Installation Manual

This page describes how to install a simple OpenSAND platform, containing one satellite, one gateway (GW), and one Satellite terminal (ST).

Requirements

Architecture

In order to deploy a platform, a minimum of three machines must be available:

- one for the satellite,
- one for the gateway,
- and one for the satellite terminal.

They must be connected as shown in the image below, with the following networks:

- one network for the emulated satellite link (EMU)
- one network for the workstations connected to the GW (LAN-GW0)
- one network for the workstations connected to the ST (LAN-ST1)

In the image, two additional machines (WS-ST1 and WS-GW0) are shown but are actually not necessary; traffic can be exchanged between the ST1 and GW0 without the need of workstations. However, the interfaces for the networks LAN-ST1 and LAN-GW0 must exist, even if no other computers are connected to it.

Operating System

The testbed was tested using Ubuntu 16.04 LTS, but it should work on every Linux distribution or Unix-like system provided that the required dependencies are installed.
Install

This manual describes how to obtain and install OpenSAND using the distributed debian packages.

The debian packages can be downloaded from the GitHub repository.

Unless otherwise specified, all the commands here must be executed on all machines.

In order to install the packages using apt, the repository must be added to its sources. One way of doing it is by adding the following line to the /etc/apt/sources.list

If using Ubuntu 20.04 LTS:

deb https://raw.githubusercontent.com/CNES/net4sat-packages/master/master focal stable

Add GPG key for net4sat repository (as root):

curl -sS https://raw.githubusercontent.com/CNES/net4sat-packages/master/gpg/net4sat.gpg.key | sudo apt-key add -

An apt sources update is necessary after adding the repository:

sudo apt-get update

Next, the packages must be installed. In this manual, the OpenSAND manager and collector are installed on the machine with the satellite component, but they can be installed anywhere, even on a machine without a daemon. The only constraint is that all the machines must be connected to a same network.

The OpenSAND daemon, with all its dependencies, is distributed with the meta-package opensand; the OpenSAND manager with opensand-manager; and the OpenSAND collector with opensand-collector.

To install the OpenSAND daemon on the ST, GW and SAT, execute:

sudo apt-get install opensand

During installation, a configuration wizard will be prompted.

Optional manager and collector

To install the OpenSAND collector and OpenSAND manager, execute:

sudo apt-get install opensand-manager opensand-collector

During the installation of the collector, a configuration wizard will be prompted. The configuration is
If you are using OpenSAND through the OpenBach orchestrator, do not install this collector on the same machine than the OpenBach collector. Even though the tools installed are the same and used similarly, they have a mutually exclusive configuration. Installing one will break the other.

**Optional ROHC plugin**

In order to use the ROHC compression protocol, an optional plugin has to be installed on each daemon, and on the manager (to display the ROHC configurations on the GUI).

On each daemon host, install the plugin with:

```
sudo apt-get install libopensand-rohc-lan-adapt-plugin
```

On the host with the manager, install the manager plugin with:

```
sudo apt-get install libopensand-rohc-lan-adapt-plugin-manager
```

**Uninstall**

In order to uninstall OpenSAND, you can remove every OpenSAND package easily by executing:

```
sudo apt-get remove --purge opensand* libopensand* librle libgse
```

Be careful not to execute the command while on an OpenSAND folder (uninstall may try to remove said folder).