Abstract

VOIP (voice Over Internet Protocol) has many advantages but at the same time it has security threats not encountered in PSTN (Public Switched Telephone Networks). The paper deals with the security of the widely used protocol for signaling. The Session Initiation protocol (SIP) is considered the most used signaling protocol for calls over the internet. Securing SIP is becoming more and more important. This paper focusing on the SIP security mechanisms of authentication, and proposing an authentication model based on the Kerberos protocol to provide single sign-on, achieving two way authentications, to reduce the computation against authentication checks for each client, and prevent against Session Teardown Attack and Registration Hijacking attack. It acts as a trust third party to allow secure access to VOIP services. In this paper we implemented the SIP-Kerberos system and record the average time that the users need to authenticate at Kerberos and the average time needed to register at SIP server. The measured performance result of the solution is suitable for heavy loads in the SIP architecture.
Securing Session Initiation Protocol for VOIP Services


Index Terms

Computer Science

Security
Keywords

VOIP  PSTN  SIP  Security  Kerberos