

Stage Description

Web Interface for

VoIP Call Simulator

NetAxis Solutions in collaboration with

Université de Liège

Faculté des Sciences Appliquées

(Prof. Bernard Boigelot)

Web Interface
Call Simulator

Document Control

Version	Date	Notes
1.0	25/8/2012	Reviewed and delivered - Official
1.1	3/09/2012	Reviewed

Contact

All enquiries related to the feature described in this document can be emailed to management@netaxis.be.

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1. Definitions

CPE	Customer-premises equipment
IMS	IP Multimedia Subsystem
IP PBX	IP (Internet Protocol) PBX (Private branch exchange) - business telephone system
NGN	Next Generation Network
SIP	Session Initiation Protocol
Supplementary Services	Additional services offered by a telephony system (e.g. Call Forwarding, Call Waiting, ...)
VOIP	Voice over IP

2. Introduction

NetAxis Solutions has a long expertise in carrier grade voice solution and more specifically in the next generation IP based networks (NGN/IMS architecture). This expertise helped us to identify and understand the key points required to build efficient, flexible, secured and robust VOIP solutions.

In order to improve the available tools in the VoIP area, we developed a call simulator, able to generate call signalling messages based on the SIP protocol. This simulator allows us to generate all types of calls including the more complex call scenario that some IP PABX can deploy for providing Supplementary Services.

NetAxis Solutions aims to propose a Stage (work) to a Student for improving our Call Simulator. We will support the Student with all available information, explanations, test environment and advises for helping him/her to reach the goals.

Here is a high level description of the subject of this "Stage".

3. Goal

NetAxis Solutions proposes to a Student to develop the Interface for an existing Call Simulator, developed by Netaxis Solutions.

Today, this call simulator is a Linux command-line based tool, which require manual editing of scenario files, protocol messages and configuration files. While the tool offer great flexibility, an interface is needed that will simplify the usage by creating an abstraction layer between the user and the tool.

4. Description

The Student should perform the following activities and steps (essential elements):

Based on an existing Web framework, develop an interface:

- To control the Call Simulator locally or remotely;
- To edit basic SIP messages (the building-blocks of the scenario's);
- To edit call scenario's;
- To control at runtime:
 - o To define SIP relationships (address/local port, address/remote port);
 - o To attach scenario's to these relationships;
 - o To execute and to monitor the tool.

Other aspects can be added (optional):

In order to further improve the tool and according to the available time, we could add an important feature. It consists in the capacity of importing wireshark traces:

- o To select the endpoint to be simulated (sending or receiving party);
- o To be able to automatically parameter the protocol messages;
- o To generate a simple scenario without condition: send request A, expect answer B, reply with C, etc...

The language of the Stage documents should be English.

The development languages will be agreed with NetAxis Solutions.

5. Contact person

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6. Organization

The work will be performed at Netaxis Solutions office (rue Wiertz 33, 1050 Brussels) or at any other place as agreed between the Student and Raphaël Benedet.

The Student will receive all needed tools and support for allowing the activities.

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The “Stage” period is flexible (from September 2012 till May 2013) and can be adapted in order to cope with other Student’s constraints. The number of days per week can also be discussed.

All costs related to the trips will be paid by Netaxis Solutions as well as lunch costs.