



# Quic measurements IETF Hackathon

IETF 109  
November 9-13, 2020  
Online



# QUIC Measurements: Goals

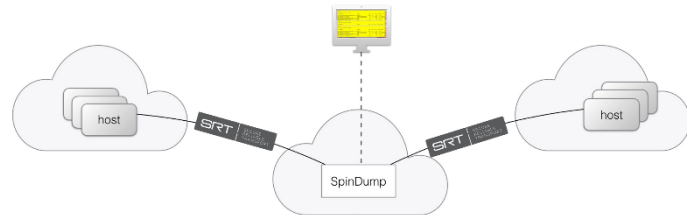
- Provide tools and ideas for traffic performance monitoring in the era of encrypted transports also using Explicit Flow Measurements (EFM).

***Explicit Flow Measurements** employ few marking bits, inside the header of each packet, for loss and delay measurement (protocol independent and valuable for encrypted header protocols: e.g. QUIC)*

- Updates to the spindump tool [github.com/ericssonresearch/spindump](https://github.com/ericssonresearch/spindump)

# What got done

- Giving the monitoring power to customers:
  - Presented Android Explicit Monitoring App based on Spindump: **TIMquic**
  - PoC App live Demo to Hackathon WG
- Drafts:
  - Explicit Flow Measurements ([draft-mdt-ippm-explicit-flow-measurements](#))
  - User Devices Explicit Monitoring ([draft-cnbf-ippm-user-devices-explicit-monitoring](#))
- Spindump maintenance, new versions
  - Fix for TCP RTT
  - Support for last QUIC versions



# User device explicit monitoring App

***Placing the Explicit Performance Observer on user devices gives many advantages***

***Real time mobile traffic monitoring***

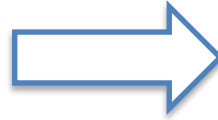
Patent Pending

TIMquic							
Type	Address	State	Pkts	Left rtt	Right rtt	Note	Id
QUIC	edge-star-s hv-01-any2. facebook.c om	Up	141	n/a	22.9 ms	V.fbm, no spin	63
QUIC	lhr35s11-in- f14.1e100.n et	Up	37	n/a	27.9 ms	G.50, no spin	66
QUIC	business.te lecomitalia.i t	Up	2597	n/a	12.7 ms	G.50, no spin	67
QUIC	edge-star-s hv-01-any2. facebook.c om	Up	103	n/a	36.5 ms	V.fbm, no spin	

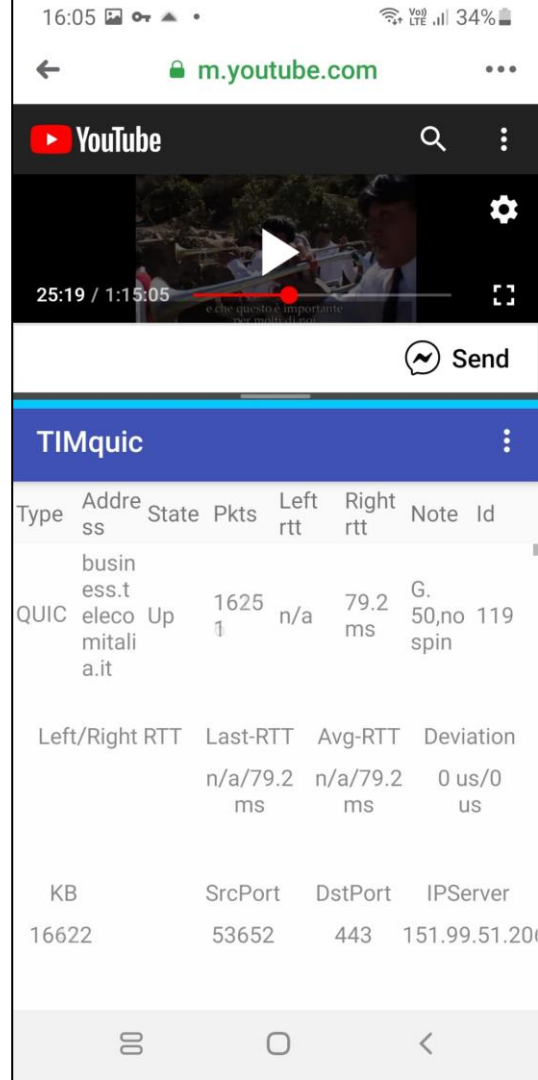
TIMquic							
Type	Address	State	Pkts	Left rtt	Right rtt	Note	Id
QUIC	business.te lecomitalia.i t	Up	2597	n/a	12.7 ms	G.50, no spin	67
Left/Right RTT				Last-RTT	Avg-RTT	Deviation	
				n/a/12.7 ms	n/a/12.7 ms	0 us/0 us	
KB	SrcPort	DstPort	IPServer				
2879	58627	443	151.99.51.206				

# User device explicit monitoring App

*We can see our connections performance while enjoying the service*



*Operators, with the customer's permission, may use this information to identify network problems and improve the customer experience*



# Wrap Up

**Team members:**

Jari Arkko (Ericsson, driver)

Marcus Ihlar (Ericsson)

Mirja Kühlewind (Ericsson)

Giuseppe Fioccola (Huawei)

Mauro Cociglio (Telecom Italia - TIM)

Massimo Nilo (Telecom Italia - TIM)

Fabio Bulgarella (Telecom Italia - TIM)

Plinio Nardozzi (Telecom Italia - TIM)

+ few other interested ones, busy this week

[github.com/EricssonResearch/  
spindump](https://github.com/EricssonResearch/spindump)