

Towards a Security Model against Denial of Service Attacks for SIP Traffic

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Abstract : Nowadays, security threats in Voice over IP (VoIP) systems are an essential and latent concern for people in charge of security in a corporate network, because, every day, new Denial-of-Service (DoS) attacks are developed. These affect the business continuity of an organization, regarding confidentiality, availability, and integrity of services, causing frequent losses of both information and money. The purpose of this study is to establish the necessary measures to mitigate DoS threats, which affect the availability of VoIP systems, based on the Session Initiation Protocol (SIP). A Security Model called MS-DoS-SIP is proposed, which is based on two approaches. The first one analyzes the recommendations of international security standards. The second approach takes into account weaknesses and threats. The implementation of this model in a VoIP simulated system allowed to minimize the present vulnerabilities in 92% and increase the availability time of the VoIP service into an organization.

Keywords : Denial-of-Service SIP attacks, MS-DoS-SIP, security model, VoIP-SIP vulnerabilities

Conference Title : ICSR2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020