WiFiUS: Heterogeneous Resource Allocation for Hierarchical Software-Defined Radio Access Networks at the Edge

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Project Background

- Two key challenges for future mobile data service:
  - The explosive increase in mobile traffic; and
  - The “tidal phenomena” of temporal & spatial traffic fluctuations.

- The software-defined networking (SDN) architecture simplifies network management, but falls short of handling a large-scale radio access networks with extensive base station deployments.

Project Goal

- A novel hierarchical SDN-at-the-Edge type of architecture design for reducing control overhead and system latency.
- Network-wide resource allocation strategy developments for elastically matching with the traffic fluctuations.

Preliminary Results