IOTL
Inter-Operator Traffic Leg

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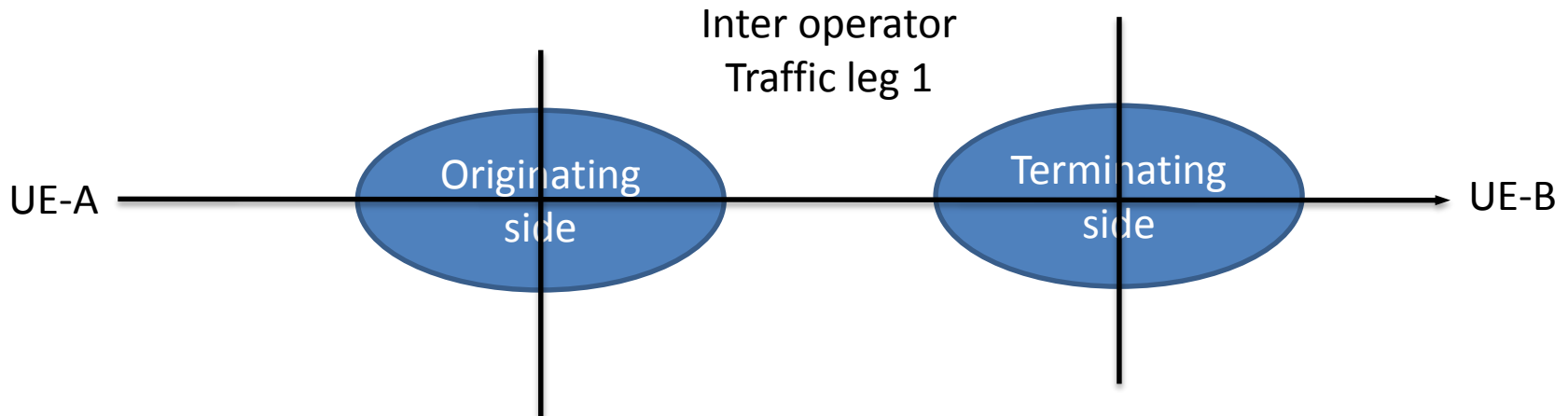
IETF#90

Toronto, Canada.

(2) TRAFFIC LEG: BASIC

In telecommunication networks, the signalling path between a calling user and a called user can be divided into smaller parts, referred to as inter operator traffic legs.

In simple cases there are only 1 inter operator traffic leg.

Inter operator
Traffic leg 1

UE-A ————— [Originating side] ——— [Terminating side] —————→ UE-B

(3) TRAFFIC LEG: ROAMING

The figure below shows a use-case how it looks like when the calling user is attached to a another operators network, a visited network (referred to as roaming), and the home network routes the call to the terminating side (referred to as "home routeing").
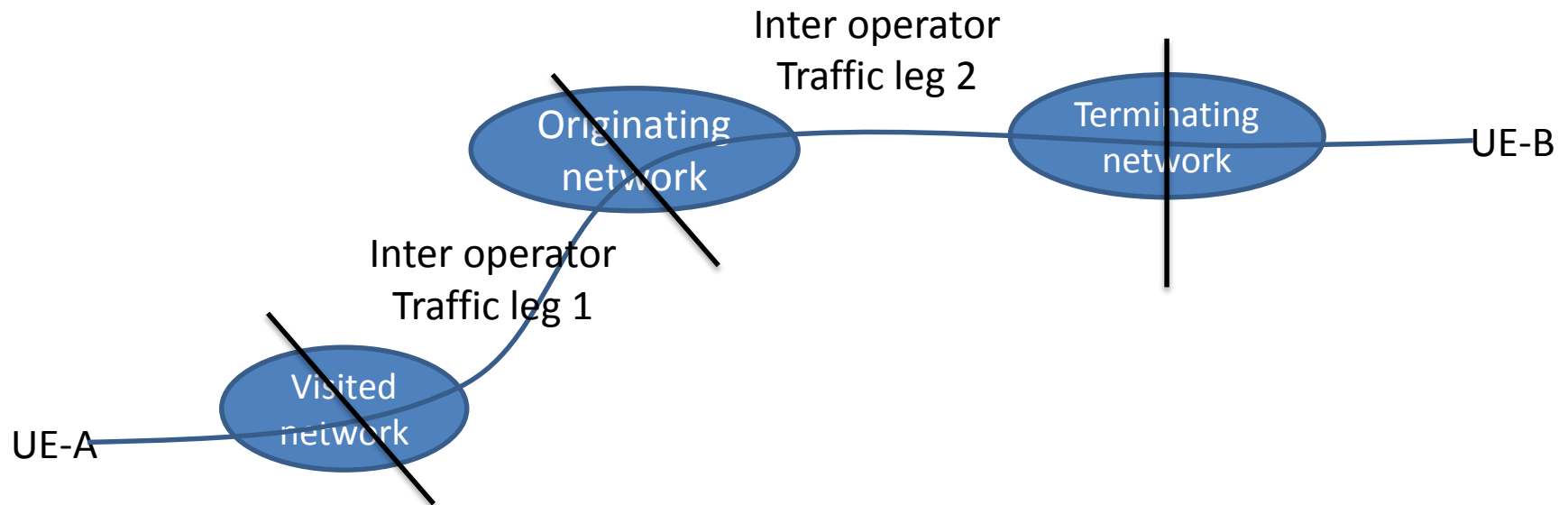
(4) TRAFFIC LEG: LOOPBACK

When the user is roaming the home network may decide to allow the visited network to do the routeing between the originating and terminating network (referred to as "loopback" routeing)

Originating network

Terminating network

UE-B

Inter operator Traffic leg 1

Inter operator Traffic leg 2

Inter operator Traffic leg 3

Visited network

UE-A
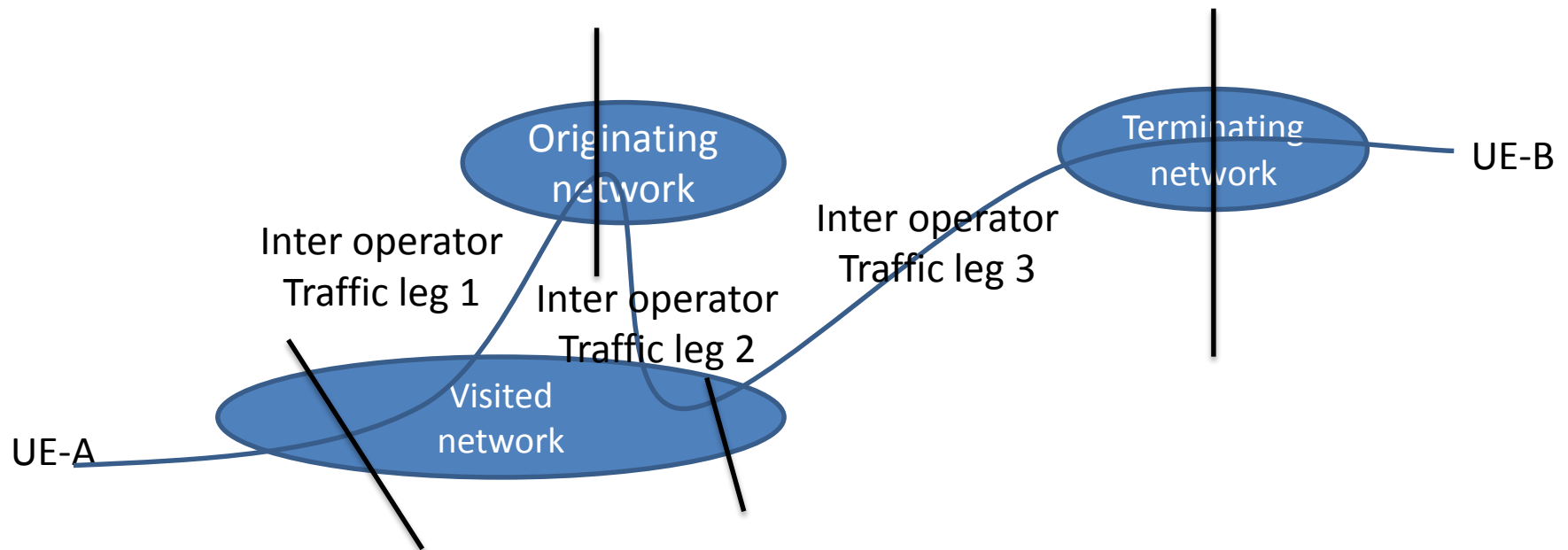
(5) TRAFFIC LEG: LOOPBACK + ROAMING

The below figure shows how a loopback routed call looks like when both parties are also roaming.
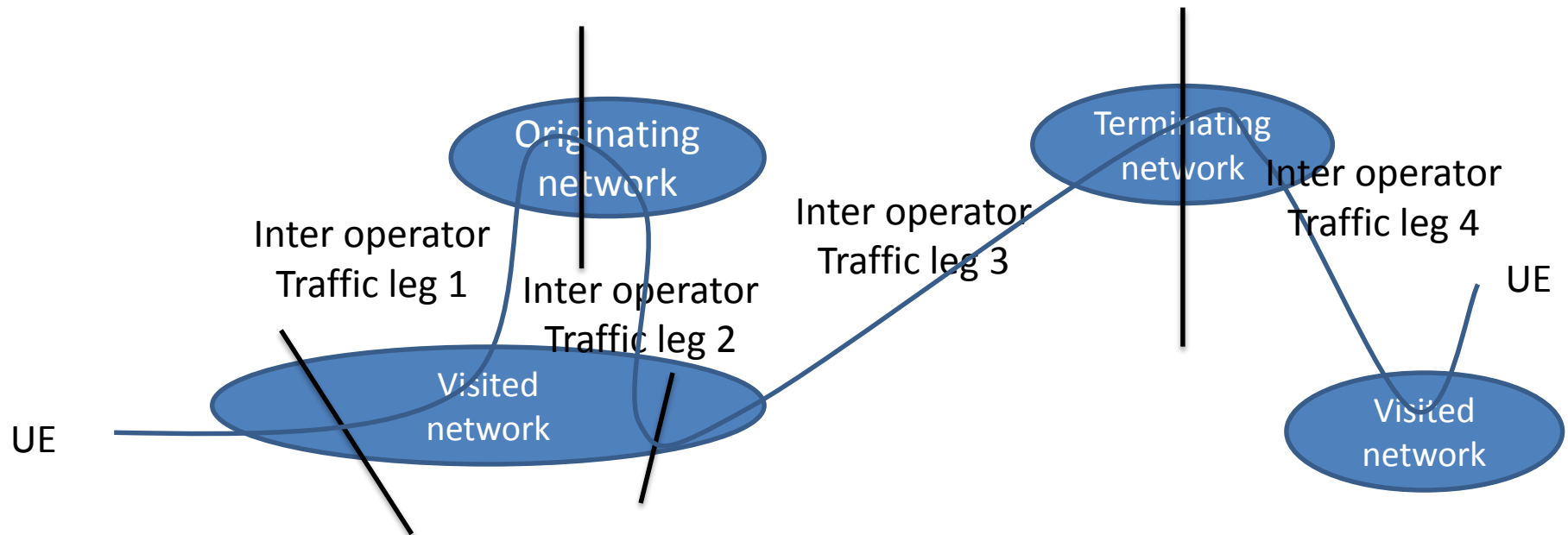
(6) Inter operator NNI Interfaces in the 3GPP architecture

Each IBCF in previous use case can participate in any position shown below hence traffic leg information is an important information to determine the policy (media, charging, etc.)
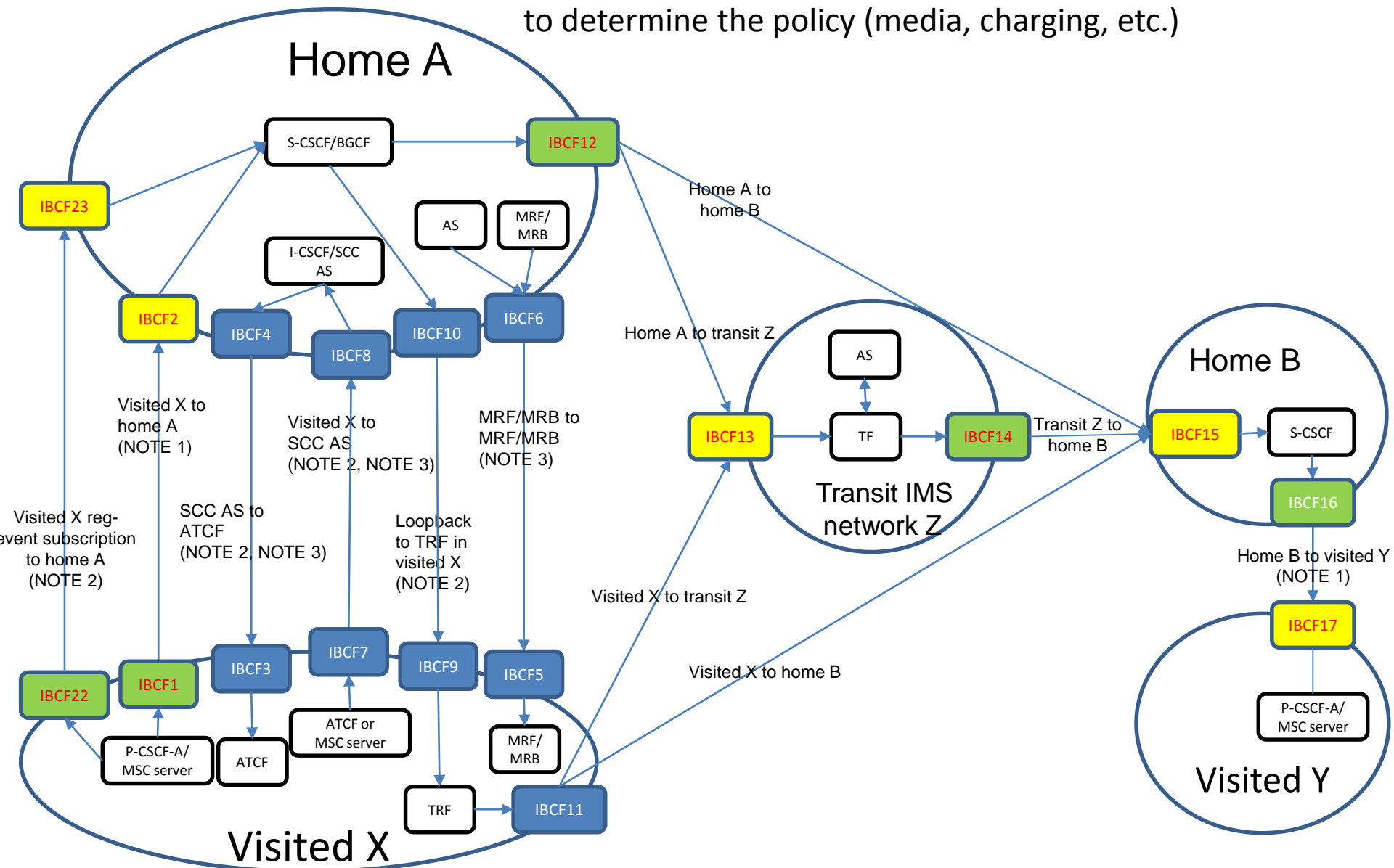
(7) WHAT IS IT USED FOR?

- **Who needs the information?**
  - Entity representing end of specific traffic leg (traffic leg destination)
  - Entities between beginning and end of traffic leg
- **Why does traffic legs need to be identified?**
  - Policy decisions based on traffic leg
    - Media
    - Charging
    - Etc

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- NUTSHELL
  - SIP URI Inter Operator Traffic Leg parameter
  - Backward compatible
    - Entity representing end of traffic leg will remove the SIP URI (including IOTL parameter) using normal 3261 procedures
      - Removal of Route header field
      - Re-write of Request-URI

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- SUGGESTED ALTERNATIVES
  - Route header field parameter
    - IOTL parameter can not be added to Request-URI
    - IOTL parameter can not be added to existing feature-capability indicator containing a SIP URI parameter
      - Needed e.g. for the loopback use-case
  - New header field (e.g. P- header field)
    - Not backward compatible
    - How to indicate end of traffic leg?

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- SUGGESTED ALTERNATIVES
  - Feature capability indicator (FCI)
    - Not backward compatible
    - How to indicate end of traffic leg?
    - Not semantically aligned
      - FCI used to indicate capability supported by sender
  - "?" header
    - Not allowed in Route header field
    - Not semantically aligned
      - "?" used to provide header fields to be included in a request constructed from the URI

(11) Do what I mean?

- The entity that inserts an IOTL parameter **makes no assumptions** that other entities will understand the meaning of the parameter, or that other entities will perform specific actions based on the parameter values.

- Each operator decides what/if actions are triggered based on received IOTL parameter value

(12) QUESTIONS

- **Q1: Generic or 3GPP-specific?**
  - 3GPP-specific would be easier to document
  - No usage interest outside the 3GPP community
- **Q2: WG delivery or AD sponsored?**
  - Depends on outcome of Q1

THE END

THANK YOU FOR LISTENING!