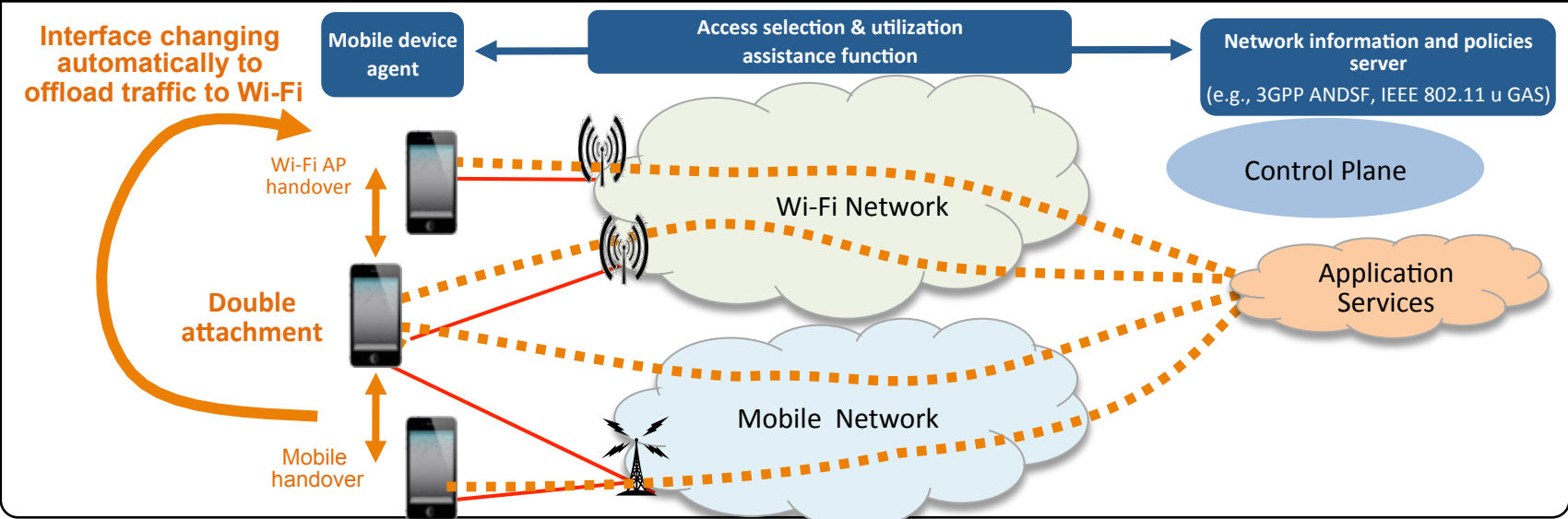# Use case – Wireless and Fixed Networks Cooperation

Challenges

- Current mobile networks will not able to face the huge increase of traffic
- Wi-Fi technologies are comparable cheap! Can we take advantage of Wi-Fi offloading for increases mobile network capacity in specific areas?
- Enhance Wi-Fi and Mobile networks cooperation by providing double attachment and mobility features to mobile devices
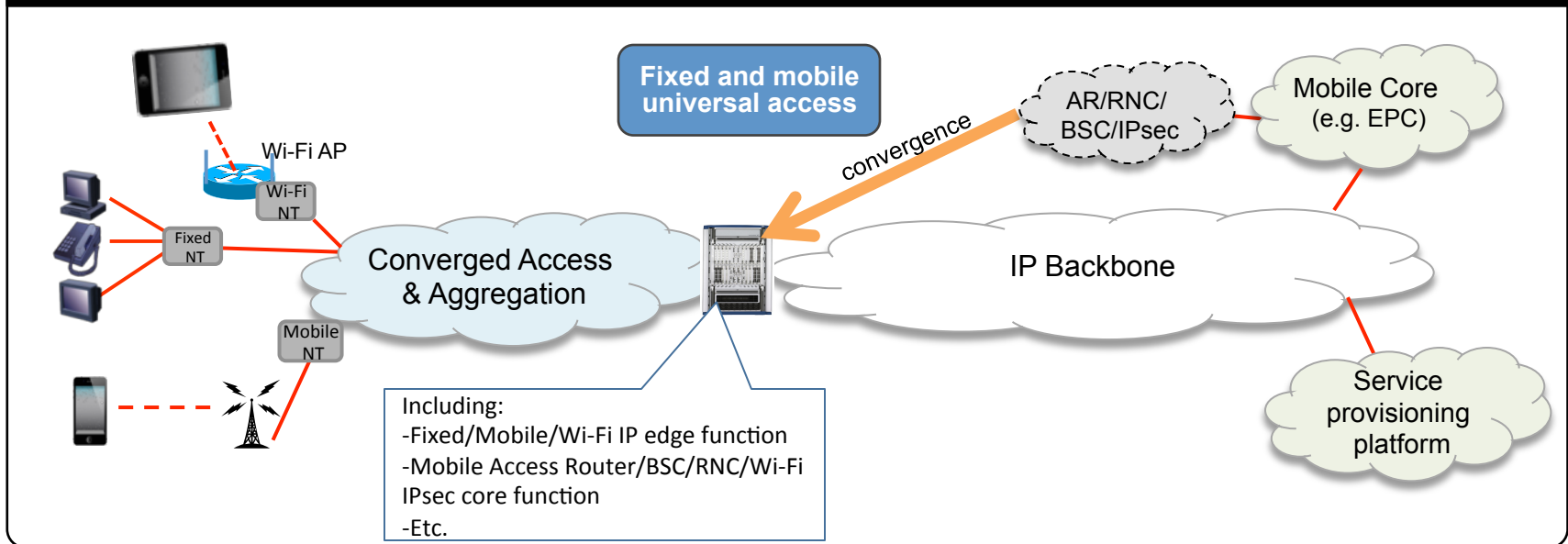
Unified Wireless Access Network Architecture

Interface changing automatically to offload traffic to Wi-Fi

Mobile device agent

Access selection & utilization assistance function

Network information and policies server (e.g., 3GPP ANDSF, IEEE 802.11 u GAS)

Wi-Fi AP handover

Double attachment

Mobile handover

Wi-Fi Network

Mobile Network

Control Plane

Application Services

Use case – Fixed and mobile Universal access (NG-POP flavor)

Challenges

- Reduce amount and plurality of network equipment for fixed and mobile networks
- Simplification of network architecture by using a universal access gateway including fixed line intelligence, Wi-Fi hotspot controller functionality, and mobile baseband processing (NG-POP flavor)
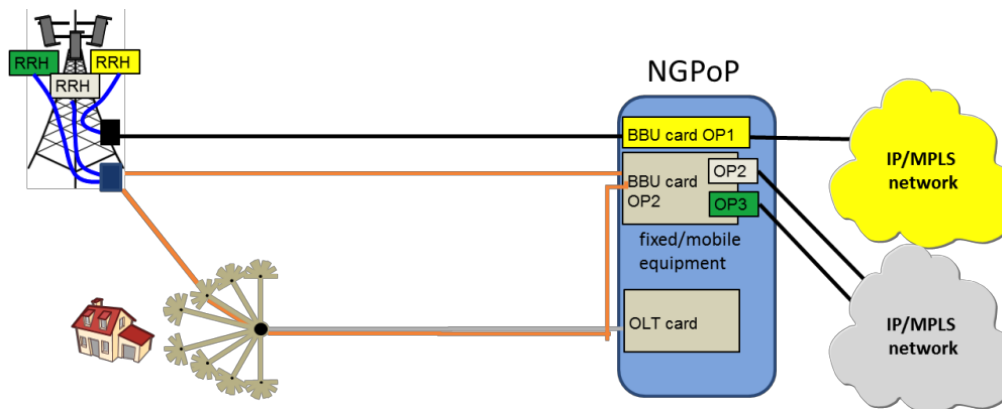- Content delivery optimization based on access to all end user connectivity's

Fixed and mobile universal access

Fixed and mobile universal access

convergence

Wi-Fi AP
Wi-Fi NT
Fixed NT
Mobile NT

Converged Access & Aggregation

AR/RNC/ BSC/IPsec

IP Backbone

Mobile Core (e.g. EPC)

Service provisioning platform

Including:
-Fixed/Mobile/Wi-Fi IP edge function
-Mobile Access Router/BSC/RNC/Wi-Fi IPsec core function
-Etc.

Use case – FMC in a multi-operator/vendor environment

Challenges

- Mutualization of locations (NG-POP), fibre infrastructure, …
- Usage of common technologies up to integration of fixed and mobile access equipment
- Availability of performance monitoring and management information across different operators and vendors to ensure QoS & QoE

Multi-operator / multi vendor environment

Simplification of network structure and enabling interoperability

OP1 — Mobile operator sharing NG-POP and tower of OP2 but using its own equipment

OP2 — OP2 provides converged network to the other operators and hosts co-location point at NGPOP and tower

OP3 — OP3 uses the co-location points of OP2 and also the FMC network resources and functions of OP2