



Amarisoft Off The Shelf service

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1 Introduction

1.1 General description.

This document describes how to configure and use Amarisoft OTS service.

OTS service is a systemd or init.d Linux service allowing to start/stop and manage automatically Amarisoft software components.

1.2 Installation

You need to use the `install.sh` provided in your Amarisoft software release tarball and answer yes to its installation during the process:

1) Configuration

You can exit `install` script during this step, nothing will be changed until next step

* Do you want to install LTE automatic service ?

Package screen may be installed. [Yn] y

Enabling it means enabling Linux service by default:

- Do you want to enable LTE automatic service ? [yN] n

2 Using service

2.1 Service management

2.1.1 Status

You can check the LTE service status this way:

```
service lte status
```

The command will return "active (running)" status if service is running

2.1.2 Stop

You can stop all LTE components this way:

```
service lte stop
```

2.1.3 Start

You can start them again this way:

```
service lte start
```

2.1.4 Disable

You may also prevent them to start at boot time:

```
systemctl disable lte
```

NB: lte service remains enable until next reboot

NB2: this command is not available on Ubuntu version <= 14

2.1.5 Enable

You may enable service at boot time this way:

```
systemctl enable lte
```

NB: lte service remains disable until next reboot

NB2: this command is not available on Ubuntu version <= 14

2.2 Access to software monitors

Once you are logged on your callbox, you can access software components (eNB, MME, IMS or MBMSGW) using screen command:

```
screen -x lte
```

This will connect you to different component monitor.

```

sh-4.4# cd /root/mme
sh-4.4# ./lteims config/ims.cfg
LTE IMS version 2018-10-18, Copyright (C) 2015-2018 Amarisoft

This software is licensed to
Support and software update available until 2020-01-21.

log file.rotate=50M,file.path=/var/log/lte/
(ims)
(ims) log file.rotate=50M,file.path=/var/log/lte/
(ims)
(ims) t
Press [return] to stop the trace
█

[ localhost:root ][ 0$ MME 1$ ENB 2$ MBMS 3*$IMS

```

Next sections show you basic methods. For more information please refer to **screen** documentation (<https://www.gnu.org/software/screen/manual/screen.html>).

2.2.1 Select component

Each component monitor is inside a window. You can switch from a window to another with the command:

```
ctrl+a <window index>
```

Where window index is:

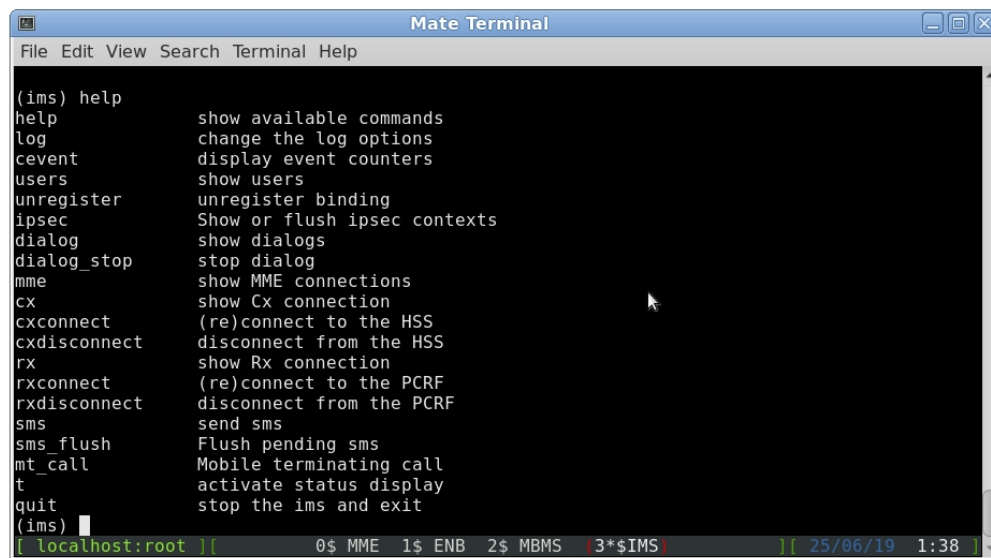
- 0 MME
- 1 eNB
- 2 MBMSGW
- 3 IMS

Note: press simultaneously CTRL key and a key, release them, then press number key.

You can also switch to next window:

```
ctrl+a <space>
```

Each component screen offers a list of commands that can be used either to get status or trigger action. Each of them are documented in the component documentations (example lteenb.pdf) or inline with the "help" command



The screenshot shows a terminal window titled "Mate Terminal" with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal displays the help output for the 'ims' service, listing various commands and their functions. At the bottom, a status bar shows the current session state: "[localhost:root] [0\$ MME 1\$ ENB 2\$ MBMS 3*\$IMS] [25/06/19 1:38]".

```
(ims) help
help          show available commands
log           change the log options
cevent        display event counters
users         show users
unregister    unregister binding
ipsec         Show or flush ipsec contexts
dialog        show dialogs
dialog_stop   stop dialog
mme           show MME connections
cx            show Cx connection
cxconnect     (re)connect to the HSS
cxdisconnect  disconnect from the HSS
rx            show Rx connection
rxconnect     (re)connect to the PCRF
rxdisconnect  disconnect from the PCRF
sms           send sms
sms_flush     Flush pending sms
mt_call       Mobile terminating call
t             activate status display
quit          stop the ims and exit
(ims) 
```

[localhost:root] [0\$ MME 1\$ ENB 2\$ MBMS 3*\$IMS] [25/06/19 1:38]

2.2.2 Exit screen

ctrl+a d

3 Configuration

3.1 File

The LTE automatic service uses `/root/ots/config/ots.cfg` for its configuration. The format is shell.

The default configuration file is generated during installation. To use your own configuration we recommend to create a new file and change `/root/ots/config/ots.cfg` symbolic link to point to your file. Else, your changes will be overridden at next software install/upgrade.

Example:

Create a `my-ots.cfg` file and put the following inside:

```
# Include default configuration
source ots.default.cfg

# Add your custom config
MME_CONFIG_FILE=/root/mme/config/my-mme.cfg
```

Then:

```
cd /root/ots/config
rm -f ots.cfg
ln -s my-ots.cfg ots.cfg
```

4 Parameters

The configuration variables are:

ERROR_DELAY

Time in seconds before restarting any software component badly stopped.

LOG_FILE Log file of the lte service.

LOG_FILE_SIZE

Automatic service log file size for rotation (K, M, G units accepted).

LOG_PATH Path where to store rotated log.

LOG_SIZE Components log file size threshold for rotation (K, M, G units accepted). If log file size exceed this value, file will be rotated to **LOG_PATH** if set or to same directory.

LOG_COUNT

Components log file count threshold for rotation (K, M, G units accepted). If number of dumped logs in file size exceed this value, file will be rotated to **LOG_PATH** if set or to same directory.

LOG_PERSISTENT_SIZE

Maximum amount of logs stored in **LOG_PATH**. When directory reaches this threshold, oldest log file will be deleted.

LOG_PERSISTENT_COUNT

Maximum number of log files stored in **LOG_PATH**. When directory reaches this threshold, oldest log file will be deleted.

LOG_POLL_DELAY

Time in seconds between two checks for cleaning **LOG_PATH**.

LOG_GZIP Set it to 1 to compress log file when rotated.

LOG_BACKUP_ON_STOP

Set it to n to avoid log backup (to **LOG_PATH**) on component stop.

COMPONENTS

List of component IDs to start.

Each component can be configured with the following variables where **<COMP>** is the ID of the component and must be unique.

<COMP>_PATH

Path of the component binary. If not found or not set, component won't be started.

<COMP>_CONFIG_FILE

Config file to use for this component. Relative to **XXX_PATH**.

<COMP>_TITLE

Title to display in **screen** component. ID by default.

<COMP>_INIT

lte_init.sh command line parameter for component.

<COMP>_AUTOSTART

If set to 1 or not defined, component will be started automatically by service, else, you need to start it manually.

<COMP>_TYPE

Component flavour. Can be **MME**, **ENB**, **IMS**, **MBMSGW**, **LICENSE...**

<COMP>_WIN

Component window index inside screen session.

<COMP>_CONFIG_FILE

Component configuration file

<COMP>_OUTPUT_FILE

If set, defines a filename where to dump both `stdout` and `stderr` of the component process.

If not set, only `stderr` will be dumped to `/tmp/.stderr.<COMP>`

<COMP>_SCRIPT

If set, defines a shell script that will be executed on each component state change. Arguments are <COMP> <STATE> [<ERROR>] where state can be:

- starting: before executing component binary
- started: after component binary has started
- error: when any error occurred (In this case the third argument will be filed with error message)
- stop: after successful component stop

This can be used to perform any action before component start by using the state starting.

Note that the script is executed synchronously and may delay or block component startup.

IDs generated by installation process are the same as type.

Those variables are used by `ltestart.sh` script.

For instance, if you want to setup two MME instance, use the following:

```
MME_PATH=/root/mme
```

```
MME_TYPE=MME
```

```
...
```

```
MME2_PATH=/root/mme
```

```
MME2_TYPE=MME
```

```
...
```

```
COMPONENTS+=" MME MME1"
```

5 Miscellaneous

5.1 Logs

Logs will be backed up in `/var/log/lte` directory.

The `/tmp/lte.log` file is log for service.

5.2 Contact

- Our Extranet site is located at `extranet.amarisoft.com`. This site would give you access to our documentation and new releases.
- For all technical issues, you can create a ticket describing your problem on our support site at `support.amarisoft.com`. Please note that you need to have an active account in our Extranet in order to be able to login to our support site. Your credentials are the same as the ones you use to access Extranet.
- our FTP server is located at `ftp.amarisoft.com`. This server should be used to exchange big logs. Your credentials are the same as the ones you use to access Extranet. Please note that you need to use an FTP client supporting SSL such as Filezilla.
- For any request concerning license delivery or addition of new accounts, please send an email to `delivery@amarisoft.com`.

6 Additional Information

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