

Improved user authentication process for third-party identity management in distributed environment

### **ABSTRACT**

Third-party identity management user authentication process using single sign-on (SSO) in distributed computer networks requires modification as the process of authenticating user to log into relying party (RP) resources by either identity provider (IDP) or hybrid relying party (HRP) depend always on the authentication of user logins. In this research an algorithm is proposed to authenticate user only once by recording and encrypting user credential with one-way hashing algorithm (SHA2), this simplifies user subsequent logins into relying party by confirming user credentials without other authentication by IDP or HRP. Authentication time and response time continuous time plot of the proposed algorithm was plotted with respect to the arrival time of users in which we show the relationship of authentication time and response time with random arrival rate of users.