köln (Prof. E. Ehses)
- People involved:
  - Ahmad Hammad
  - Torsten Harenberg
  - Matthias Hüsken
  - Peter Mättig
  - Markus Mechtel
  - David Meder-Marouelli

- Scenario: physicist wants to know if his/her analysis yield expected results
  - need tools to allow users to get feedback from jobs about the quality of the results already during job execution (e.g. already accumulated data of a distribution in a histogram)
  - (partial) analysis and verification of job output during runtime
- Universität Siegen
- People involved:
  - Peter Buchholz
  - Daniel Lorenz
  - Wolfgang Walkowiak
  - Roland Wismüller

Co-operation

- Work package 2 workshop in Dresden last February
  - common technical base
    - define interfaces
    - shared CVS repository
  - co-ordinated planning and goals
- Co-ordination with CERN
  - meeting with monitoring people of LCG
  - close co-operation
  - currently, change of responsibilities at CERN
- Monthly telephone conferences
- Wiki for discussion and to exchange ideas