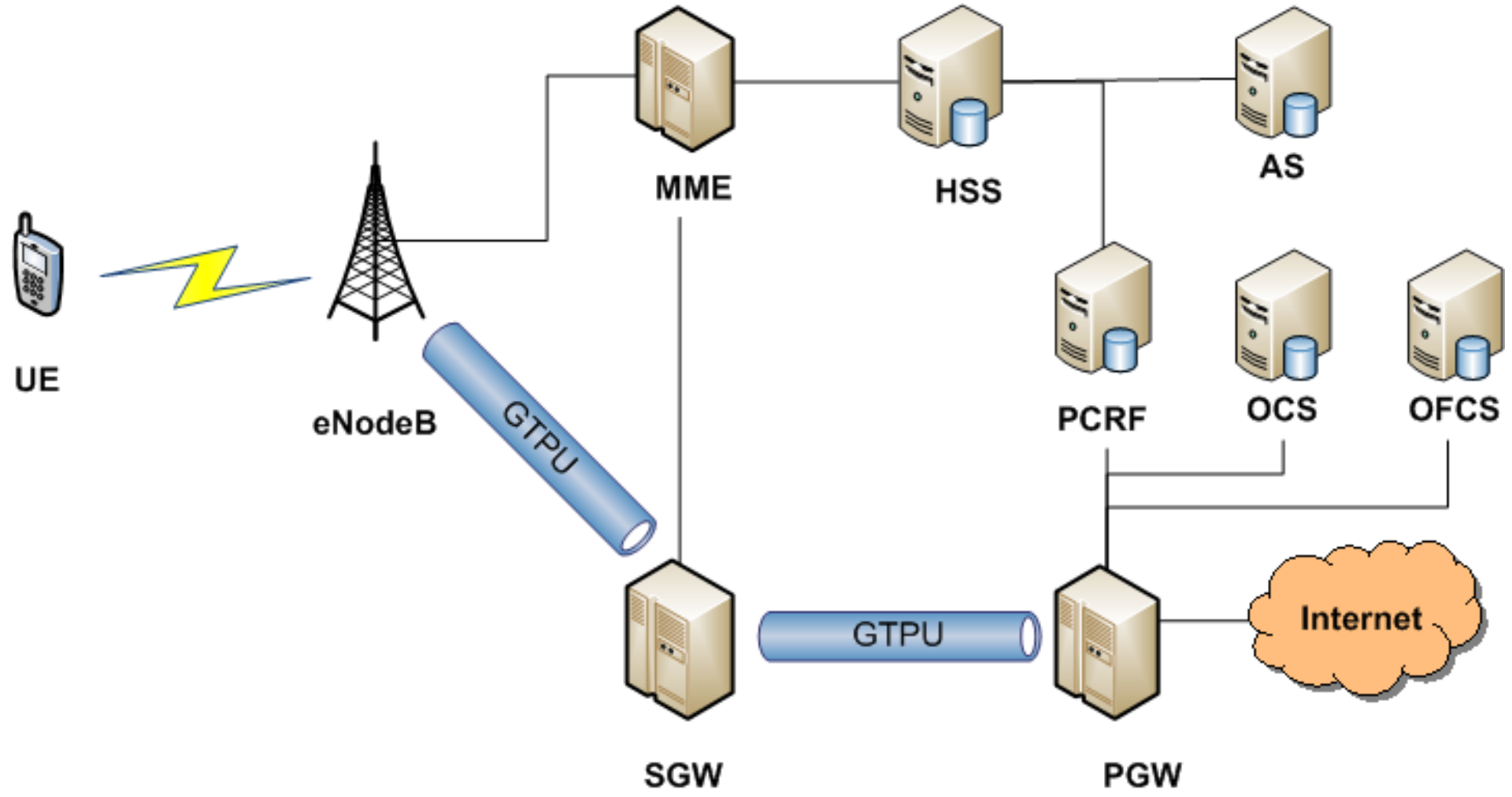

ΠΑΝΕΠΙΣΤΗΜΙΟ ΠΑΤΡΩΝ
UNIVERSITY OF PATRAS

# PGW PROTOTYPE IMPLEMENTATION

IETF – 88 Vancouver

**Evangelos Haleplidis (ehalep@ece.upatras.gr)**

# LTE

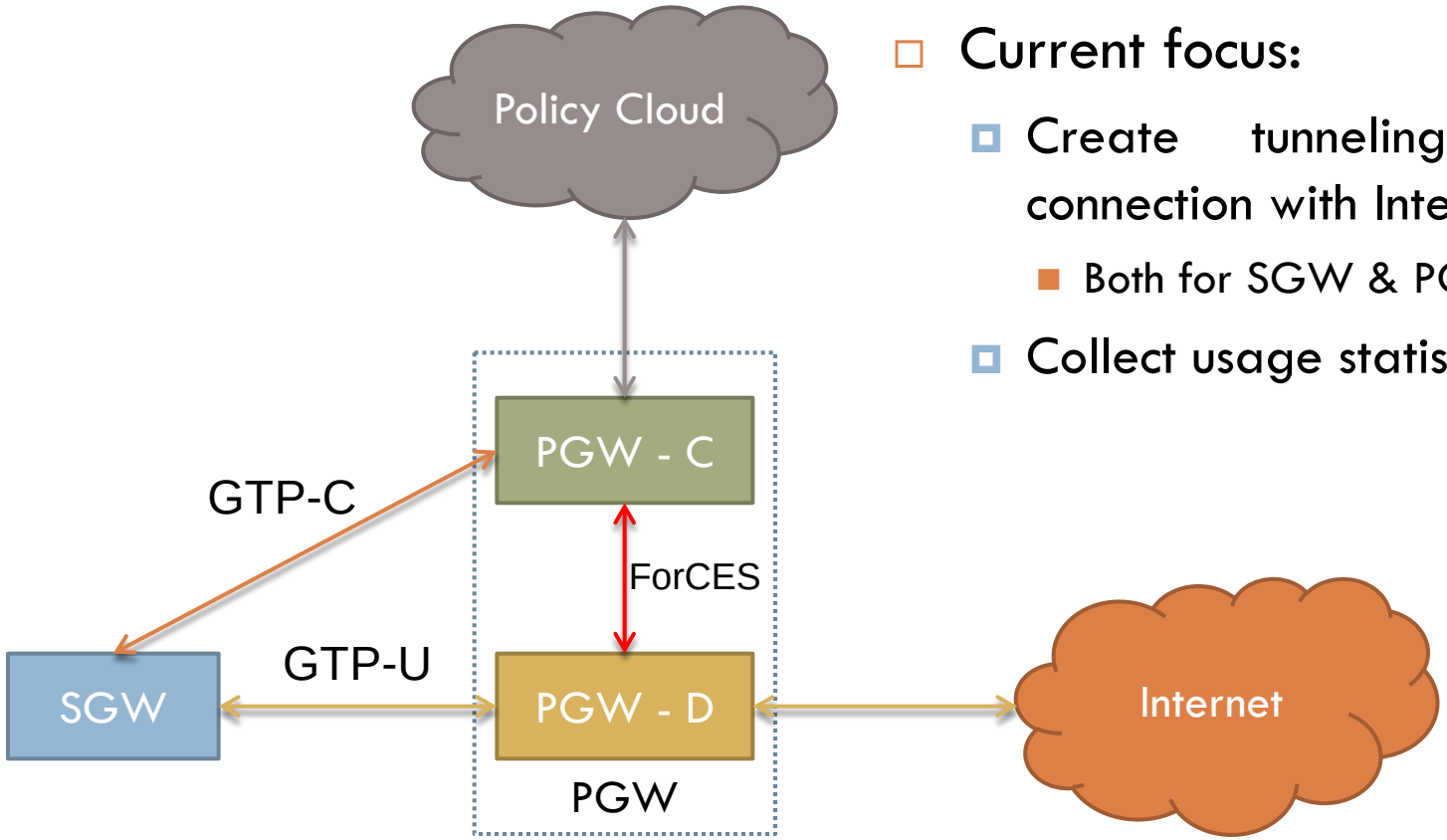


# Questions / Motivation

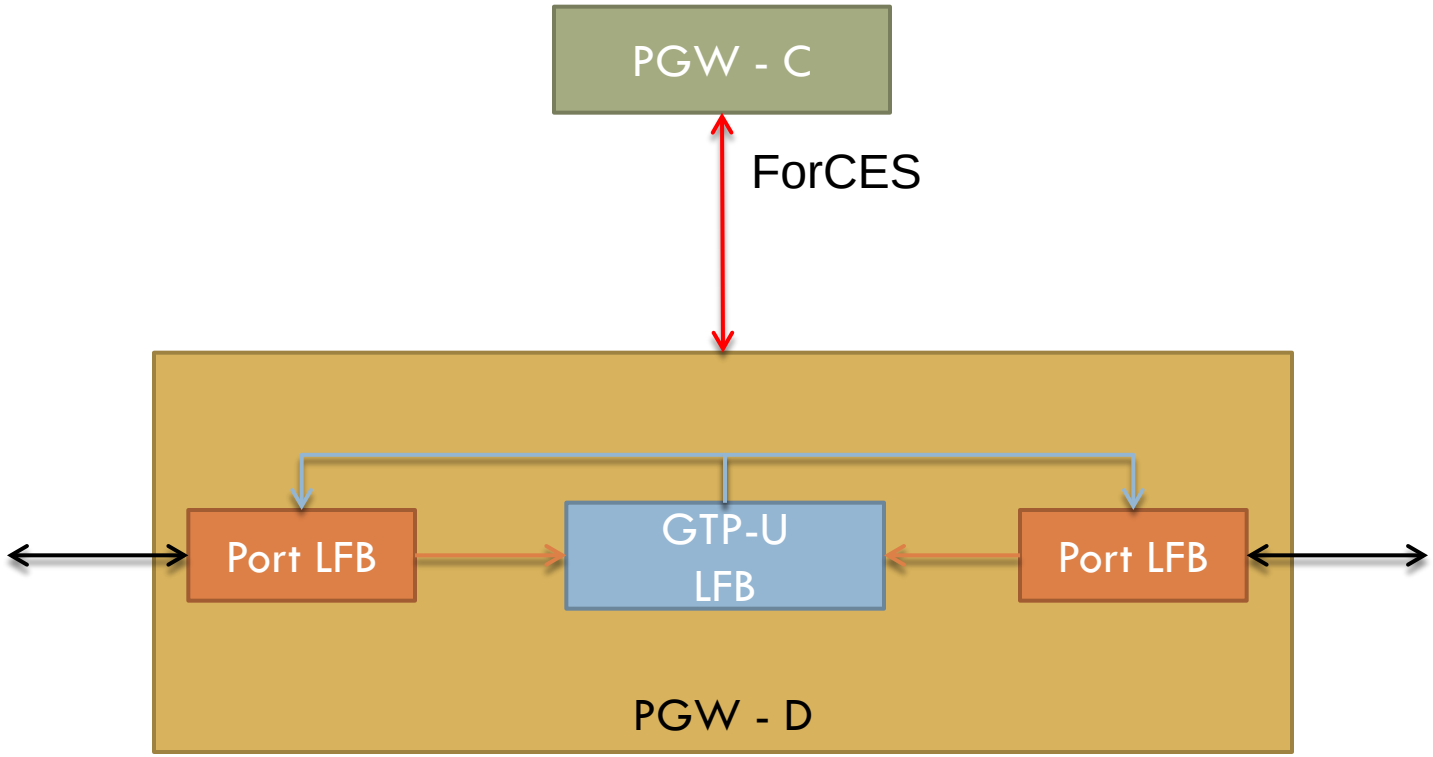

- Can we apply SDN concepts in the EPC Core?
  - Separate Control/Data Plane
  - Proof of concept: Use ForCES on the PGW
- Motivation:
  - Scale PGW
  - Ability to add functionality as LFBs wherever possible.
    - Chain LFBs to perform new services.
  - E.g. Firewall/DPI LFBs to the PGW

# Simplified PGW viewpoint

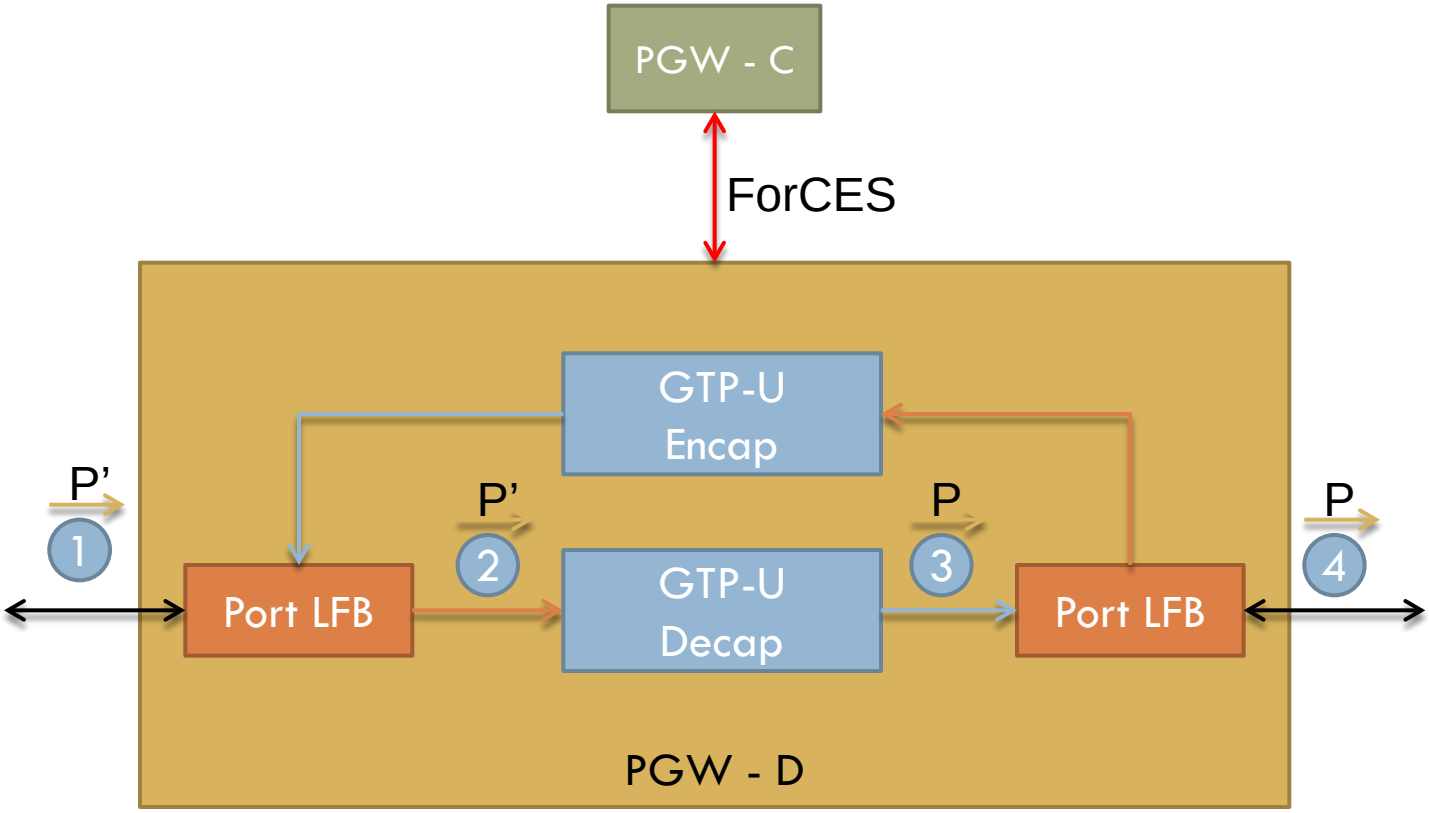

- Separate PGW control/datapath
- Current focus:
  - Create tunneling endpoints for connection with Internet
    - Both for SGW & PGW
  - Collect usage statistics



# PGW Prototype Implementation



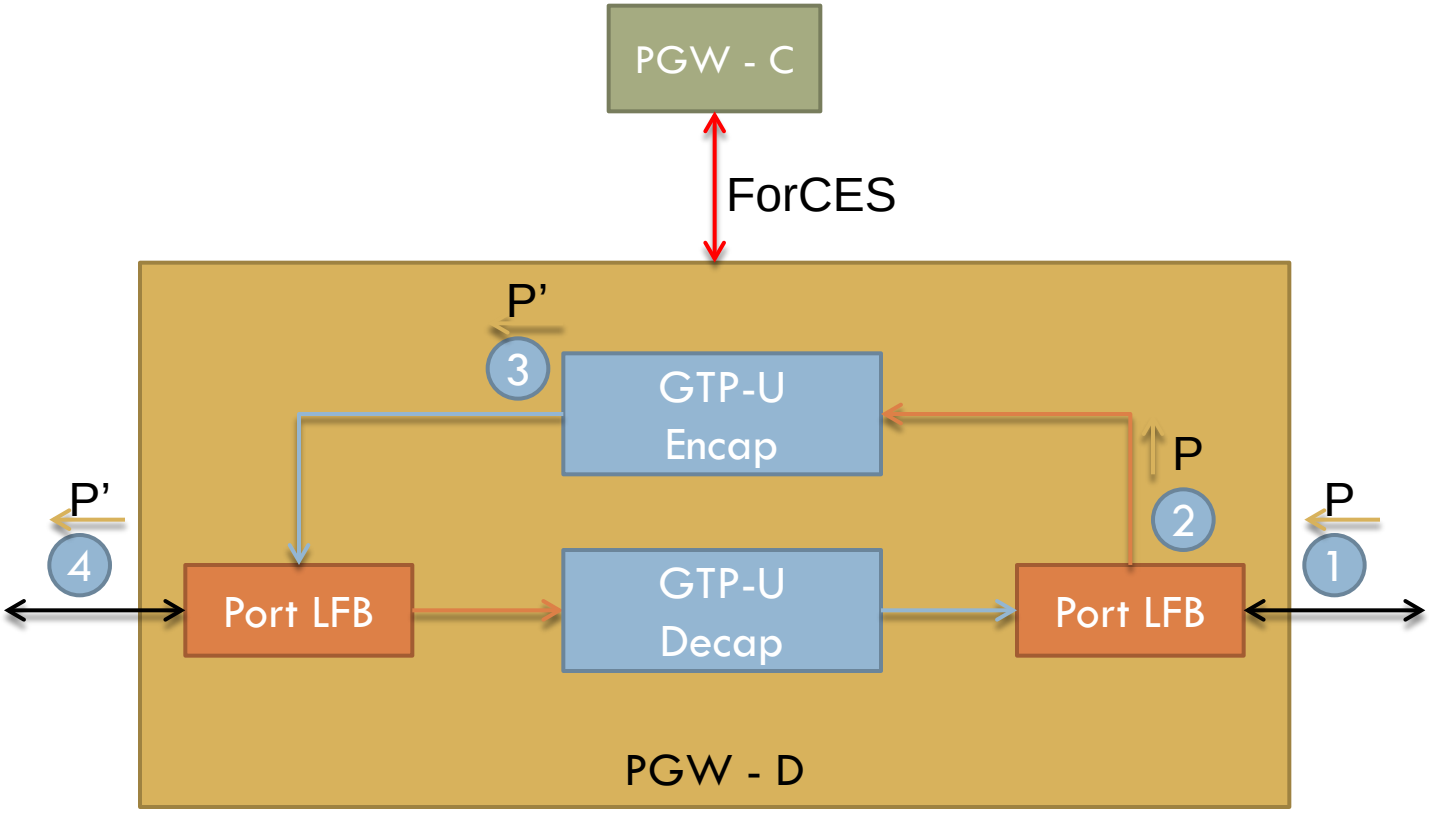
# Use case - 1




P : Initial Packet

P': GTP-U encapsulated packet

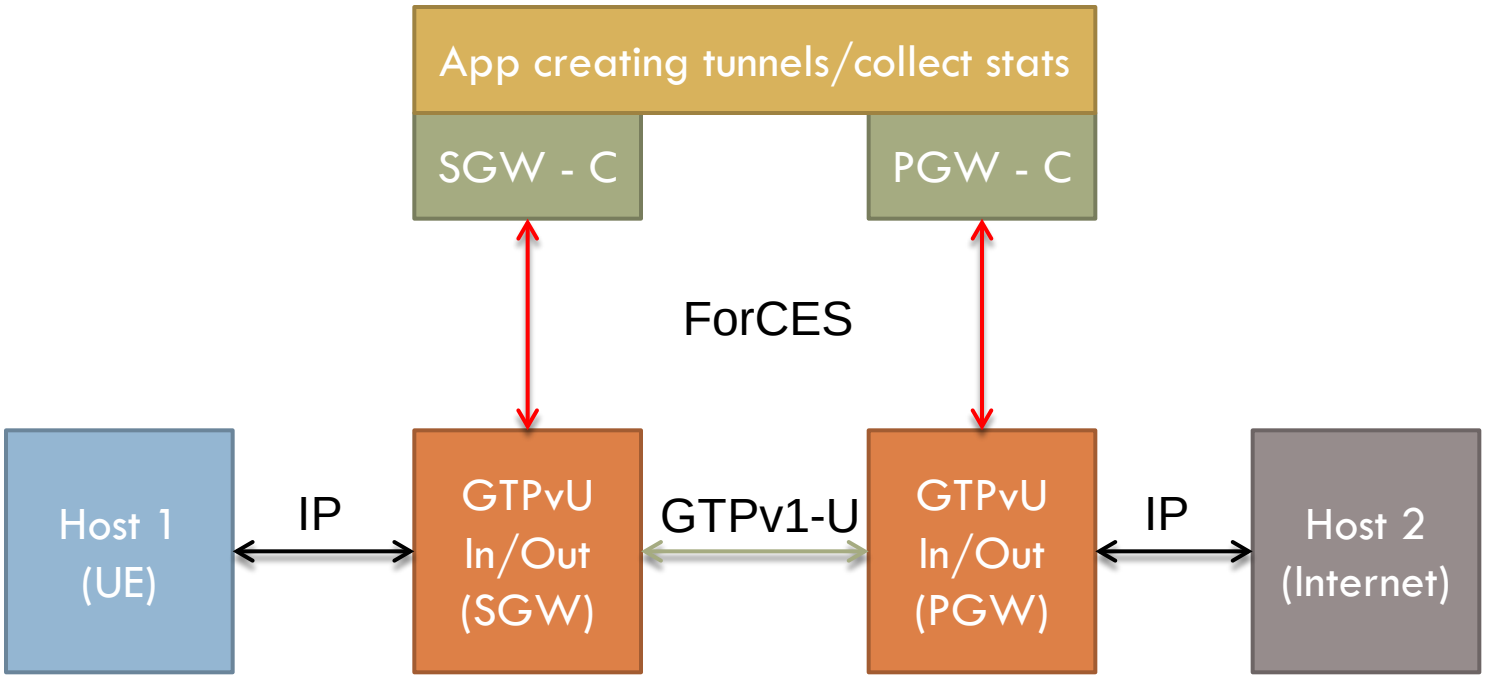
# Use case - 2




P : Initial Packet

P': GTP-U encapsulated packet

# Demo prototype architecture



# Demo Sequence


1. VM start-up
2. Initialize PGW/SGW
3. Create Tunnel Endpoints for Hosts
4. See traffic flow
5. Collect statistics
   - Per UE
   - Per UE/Flow