Android Explicit Monitoring App

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Android Explicit Monitoring App: Goals

 Provide a mobile tool for traffic performance monitoring in the era of encrypted transport protocols 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 headers: e.g. QUIC)

TIMquic APP

- Giving the monitoring power to customers:
 - Android Explicit Monitoring App based on Ericsson Spindump open-source code: TIMquic
 - Presentation and PoC App live Demo at Hackathon IETF 109
- First idea introduced in HotRFC 108:
 - "How to measure Network Performances with user devices" https://www.youtube.com/watch?v=YYTPVNGpUog
- Related drafts:
 - Explicit Flow Measurements (<u>draft-mdt-ippm-explicit-flow-measurements</u>)
 - User Devices Explicit Monitoring (<u>draft-cnbf-ippm-user-devices-explicit-monitoring</u>)
- Spindump library: github.com/EricssonResearch/spindump

Android Explicit Monitoring App

State

business.te

lecomitalia.i Up

Last-RTT

n/a/12.7

ms

SrcPort

58627

QUIC

KB

2879

Left/Right RTT

Pkts

2597

Deviation

 $0 \, \text{us} / 0$

US

IPServer

151.99.51.206

Avg-RTT

n/a/12.7

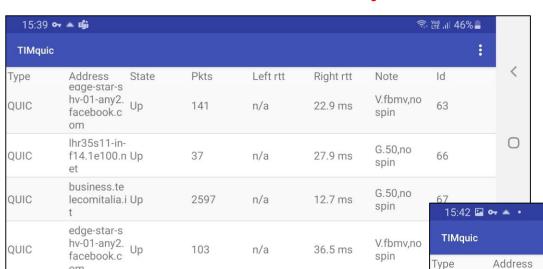
ms

DstPort

443

Left rtt

n/a



Placing the Explicit Performance
Observer on user devices gives many
advantages in terms of scalability,
measurement precision and savings
in hardware deployment

Right rtt

12.7 ms

Note

G.50,no

spin

毫 號』 44% ■

Id

67

Real time mobile traffic monitoring!

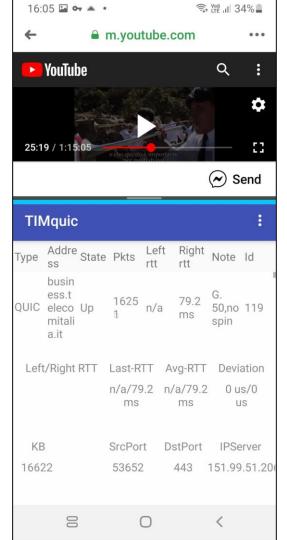
Patent Pending

Android 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



Android App Main Features

- The customer chooses whether to mark his mobile traffic making it monitorable by the Android App and network probes.
- The customer chooses whether to share the performance data that the App on his mobile phone has collected.
- The App can put performance thresholds on the probe in order to signal connections with problems to the network operator. Thus the network probes will primarily monitor impaired connections and help to localize problems.

How to know more

Drafts presentation:

IETF 109 IPPM WG meeting, 12:00-14:00, Monday Session I, Room 8

- ▶ **Hackathon** IETF 109 QUIC Measurements Project.
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