

Details of Project:

Title:	Security Features of Session Initiation Protocol (SIP)
Objective:	Explore the current security vulnerabilities of SIP by conducting case studies on commercial products or open source software.
Background:	<p>VoIP services are attracting a lot of interest and many organisations are implementing VoIP networks or are considering their adoption. While there are numerous benefits in implementing VoIP, there exists a need to address the real security risks that are inherent in deployment of VoIP applications. This project is centred on SIP, which is rapidly gaining momentum for service providers to carry VoIP traffic across their networks.</p> <p>The scope of this project involves:</p> <ul style="list-style-type: none">• Carrying out research to understand SIP components, architectures, protocol and security models.• Evaluating popular SIP applications, which will serve as a basis for the case studies.• Developing a software engine which analyses SIP communication sessions to verify claims that security patches are effective and vulnerabilities have been mitigated.• Recommending SIP products or solutions suitable for use in an organisation taking into account their security considerations. <p>Although the intern is required to carry out his/her own research, some background information and materials on SIP and programming would be provided to aid in the learning. The intern will gain an intermediate understanding on the intrinsic details involved in SIP-based communication systems.</p>
Skills Required:	<ul style="list-style-type: none">• Strong interest in research and development• Knowledge in C/C++ programming• Inquisitive mindset• Experience in Linux programming environment preferred
Faculty (major):	Electrical or Computer Engineering
Duration:	6 months
Individual/Team Project:	Individual