

## SECURED OPERATION PLANNING ON SERVICE NETWORKS

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**ABSTRACT.** *Planning Internet-based applications services such as telephony requires a variety of components to ensure the quality of services. Two protocols have emerged to provide these function- H.323 series of recommendations by ITU-T, and Session Initiation Protocol (SIP) by Multi-Party Multimedia Session Control Working Group, IETF. All the major SIP traffics, management and services will be handled by SIP proxy, redirect and registrar servers. The servers play very important roles in the SIP network. The resources for servers also might become a bottleneck for the SIP network. Before an SIP network service is planned and implemented, one major concern the SIP service providers care for the most is how good the service performance is going to be under various circumstances. In other words, they are trying to obtain a thorough understanding about the network performance impact as a whole. This research establishes a network planning model that simulates normal operations of an SIP network and implements a convenient web-based tool to analyze the performance of respective network elements in a simulated SIP environment and under different configurations and scenario setups. The user can input the desired traffic types, volumes and distributions, and configure the simulation scenario through the friendly input format from any client.*

**Keywords:** IETF, Signaling, SIP, Proxy, Redirect, Registrar

**1. Introduction.** SIP is not dependent upon any particular conference control protocol, such as H.323, and does not define any method of transporting the session traffic. All the major SIP traffics [1,2], management and services will be handled by SIP proxy, redirect and registrar servers. The servers play very important roles in the SIP network. The resources for servers might also become a bottleneck for the SIP network. Although the SIP is lightweight for being a signaling protocol and companies and organizations have just developed some SIP related services, there are still many virgin lands to apply this technology. But before an SIP network service is planned and implemented, one major concern the SIP service operators care for the most, is how good (or bad) the service performance is going to be under various circumstances.

SIP is a call processing protocol. It is used to create carry session descriptions which allow participants to agree on a set of compatible media types. SIP supports user mobility by proxy and redirecting requests to the user's current location. Users can register their current location as well. The session may be multimedia conference, or point-point telephone call. SIP is not dependent upon any particular conference control protocol, such as H.323, and it does not define any method of transporting the session Traffic.