

Reference Scenarios

This sections presents OpenBACH reference scenarios.

They are organized in :

- Basic scenarios which are the main tools for one topic.
- They can be combined in more complex scenarios for example to combine different layers metrology actions.

Concept requirements

Before launching the reference scenarios below, here are several points :

- Understand basic concepts about OpenBACH (especially terminology of OpenBACH in design document).
- Read the [Scenario API manual](#) section, which contains a guide on how to use the following scenarios (as well as the helpers and the reference scenarios).

To go further, there are the [developer manual](#) for jobs and OpenBACH API scenarios programming.

Basic reference scenarios

Access Scenario

This section details the available scenarios to generate OpenSAND scenario.

Scenarios	Details	Exploited jobs
OpenSAND Global (under test)	Configure network, run an OpenSAND emulation test and clear network configuration	command shellopensand , ip_route and ip_address
OpenSAND(under test)	Run an Opensand emulation test (network is not configured)	opensand
OpenSAND Net Conf	Apply the network configuration required to run OpenSAND properly	ip_route , ip_tuntap , ip_address , sysctl , ip_link
OpenSAND Satcom Conf	Apply a SATCOM configuration based in configuration files	Usage of push_file openbach function. No jobs are used.
OpenSAND Run	Run an Opensand emulation test (network is not configured)	opensand

Network Scenario

Metrology

This section details the available scenarios for OpenBACH to test basic network metrology metrics.

Scenarios	Details	Exploited jobs
Delay metrology	Scenario to compare two different delay measurements methods	fping , d-itg_send , d-itg_rcv
One Way Delay metrology	Scenario to compare one way delay metric	owamp-server , owamp-client , d-itg_send , d-itg_rcv
Jitter metrology	Different scenarios to compare different jitter measurements methods	owamp-server , owamp-client , D-ITG (coming soon), iperf3
Rate metrology	Compare different rate measurements methods	iperf3 , iperf2 , nuttcp , rate_monitoring

The idea is to provide a full network diagnostic allowing the assessment of three metrics: delay, jitter and rate. Each metric can be computed following several tools and the scenarios herein enable the comparison between these different tools. Each tool may compute the metric of interest following another method or formula. The detail of one scenario (with a succinct formalization of the metric and its relative tools) is available in the dedicated wiki page of the metric section.

Configuration

This section details the available scenarios allowing to configure your network topology.

Scenarios	Details	Exploited jobs
Configure link	Scenario to emulate a network link like WIFI or 4G link	tc_configure_link
Network QoS	Scenario to add or remove a scheduler on a chosen interface	ip_scheduler

Transport Scenario

This section details the available scenarios to generate transport-level data and configure kernel stacks (and more specifically transport parameters).

Scenarios	Details	Exploited jobs
Transport TCP one flow scenario	Launch one tcp iperf3 flow with a transmitted size	iperf3
Transport TCP stack scenario conf	Scenario to configure TCP parameters	tcp_conf_linux , ethtool and ip_route

Service Scenario

This section details the available scenarios to generate traffic. Each scenario allows to launch one traffic between two OpenBACH agent. They are summarized in the following table.

Mono-service Scenario

Scenarios	Details	Exploited jobs
VoIP traffic	Scenario to generate VoIP traffic	voip_qoe_src, voip_qoe_dest
DASH traffic	Scenario to transfer a video using DASH	dash player&server, dash client
Web browsing traffic	Scenario to load Web pages from an Apache server	apache2, web_browsing_qoe
Data transfer traffic	Scenario to transfer data using iperf3 in TCP mode	iperf3
Service FTP	Scenario to transfer a file on FTP	ftp_clt and ftp_srv

Traffic mix Scenario

A global scenario named [service_traffic](#) allows to launch and schedule several traffics (VoIP, DASH, Web browsing and Data transfer).

From:
<https://wiki.net4sat.org/> - **Net4sat wiki**

Permanent link:
https://wiki.net4sat.org/doku.php?id=openbach:exploitation:reference_scenarios:index

Last update: **2021/03/15 20:59**