COMBO DEMO EVENT
uDPM & Caching – Universal Data Path Management & Caching

Yaning Liu
JCPC

Akos Ladanyi
BME

Context and objective of this booth

- Besides eliminating infrastructure duplications the UAG concept enables advanced FMC use cases for data path management and in-network content caching.

- Data path management allows redirecting part of mobile data traffic over the fixed/Wi-Fi data paths from the default LTE path, while maintaining connection continuity.

- Caching reduces the amount of traffic and service latency by
  - optimizing content placement in the network.
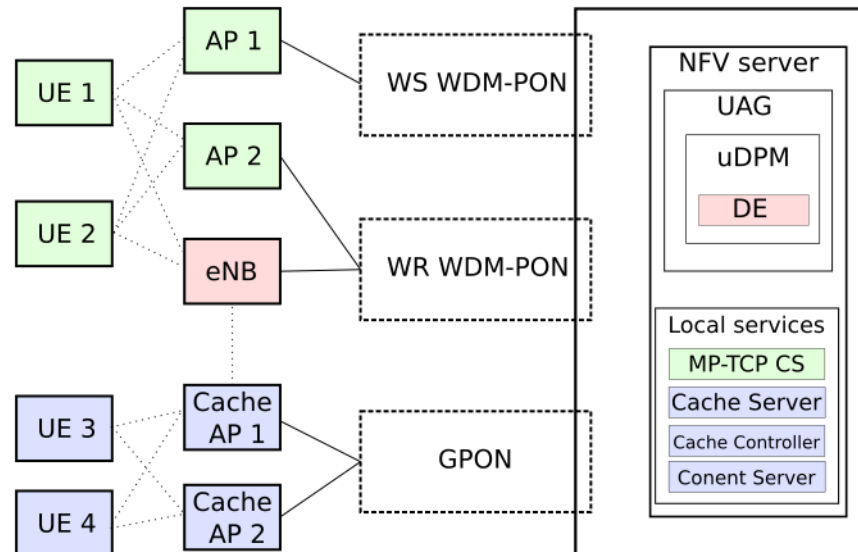 - Prefetching user requested content by communicating with uDPM

What you will see in this booth

- **uDPM**:
  - ◆ Handover between two access technologies is "smoothly" performed without connection interruption
  - ◆ Handover is initiated by DE at UAG in response to a detected overutilization
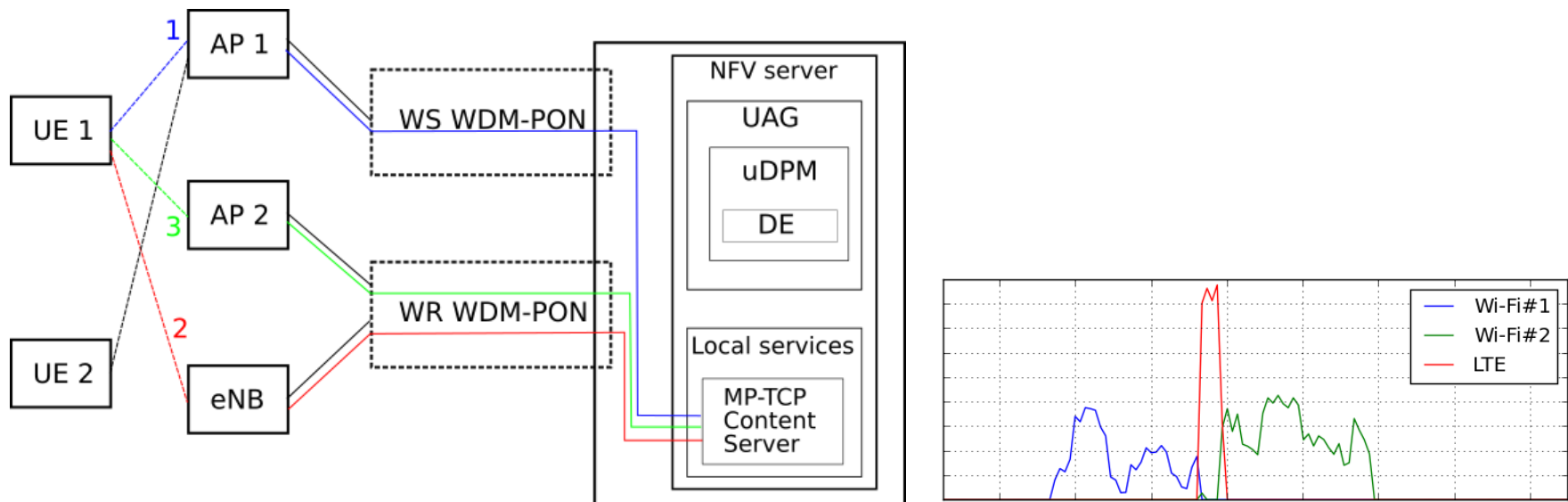- **Caching**:
  - ◆ Caches enabled in network, content distribution controlled by network (UAG).
  - ◆ Caching interacts with DE to achieve an optimal caching/prefetching solution

Test case 1: Smooth handover
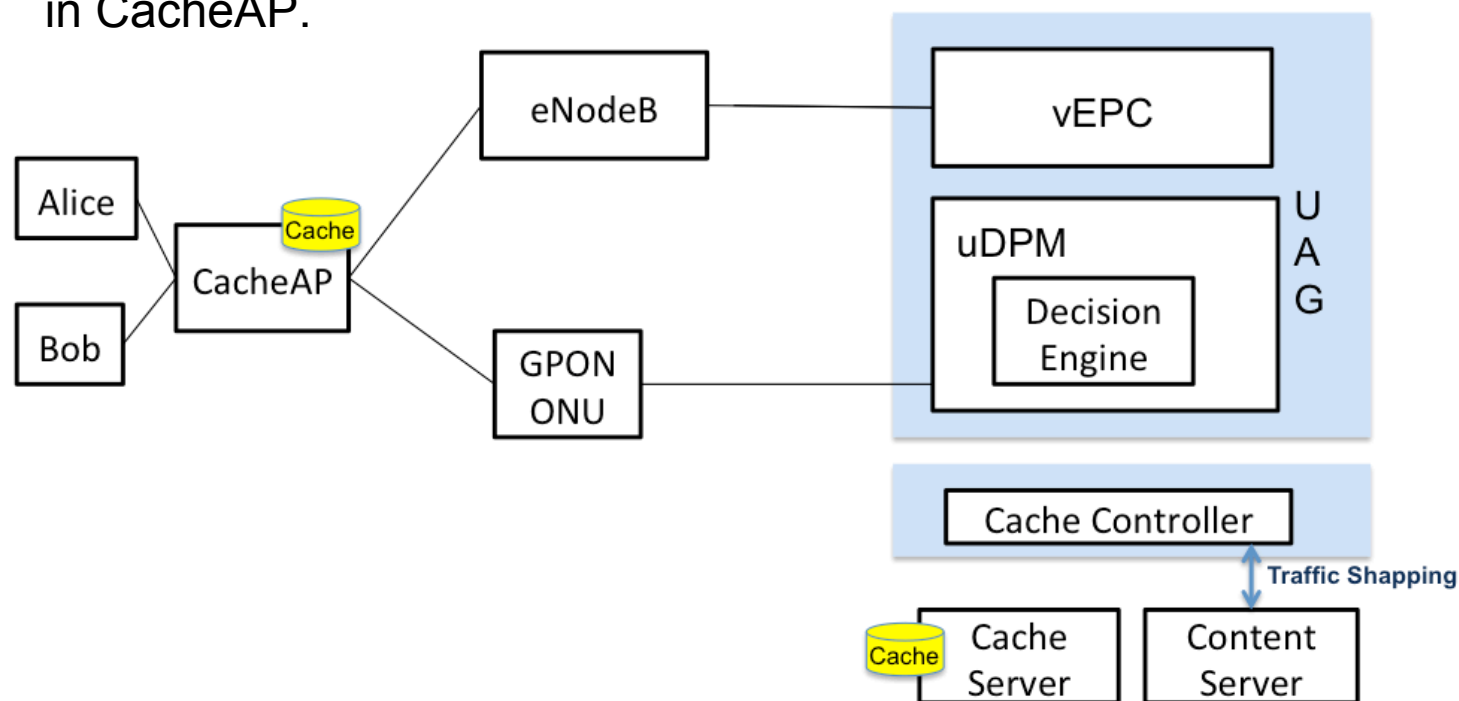
■ **Network controlled offload/Smooth handover**

♦ Two UEs connected to same AP which gets overloaded

♦ DE instructs UEs to change access for better load balancing

♦ MP-TCP is utilized to avoid connection interruption

♦ Different scenarios based on the availability of AP1, AP2 and LTE

Test case 2: Caching
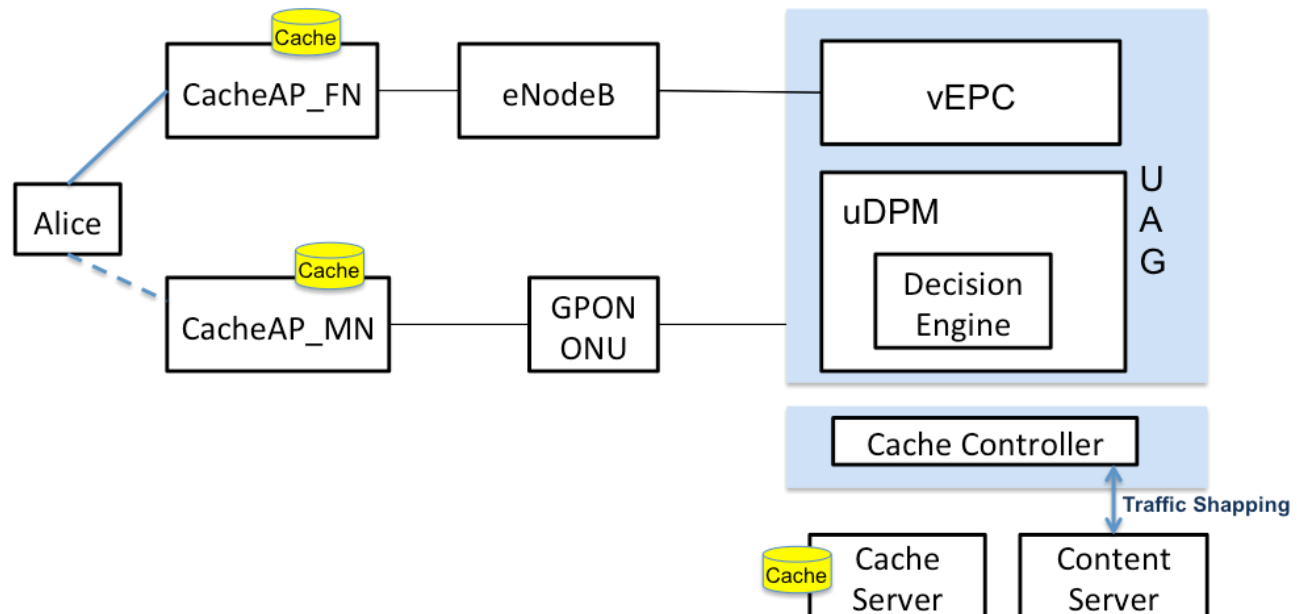
■ Content shared by two users
  ♦ Alice connects to CacheAP and watches video with a low QoS.
  ♦ Bob arrives and connects to CacheAP, and requests the same video that Alice watched.
  ♦ Bob gets good QoS since the video chunks have already been cached in CacheAP.

Test case 3: Prefetching

■ Switch from one CacheAP to another (CC and DE)

- ♦ Alice connects to CacheAP_MN and watches video
- ♦ Alice arrives home and DE detects Alice disconnecting from CacheAP_MN and decides to switch Alice to CacheAP_FN; DE informs CC about this.
- ♦ CC asks CacheAP_FN to prefetch Alice's requested video chunks.
- ♦ When Alice disconnects from CacheAP_MN and connects to CacheAP_FN, video chunks have been cached.

Thank you for your attentions