# **IETF Hackathon**

- IETF 110
- March 1-5, 2021
- Online



#### YANG model and implementation of Network Interconnect Tester

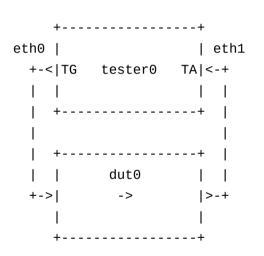
#### Specification:

\* draft-vassilev-bmwg-network-interconnect-tester-05 (YANG)

#### Repositories:

- \* Scripting benchmark code e.g. RFC2544 trial (Python)
- \* Software YANG/NETCONF device side code (C)
- \* Firmware (Verilog)
- \* Hardware (<u>KiCAD</u>)

## Setup





### Design and implementation

```
NETCONF Server (Model (YANG), Implementation Generator module (\underline{C}), Analyzer module (\underline{C}))
TRAFFIC-GENERATOR-SW (C)
                                          TRAFFIC-ANALYZER-SW (C)
Socket API
                                           Socket API
                 {RTCLOCK}(Verilog)
Kernel
                                           Kernel
 DMA
                                            DMA
  | [AXI]
                                               [AXI]
 MAC TRAFFIC-GENERATOR-HW (C, Verilog)
                                            MAC
                                                    TRAFFIC-ANALYZER-HW (C, Verilog)
   GMII MUX
      | [GMII]
                                                    [GMII]
     PHY
                                                  PHY
    SFP+ TX
                                                SFP+ RX
```

\* - underlined text has links to repositories

## What got done

- \* Implemented new features introduced in -04 and -05 drafts. (**realtime-epoch** feature, **dynamic** testframe-type identity with 10 octet PTP timestamp and 8 octet sequence number) (C,Python).
- \* Support for 1s PPS synchronization input for the timestamps used in case of dynamic testframe basic proof of concept (Verilog).
- \* Granted public NETCONF access to **tester0** and **dut0** nodes for the duration of IETF110 (<u>link</u>).