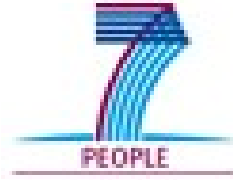


EPIKH

RESEARCH PROGRAMME OF <HEITHEM ABBES>

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Abstract: The document describes the schedule and topics of my research program in training events of the EPIKH project. The time schedule and expected outcomes are also included.



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1. INTRODUCTION

1.1. PURPOSE OF THE DOCUMENT

This document gives an overview of my research program in order to form a tutor in Grid Computing able to manage and supervise the different services of grid, able to support users to deploy their applications and able to train grid administrators to manage their resources.

1.2. DOCUMENT ORGANIZATION

The remainder of the document contains three sections. Section 1.3 presents the application area. Section 2 describes my research program highlighting elements that I plan to deal with. Section 3 gives time schedule and the expected outcomes.

1.3. APPLICATION AREA

Grid computing has radically changed the way of using high performance computing. The challenge consists on exploiting worldwide computational resources in order to create a source of a big computing power able to support complex applications.

UTIC Research Unit in Tunisia is a very active player in Grid activities. UTIC joined the EumedGrid projects and has built a Grid-based computing system using gLite services. UTIC has also helped Tunisians partners to deploy their applications and organized several training events to Tunisians researchers. The UTIC experience on Grid will help well training events of the EPIKH project.

My personal experience with Grid computing comes from my participation in the EumedGrid project during 2006 and 2007. EUMEDGRID project has led to a pilot Grid Infrastructure which covers almost all the Mediterranean Area.

Now, my objective, through this research program, is to improve my knowledge to get more expertise to be a tutor of grid computing and an administrator of grid infrastructure.



2. RESEARCH PROGRAMME

My research program consists on 2 parts:

Part 1: Getting trained as a tutor of grid technology

I will focus on administration aspects (installing, configuring and debugging) of grid services. In addition, I will support user to deploy their applications. I will try to increase my knowledge by hands on practice. I will focus on gLite middleware components:

- Authorization and authentication in gLite
- Architecture of the gLite WMS (Workload Management System)
- Installing and configuring Computing Element (CE)
- Installing and configuring of Worker Node (WN)
- Installing and configuring of Storage Element (SE)
- Installing and configuring of Monitoring node (MON)
- User Interface (UI) installation and configuration
- Installing and configuring of Core Services (RB, BDII, LFC)
- Installing and configuring Core Services (VOMS)
- Installing and configuring Monitoring Tools - GridICE, Gstat, SAM
- Installing and configuring the GENIUS Grid Portal

Part 2: Administration of the Tunisian site and organizing and contributing to grid training events

After this training, I will contribute to training events on grid technology in Tunisia and other countries of the continent, as at least more than 8 training events per year and per continent will be organized and run according to the project research program.

In addition, I will administrate and supervise the National Tunisian Grid.



3. TIME SCHEDULE AND EXPECTED OUTCOMES

3.1. TIME SCHEDULE

- 15/07/2010 – 15/08/2010
 - Setup a basic grid test bed and focus on administration of its services
 - Hand on exercises to get more experience
 - Installing and configuring some advanced grid services (BDII, VOMS, LFC, Gstat, GridIce, SAM...)
- During the project period.
 - Contributing to training events.

3.2. EXPECTED OUTCOMES

- Improve and develop my knowledge of Grid technology and applications.
- Accumulate experience with the administration and maintenance grid services.
- Spreading the knowledge about the “Grid Paradigm” to potential users in Tunisia, including both system administrators and application developers, through Grid schools and workshops.
- Provide an easy access of educated people to grid resources in Tunisia.
- Foster the establishment of scientific collaborations among the countries/continents involved in the project.