**TRIGON BASED DUAL AUTHENTICATION**

**A PROJECT REPORT**

***Submitted By***

**P.VADIVEL**

**M. KOKILA**

**S. SRINIVASAN**

**B.G. SUGUMAR**

***in partial fulfillment for the award of the degree***

***of***

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***Submitted By***

**P. VADIVEL (080105803125)**

**M. KOKILA (090405803007)**

**S. SRINIVASAN (090405803014)**

**B.G. SUGUMAR (090405803015)**

***in partial fulfillment for the award of the degree***

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**BONAFIDE CERTIFICATE**

Certified that this project report **“TRIGON BASED DUAL AUTHENTICATION”** is the bonafide work of “ **P. VADIVEL, M. KOKILA,**

**S. SRINIVASAN and B.G. SUGUMAR”** who carried out the project work under my supervision.

**SIGNATURE SIGNATURE**

**DR. B. SATHIYABHAMA, MR. G. MOHAN RAJ,**

**HEAD OF THE DEPARTMENT SUPERVISOR**

Assistant Professor

Department of Computer Science and Department of Computer Science and

Engineering, Engineering,

Sona College of Technology, Sona College of Technology,

Thiagarajar Polytechnic College Road , Thiagarajar Polytechnic College Road ,

Salem – 636 005 Salem – 636 005

Date of Viva-Voce Examination: 16.04.2012 – 18.04.2012

Internal Examiner External Examiner

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**ABSTRACT**

In recent times, a necessity has been raised in order to distribute computing applications often across grids. These applications are dependent on the services like data transfer or data portal services as well as submission of jobs. Security is of utmost importance in grid computing applications as grid resources are heterogeneous, dynamic and multi-domain. Authentication remains as the significant security challenge in grid environment. In traditional authentication protocol a single server stores the sensitive user credentials, like username and password. When such a server is compromised, a large number of user passwords, will be exposed. Our proposed approach uses a dual authentication protocol in order to improve the authentication service in grid environment. The protocol utilizes the fundamental concept of trigon and based on the parameters of the trigon the user authentication will be performed. In the proposed protocol, the password is interpreted and alienated into more than one unit and these units are stored in two different servers, namely Authentication Server and Backend Server. Only when the combined authentication scheme from both the servers authenticates the user, the privilege of accessing the requested resources is obtained by the user. The main advantage of utilizing the dual authentication protocol in grid computing is that an adversary user cannot obtain the access privilege by compromising a single consolidated server because of the fact that the split password is stored in different servers.

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**LIST OF ABBREVIATIONS**

1. **DAM -** Dual Authentication Methodology
2. **LAN -** Local Area Network
3. **OOPs -** Object Oriented Programming
4. **JVM -** Java Virtual Machine
5. **CPU -** Central Processing Unit
6. **GUI -** Graphical User Interface
7. **AWT**  - Abstract Window Toolkit
8. **IO** - Input / Output
9. **JDBC** - Java Database Connectivity
10. **ASCII** - American Code for Information Interchange
11. **Ai** - Authentication Index
12. **CORBA** - Common Object Request Broker Architecture

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