OpenSIPs Installation and Configuration Manual

SOMALI RESEARCH

AND

EDUCATION NETWORK

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Content

Revision History

Version	Date	Changes	Author
Version 1.0	13Sep, 2011	Draft version of Opensips installation and configuration guide	Hantao Wang Zhaoyu Wang

1. Introduction

Nowadays VoIP has entered people's daily life and moves on its step of substitution for traditional Public Switch Telephony Network because of the popularization of the Internet and a large variety of mature VoIP hardware and software on the market [1]. It digitizes voice signals and commits real-time transmissions for data packets over IP network, which enables many relevant services and cuts down the cost [2].

VoIP began with H.323 and now has moved to SIP. In this project Somaliren members will use HDVC systems for video conferencing through their own network. So a SIP server that initiates interactive communication sessions between subscribers is necessary to be set up on the NOC server.

OpenSIPs is a mature open-source SIP server which performs in a highly efficient way. It inherited the OpenSER spirits and extends the codes to gain better functionality [3]. It well fits for the Somaliren network and the HDVC systems as well.

2. Purpose

The purpose of this document is to show the installation and configuration of Opensips application on a Ubuntu Linux machine and offers guides to Somaliren technical staff. Once configured, it will be used to initialize the call establishment on HDVC systems over Somaliren network.

3. Scope

The scope of this document covers step-by-step installation and configuration details of Opensips on the virtual machine based on Somaliren infrastructure. This will be helpful for the readers to know how the service is setup for HDVC clients and all possible users who might use the network to start a call.

4. Audience

The document aims at the members of Somaliren groups, who are responsible for the deployment of Somaliren network as well as next CSD Somaliren teams.

5. Opensips Pre-requisites

Software Assumption:

Operating System: Ubuntu 10.04 lts

Opensips: 1.7.0 tls

In order for Opensips to work, the following packages are needed.

- ✓ MySQL-server
- ✓ gcc
- ✓ bison
- ✓ flex
- ✓ make

- ✓ sed
- ✓ tar
- ✓ build-essential libtool
- ✓ libmysqlclient15-dev

6. Opensips Installation

6.1 Build the Environment for Opensips Installation.

1. Install **mysql** database for Opensips.

```
#sudo apt-get installmysql-server
```

2. Install the packages mentioned above.

```
#sudo apt-get installgcc
#sudo apt-get install bison
#sudo apt-get install flex
#sudo apt-get install make
#sudo apt-get installsed
#sudo apt-get install tar
#sudo apt-get install build-essential libtool
#sudo apt-get install libmysqlclient15-dev
```

6.2 Installation of Opensips

1.   Download Opensips:

```
#sudo wgethttp://opensips.org/pub/opensips/1.7.0/src/opensips-1.7.0_src.tar.gz
```

```
#sudo tar zxvf opensips-1.7.0_src.tar.gz
```

2.   Extract the file:

3.   Compile and Install:

```
#cd opensips-1.7.0-tls/
#sudo make all include_modules="db_mysql"
#sudo make install include_modules="db.mysql"
```

4.   Copy mysql module to the Opensips directory:

```
#sudo cp /opensips-1.7.0-tls/modules/db_mysql/db_mysql.so/usr/local/lib64/opensips/modules/
#sudo cp /opensips-1.7.0-tls/scripts/opensipsctl.mysql/usr/local/lib64/opensips/opensipsctl/
#sudo cp /opensips-1.7.0-tls/scripts/opensipsdbctl.mysql/usr/local/lib64/opensips/opensipsctl/
```

Note: We use 64-bit Ubuntu OS. If your OS is 32-bit, 'lib64' should be replaced to 'lib' in the above directory.

7.Opensips Configuration

7.1 Configure opensips.cfg

Edit opensips.cfg file:

```
#sudo nano /usr/local/etc/opensips/opensips.cfg
```

Uncomment the following lines:

```
log_stderror=yes
disable_tcp=yes
loadmodule"db_mysql.so"
loadmodule"auth.so"
loadmodule"auth_db.so"
modparam("usrloc", "db_mode", 2)
modparam("usrloc", "db_url", "mysql://opensips:opensipsrw@localhost/opensips")
modparam("auth_db", "calculate_ha1", yes)
modparam("auth_db", "password_column", "password")
modparam("auth_db", "db_url", "mysql://opensips:opensipsrw@localhost/opensips")
modparam("auth_db", "load_credentials", "")
if (!www_authorize("", "subscriber"))
{
www_challenge("", "0");
exit;
}
```

Comment the following lines:

```
log_stderror=no
modparam("usrloc", "db_mode", 0)
```

7.2 Configure Opensipsctlrc file

Edit the **opensipsctlrc** file:

```
#sudo nano /usr/local/etc/opensips/opensipsctlrc
```

Uncomment the following command lines, and modify them according to your own condition.

```
SIP_DOMAIN=dns.somaliren.com
DBENGINE=MYSQL
DBHOST=localhost
DBNAME=opensips
DB_PATH="/usr/local/etc/opensips/dbtext"
DBRWUSER=opensips
DBRWPW="opensipsrw"
DBROOTUSER="root"
USERCOL="username"
LIASES_TYPE="DB"
VERIFY_ACL=1
ACL_GROUPS="local ldint voicemail free-pstn"
VERBOSE=1
```

The domain name of our Opensips is "dns.somaliren.com". If you do not have a domain name, IP address can also be used here.
E.g. SIP_DOMAIN=192.168.1.4

7.3 Create Database

Now MySQL database is created for Opensips:

```
#opensipsdbctl create
```

7.4 Start Opensips

Service start:

```
#sudo opensipsctl start
```

Monitoring service status:

```
#sudo opensipsctlmoni
```

Now it is time to add new users to Opensips

```
#opensipsctl add somaliren@dns.somaliren.com 1234
```

In this scenario, we set a user with name 'somaliren' and password '1234'. 'dns.somaliren.com' is the domain name of Opensips. IP address can also be used here. E.g somaliren@192.168.1.4

8. References

[1] G. Q. Maguire, Practical Voice over IP: SIP and related protocols; Module2: VoIP details; Available at:
http://www.ict.kth.se/courses/IK2554/VoIP-20110823a.pdf
; Last viewed 14 September, 2011.

[2] Baidu, Voice of Internet Protocol; Available at:
http://baike.baidu.com/view/1475.htm
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[3] Opensips.org, Documentation of Opensips; Available at:
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