

Installation of a presence server

The management of presence within an IMS architecture will be carried out using an application server (AS). OpenSIPS (Open SIP Server) is an Open Source implementation of a SIP server including application level features. To achieve our goal, we will only use one of the use only one of the OpenSIPS features, the presence management.

Step 1: Prerequisites

It is absolutely necessary to have the following packages installed before continue. To check this, and install them if necessary, it is recommended to System => Administration => Synaptic Package Manager to do your shopping.

Note: install Synaptic with the command: `apt-get install synaptic`

The necessary packages are:

- `bison bisonc++`
- `flex`
- `libsctp1`
- `libxml2-dev`
- `libexpat1-dev`
- `libradiusclient-ng-dev libradiusclient-ng2`
- `libcurl4-openssl-dev`
- `libxmlrpc-core-c3 libxmlrpc-core-c3-dev`
- `libperl-dev`
- `libsnmp-dev`
- `libconfuse0 libconfuse-dev`
- `build-essential`
- `mysql-server`
- `libmysqlclient-dev`

Note: All libraries must be installed. You have to find (not find on Synaptic) and install the missing libraries on the Internet.

Step 2: Installing the presence server

This tutorial was done with OpenSIPS version 1.5.0. It can be downloaded from this link (http://opensips.org/pub/opensips/1.5.0/src/opensips-1.5.0-notls_src.tar.gz).

- Uncompress the archive in the desired installation folder
- Edit the makefile:
 - locate `exclude_modules=` at line 52
 - Delete the following modules (we want to install them and not exclude them from the installation):

- `jabber`
- `cpl-c`

- xmpp
- rls
- mi_xmlrpc
- xcap_client
- db_mysql
- perl
- snmpstats
- peering
- carrierroute
- presence
- presence_xml
- presence_mwi
- presence_dialoginfo
- pua
- pua_bla
- pua_mi
- pua_usrloc
- pua_xmpp
- pua_dialoginfo

- Start the compilation with “make”
- Launch the installation with “make install”
- To finish the installation, copy the following files:
 - cp opensips-1.5.0-notls/packaging/debian-etch/opensips.default /etc/default/opensips
 - cp opensips-1.5.0-notls/packaging/debian-etch/opensips.init /etc/init.d/opensips

Step 3: Configure the presence server

- Edit the opensips file “gedit /etc/default/opensips”
 - Change line 6 to: “RUN_OPENSIPS = yes”
- Edit the opensips file in init.d: “gedit /etc/init.d/opensips”
 - DAEMON=/usr/local/sbin/opensips
 - RUN_OPENSIPS=yes
- Add execution right to opensips file : “chmod +x /etc/init.d/opensips”
- Add user opensips
 - groupadd opensips
 - useradd -g opensips opensips
- Create the opensips directory and assign it the necessary privileges:
 - mkdir /var/run/opensips
 - chmod 777 /var/run/opensips
 - chmod 777 /usr/local/etc/opensips/
- If the root user is not already created in your mysql database, create it with the following command: “mysqladmin -u root password 'password'”
- Edit the Open SIPS server control file: “gedit /usr/local/etc/opensips/opensipsctlrc”
 - Uncomment the following lines:

- # SIP_DOMAIN=opensips.org
- # DBENGINE=MYSQL
- # DBHOST=localhost
- # DBNAME=opensips
- # DBRWUSER=opensips
- # DBRWPW="opensipsrw"
- # DBROUSER=opensipsro
- # DBROPW=opensipsro
- # DBROOTUSER="root"
- # USERCOL="username"
- # INSTALL_EXTRA_TABLES=ask
- # INSTALL_PRESENCE_TABLES=ask
- Uncomment and modify the following line:
 - # PID_FILE=/var/run/opensips.pid
 - to => PID_FILE=/var/run/opensips/opensips.pid
- Edit the Open SIPS configuration file: "gedit /usr/local/etc/opensips/opensips.cfg"
 - Comment on line 122: modparam("usrloc", « db_mode », 0)
 - Change the listening port of the server (5060 to 5065) - line 54: port=5065
 - Uncomment the following lines:
 - #loadmodule "db_mysql.so"
 - #loadmodule "auth.so"
 - #loadmodule "auth_db.so"
 - #loadmodule "presence.so"
 - #loadmodule "presence_xml.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("presence|presence_xml", "db_url",
 - # "mysql://opensips:opensipsrw@localhost/opensips")
 - #modparam("presence_xml", "force_active", 1)
 - #modparam("presence", "server_address", "sip:192.168.1.2:5065")
 - Replace the IP address of the presence server (line 192) by 127.0.0.1 or by the IP address of the virtual machine. In our tutorial, the presence server and the IMS architecture are installed on the same virtual machine so the address 127.0.0.1 was used: modparam(« presence », « server_address », « sip:127.0.0.1:5065 »)
 - Replace the "route" function with the following code:

```
route{
if (!mf_process_maxfwd_header("10")) {
sl_send_reply("483", "Too Many Hops");
exit;
};
```

```
if (msg:len >= 4096 ) {  
    sl_send_reply("513", "Message too big");  
    exit;  
};  
# presence handling  
if(method== "PUBLISH"){  
    route(2);  
}  
if(method== "SUBSCRIBE"){route(2);  
}route(1);  
}
```

Only the messages used to manage the presence will be processed by Open SIPS

- Also replace the route function [2]:

```
route[2]  
{  
    if (!t_newtran())  
    {  
        sl_reply_error();  
        exit;  
    };  
    if(is_method("PUBLISH"))  
    {  
        handle_publish();  
        #t_release();  
    }  
    else  
    if( is_method("SUBSCRIBE"))  
    {  
        handle_subscribe();  
        #t_release();  
    }  
    exit;  
}
```

- Enter the following command: `sudo opensipsctl add 1001 1001`

Step 4: Initialize the attendance server database

- Run the following command: `opensipsdbctl create`
- Answer yes to both questions
- Assign rights to the opensips user
 - `mysql -u root -p`
 - `GRANT ALL PRIVILEGES ON *.* TO opensips@localhost IDENTIFIED BY 'opensipsrw';`
 - `GRANT ALL PRIVILEGES ON *.* TO opensips@127.0.0.1 IDENTIFIED BY 'opensipsr';`

Step 5 : Start / Stop the presence server

- `sudo opensipsctl start`
- `sudo opensipsctl stop`

If it doesn't work again:

- `mkdir /var/run/opensips`
- `chmod 777 /var/run/opensips`