

Service Traffic Mix Scenario

This scenario allows to create several traffics, to schedule and launch them with OpenBACH. The four traffics available are:

Traffic	Description	Jobs used
voip	VoIP traffic	voip_qoe_src , voip_qoe_dest
dash	DASH video transfer	dash player&server , dash client
web_browsing	Web browsing	apache2 , web_browsing_qoe
data_transfer	File transfer	iperf3

The description of each traffic to be launched has to be put in an `extra_args` file, which will be described in the next section. This scenario can be found [here](#).

You can launch the service scenario with the following command:

```
python3 generate_service_traffic.py -o -p your_project --extra_args_traffic
path_to_traffic_args_file --entity_pp your_entity run
```

extra_args file description

This file contains all the information needed to generate the traffics. It is composed of several lines, one per traffic. Each line can be split into 2 parts: first the arguments common to all the traffics, then the arguments linked to the traffic declared in this line. An example can be found [here](#).

The first part must be formatted as follows:

```
id traffic_type src_entity dst_entity duration wait_launched wait_finished wait_delay src_ip
dst_ip
```

Here is a description of each element:

- **id**: the id of the flow, must be unique, and should be higher than the id of previous lines
- **traffic_type**: the kind of traffic: `voip`, `dash`, `web_browsing` or `data_transfer`
- **src_entity**: the name of the source entity
- **dst_entity**: the name of the destination entity
- **duration**: the duration of the transfer for this traffic in seconds (not always used by data transfer: see below)
- **wait_delay**: time to wait in seconds between the completion of `wait_launched` and `wait_finished`, and the launch of this traffic
- **wait_launched**: launch the traffic `wait_delay` seconds after these traffics are launched. These traffics are described by their ids (which has to be declared in the previous lines), separated by a "-". If no traffic, put "None"
- **wait_finished**: launch the traffic `wait_delay` seconds after these traffics are finished. These traffics are described by their ids (which has to be declared in the previous lines), separated by a "-". If no traffic, put "None"
- **src_ip**: the ip address of the traffic source (ignored by web browsing and data transfer traffics)
- **dst_ip**: the ip address of the traffic source (ignored by DASH and web browsing traffics)

For example, if we enter the following line, assuming traffics with id 1, 2 and 3 have already been declared in the file:

```
4 dash src_node dst_node 60 3 1-2 10 192.168.1.1 192.168.1.2
```

This line says: launch a DASH traffic (with id=4) between src_node (whose address is 192.168.1.1) and dst_node (whose address is 192.168.1.2), during 60 seconds. This traffic will be launched 10 seconds after 1 and 2 are finished and 3 is launched.

The second part of the line depends on the traffic chosen, and is described in the following table.

Traffic	Arguments format	Warnings and additional information
voip	dst_port codecs	Actually it is impossible to launch simultaneously to VoIP traffics. Codecs available are G.711.1, G.711.2, G.723.1, G.729.2 and G.729.3
dash	protocol	Protocol value is http/1.1 or http/2
web_browsing	nb_runs nb_parallel_runs	Do not forget to edit the config file with correct address to fetch in the installation folder of the job (/opt/openbach/agent/jobs/web_browsing_qoe)
data_transfer	dst_port file_size tos mtu	If <i>file_size</i> is 0, the transfer will last <i>duration</i> seconds. Otherwise, it will transfer <i>file_size</i> bytes, regardless of the duration

Any traffic not correctly formatted will be ignored.

Statistics returned

The scenario returns the metrics generated by the exploited jobs as a raw csv file. time_series and histograms plots are generated:

- **voip**: one time_series and one histogram per VoIP traffic, and one time_series and one histogram with all VoIP traffics. The metric plotted is the Mean Opinion Score
- **dash**: one time_series and one histogram with all DASH traffics. The metric plotted is the bitrate
- **web_browsing**: one time_series and one histogram per web_browsing traffic, and one time_series and one histogram with all web_browsing traffics. The metric plotted is the Page Load Time
- **data_transfer**: one time_series and one histogram per data_transfer traffic, and one time_series and one histogram with all data_transfer traffics. The metric plotted is the throughput

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