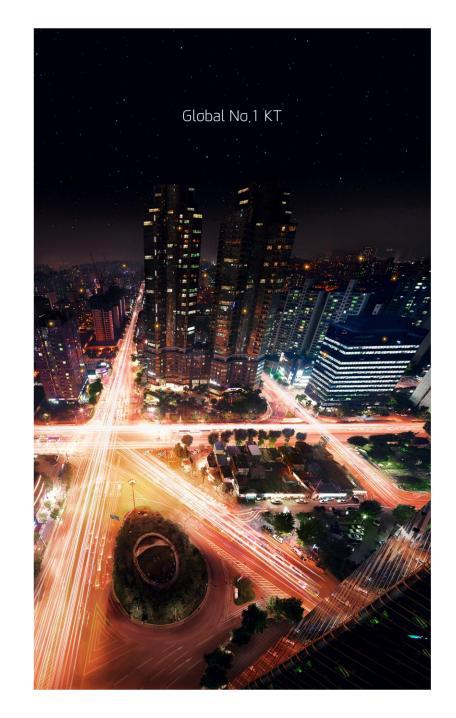
# KT's GiGA LTE

- Mobile MPTCP Proxy Deployment

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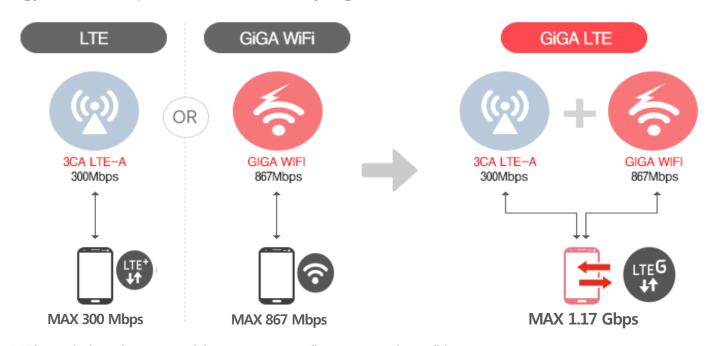


### GIGA LTE

## 01 Updates

#### KT started launching mobile MPTCP proxy service in commercial since June 2015

- GiGA LTE (a.k.a., GiGA Path, mobile MPTCP proxy)
  - Premium service providing the fastest mobile data speed (theoretically LTE + WiFi combined giga bps)
  - Deploy mobile MPTCP proxy gateways w/ UE support (national-wide LTE/3G and public/private WiFi coverage)
  - Collaboration with handset vendors (Samsung and LG electronics): now have 11 smartphone models in service
  - Technology transfer: exported to other country, e.g., Turk Telekom's "GiGA 4.5G" in service since Apr. 2016



## 02 Deployment status

#### Both mobile MPTCP proxy gateway and UE are ready to work for every applications

#### Protocol and basic functionalities

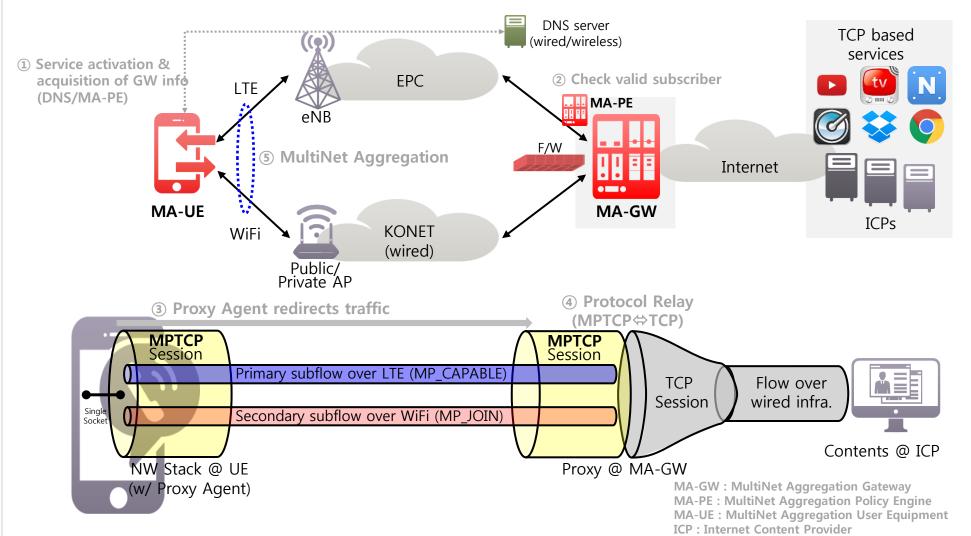
- Ported MPTCP kernel v0.89 from multipath-tcp.org
  - 2 subflows maintained per session: LTE for MP\_CAPABLE and WiFi for MP\_JOIN
  - Default packet scheduler with fullmesh path manager
  - Well known proxy protocol basis : SOCKSv5
  - UE's traffic redirected to the GW (both up/downlink, and UDP as well)
- Turns on "GiGA LTE" button, that's all subscribers to do
  - All application using TCP works via mobile MPTCP proxy
  - Subscriber should have billing plan required for GiGA LTE service



| MA-UE (mobile MPTCP handset)  | MA-GW (mobile MPTCP proxy gateway)  |
|---|---|
| <ul><li>(1) UE UX/UI : service scenario, on/off GUI</li><li>(2) Proxy Agent : traffic redirection to MA-GW</li><li>(3) MPTCP kernel : support MPTCP/IP networking stack</li></ul> | <ul> <li>(1) Protocol Relay: MPTCP-to-TCP session relayed forwarding</li> <li>(2) Multipath Aggregation: MPTCP based multin-net support</li> <li>(3) Packet Scheduler: scheduling packet according to nw env</li> <li>(4) Path Monitoring: detect and bypass when WiFi path going down</li> </ul> |
| MA-UE  1 UE UX/UI  2 Proxy Agent  Android Framework  3 MPTCP kernel   | MA-GW  1 Protocol Relay  MPTCP⇔TCP  2 Multipath  Aggregation Scheduler  4 Path Monitoring   |

# **Mobile MPTCP Proxy System Deployment**

How GiGA LTE works? Explicit proxy deployment model



Thank you

