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Empowerment of 5G by Enabling Application-integrated Mobile Networks

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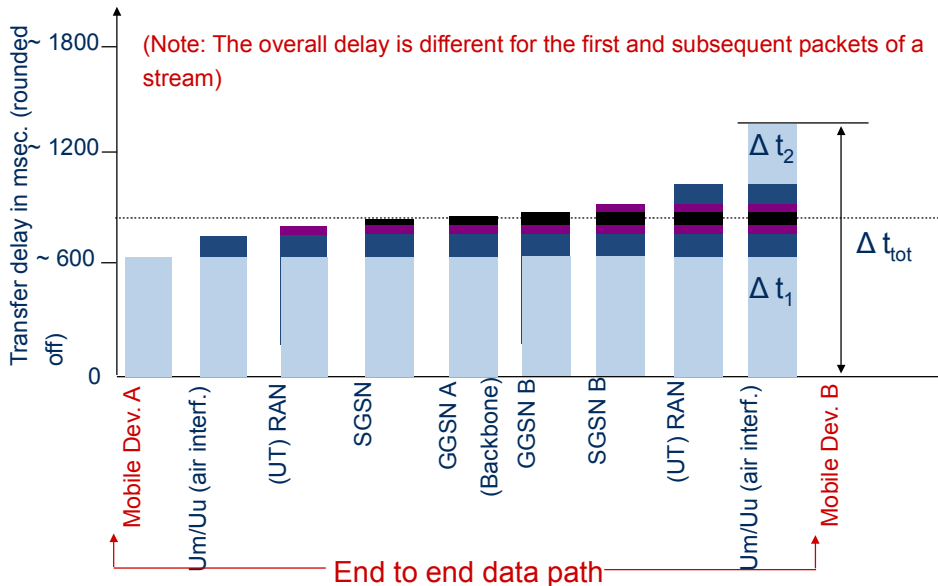
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A Brief History and Future of Transfer Delays

- **2005:**



major delay contributions caused by stack processing and transit over the air

- **2020:**

- 5G RF technology reduces transit delay and increases access BW
- Delay contributions by core network elements increase
- Processing delay in stack at handset is reduced → **lean, dedicated stacks**

→ **Delays, perceived throughput and network efficiency is determined in 2020 by core network and application-specific interdomain resource management**



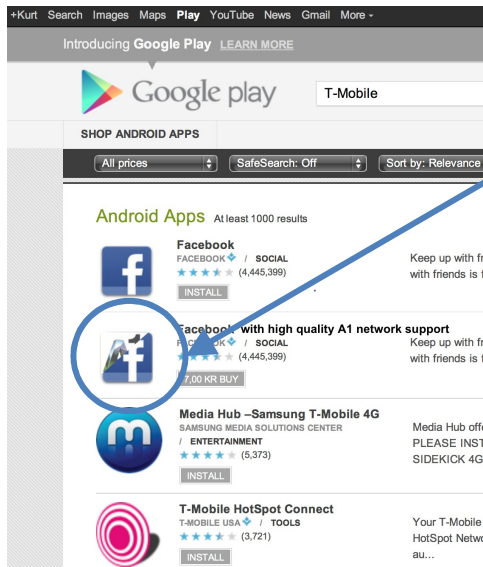
How to Empower 5G core Networks?



- Key concepts:
 - Software Defined 5G Core Network
 - **End-to-End Virtualization including the handset**
 - **Novel inter-domain interconnection concepts for true E2E provisioning**
- **Application-integrated 5G Mobile Networks**
- **SDN in Mobiles to the End User**

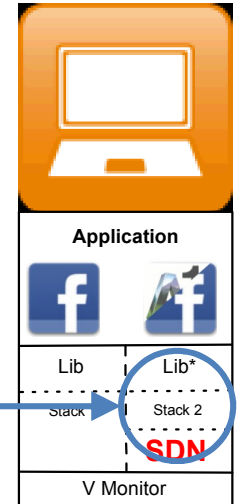


Application-Integrated Networks: Enabling an App-Store for Services



Scenario:

- Use of **Serplets** = **service-enhanced applet**: same app with higher quality network service
- Bind dedicated stack to application



→ **Benefit for the users**: enable true e2e (application) feature-specific networks

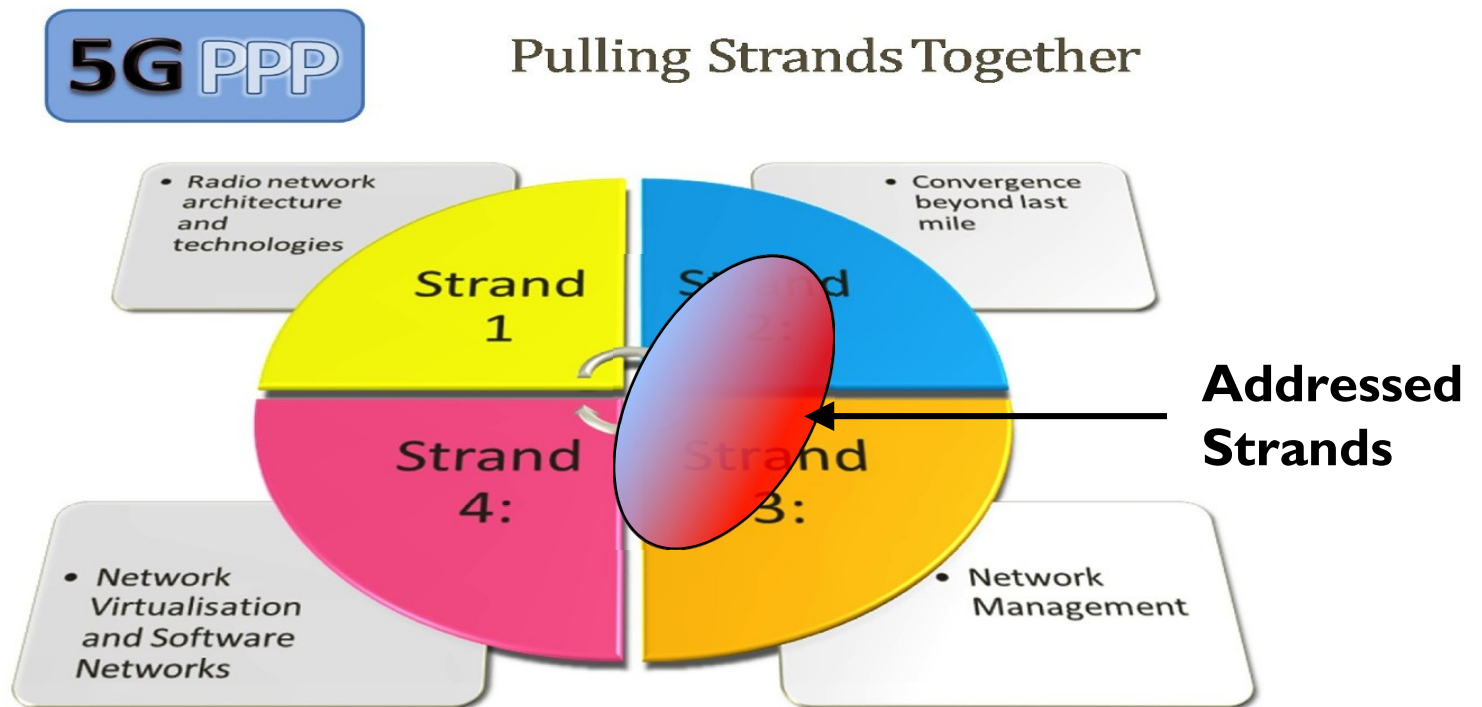
→ **Sell** applications and network services/features in **one stop**

→ „**Up-sell**“ services per application when needed it / enable services **for limited time**

→ **Future new features per application**: **greenness**, **experience**, security, QoE, etc...



Fit to 5G PPP Infrastructure RTD & INNO Strands



Interested in **joining force to empower 5G** → Contact: kurt.tutschku@bth.se