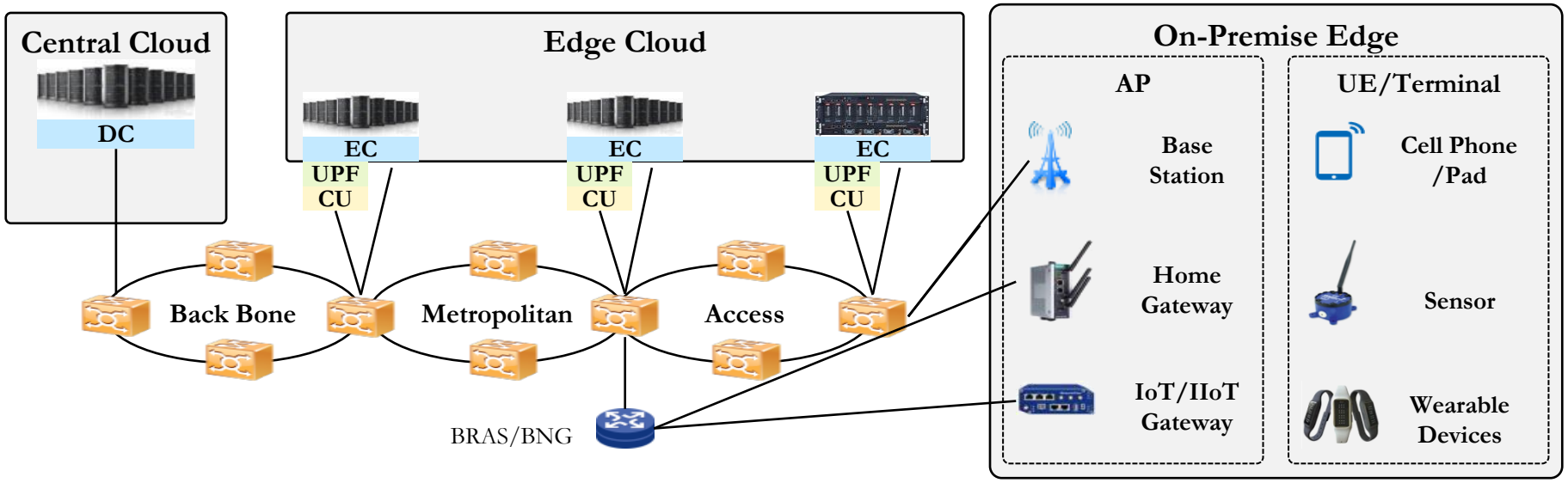
Compute First Networking (CFN)

L. Geng
China Mobile
gengliang@chinamobile.com

Edge Computing is redefining the ICT infrastructure



Facts in China Mobile

- CDN nodes in every city (**330+**) and major county (**250+**), with **25000+** servers installed
  - *These nodes can be upgrade to vCDN and then edge computing infrastructure*
- More edge computing nodes will be setup in an on-demand manner
  - county aggregation **6000+**
  - access aggregation **10,000+**
  - on-site **100,000+**

Characteristics of the edge node and applications

- Limited and operationally high-cost
  - *few servers – 10s of server per node*
- Heterogeneous and unevenly distributed (GPU, CPU, Storage)
- Dynamic load – tide effect caused by subscriber mobility
- Most edge applications need edge-cloud coordination
- Most edge applications are mission critical

AR/VR 

-GPU in edge
-Global training
-Local decision

Connected Car 

-Load distribution
-Mission critical computing
-Real-time recovery

How does the network help applications to find the best EC node?

How does the network help EC nodes to share loads and optimize performance?

What should we do in the network domain?

- CFN is designed to provide
  - Computing resource status distribution in network
  - Semi-real-time measurement of connection and computing resource
  - Connection & Computing resource joint optimization

- CFN helps edge computing to provide
  - Location-insensitive equivalent service
  - Dynamic traffic/computing off-loading
  - Seamless switch-over for edge with flow-affinity

So we would like to talk about this in IETF 106

CFN Side Meeting

Time: Thursday (21st Nov)
8:30am - 9:45am
Location: Room VIP A

Related Draft:
https://datatracker.ietf.org/doc/draft-geng-rtgwg-cfn-req/
https://datatracker.ietf.org/doc/draft-li-rtgwg-cfn-framework/
https://datatracker.ietf.org/doc/draft-gu-rtgwg-cfn-field-trial/

Feel free to contact Liang GENG (gengliang@chinamobile.com)
or Georgios Karagiannis (georgios.karagiannis@huawei.com) for further information