

# v6ops-3GPP Design Team

IETF#55, v6ops wg

Atlanta, USA

Jonne Soininen / Juha Wiljakka

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# Scope & Goal

- Identify relevant transition scenarios
- Map relevant transition mechanisms to the scenarios
  - Identify relevant transition mechanisms
  - Perform “Gap Analysis” – I.e. identify missing transition tools
- Make analysis for usage of transition tools
- Document the results
  - Scenarios
  - Solutions
  - Gaps
  - Recommendations
- Discuss these in the WG
- A Non-Goals
  - Specify new transition mechanisms
  - Change 3GPP specs

# People & Deliverables

- Design team members
  - Margaret Wasserman (v6ops Chair)
  - Alain Durand
  - Jonne Soininen
  - Juha Wiljakka
  - Hesham Soliman
  - Karim El-Malki
  - Hugh Shieh
  - Niall Murphy
  - Paul Francis
- Deliverables
  - Scenarios Document
    - draft-ietf-v6ops-3gpp-cases-00.txt
    - draft-wiljakka-3gpp-ipv6-transition-02.txt

# Status of the documents

- Scenarios document (draft-ietf-v6ops-3gpp-cases-00.txt)
  - Became a WG document
  - No changes to content
  - Seems stable
    - Few editorial tweaks
- Analysis (draft-wiljakka-3gpp-ipv6-transition-02.txt)
  - Editorial changes
  - To do
    - Clarify use of static vs. dynamic tunneling (Scenario GPRS 2)
    - Documenting the NAT-PT issues vs. NAT64
    - Removing error in Scenario IMS 1 about mentioning dual-stack CSCF
    - Changing the document name to 'analysis document'

# Addressed items on the list

- Scenarios
  - Dual-Stack IMS scenario (Luc Beloeil)
    - 3GPP documents state clearly that IMS is v6 only
    - This not an issue for this work
- Analysis
  - Error in analysis document (Jasminko Mulausic)
    - Mention of Dual-Stack CSCF in section 4.2
    - Will be corrected in the next revision
  - “draft-thakur-v6ops-3gpp-cases-00.txt”
    - Would it be ok to address this by taking this as input document?
  - (Editorial) comments (Pekka Savola)
    - Thank you!

# Analysis so far

- GPRS Scenario 1 (Dual Stack UE)
  - Wide variety of transition mechanisms can be used
  - Dual stack in the UE
  - Dynamic/static tunneling in the network (6to4, static tunneling)
  - Tunneling from UE in the case GGSN does not support IPv6.
- GPRS Scenario 2 (IPv6 UE connecting to IPv6 node through IPv4)
  - Dynamic / static "IPv6 in IPv4" tunneling in the network (6to4 or static tunneling)
- GPRS Scenario 3 (IPv4 UE connecting to IPv4 node through IPv6)
  - Dynamic / static "IPv4 in IPv6" tunneling in the network
- GPRS Scenario 4 (IPv6 UE connecting to IPv4 node)
  - Protocol translation needed in the network; NA(P)T-PT (NAT64)
- GPRS Scenario 5 (IPv4 UE connecting to IPv6 node)
  - Protocol translation needed in the network; NA(P)T-PT (NAT46)
- IMS Scenario 1 (UE connecting to a node in IPv4 network through IMS)
  - SIP ALG for signaling traffic
  - NA(P)T-PT (NAT64) for the user data
- IMS Scenario 2 (Two IPv6 IMS connected via IPv4 network)
  - Static "IPv6 in IPv4" tunneling in the network

# Way forward

- Scenarios document
  - wg last call?
- Analysis document
  - Become a wg draft?

# Backup slides

# Scenarios

## 1. GPRS Scenarios

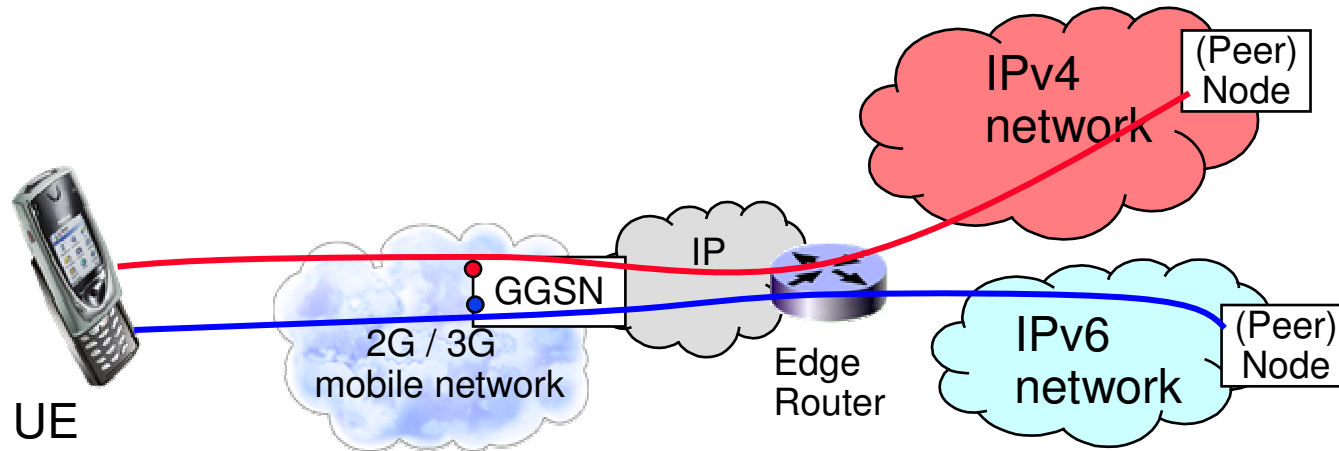
1. Dual Stack UE connecting to IPv4 and IPv6 nodes
2. IPv6 UE connecting to an IPv6 node through an IPv4 network
3. IPv4 UE connecting to an IPv4 node through an IPv6 network
4. IPv6 UE connecting to an IPv4 node
5. IPv4 UE connecting to an IPv6 node

## 2. Transition scenarios with IMS

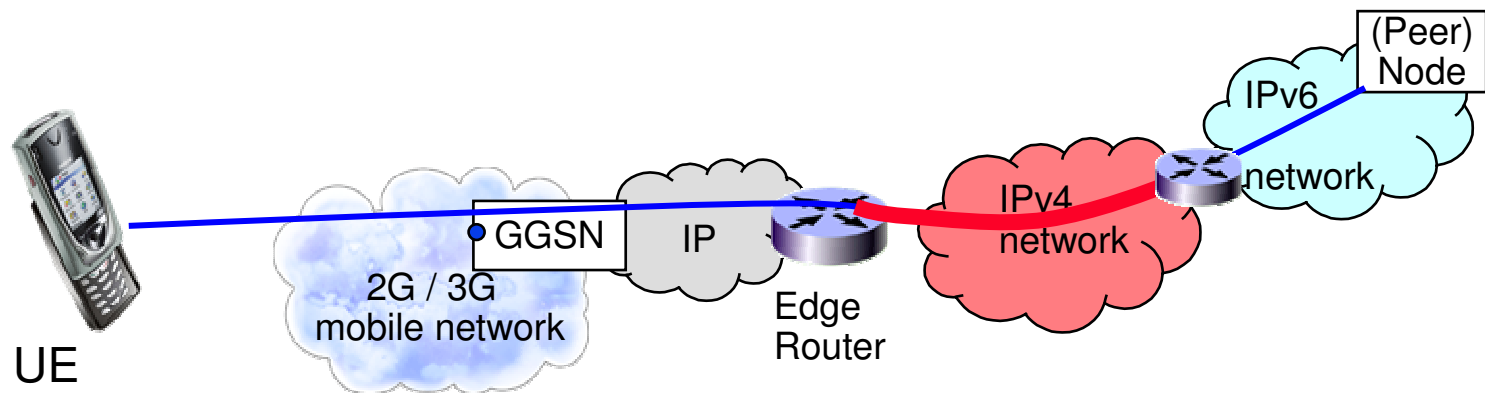
1. UE connecting to a node in an IPv4 network through IMS
2. Two IPv6 IMS islands connected via an IPv4 network

# GPRS scenarios 1 and 2

## 1. Dual stack UE connecting to IPv4 and IPv6 nodes

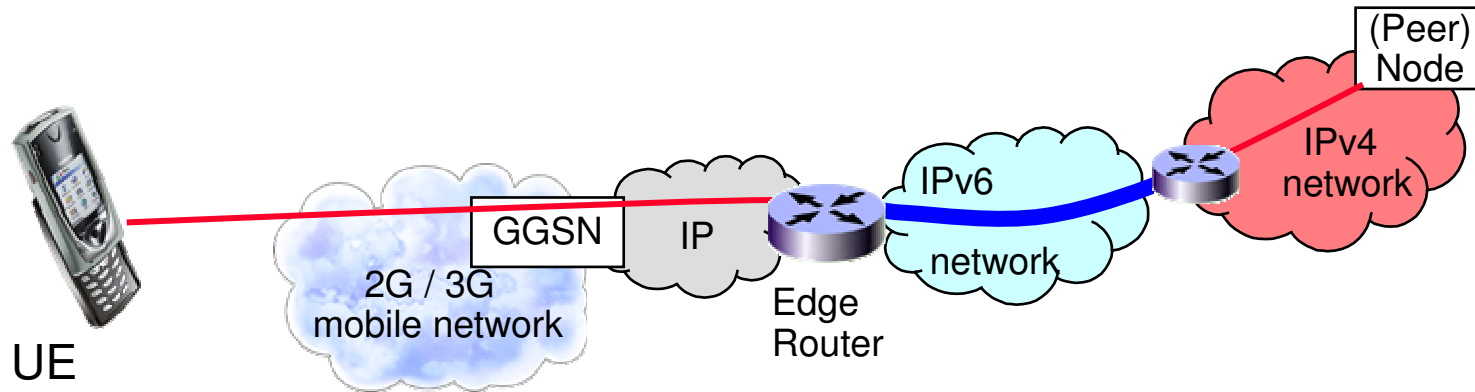


## 2. IPv6 UE connecting to IPv6 node through an IPv4 network

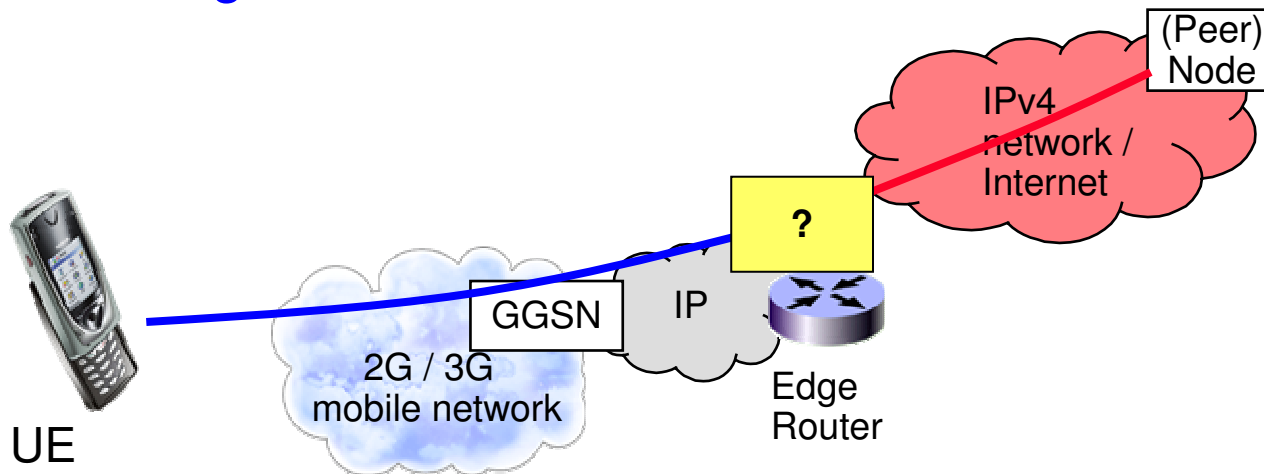


# GPRS scenarios 3 and 4

## 3. IPv4 UE connecting to IPv4 node through an IPv6 network

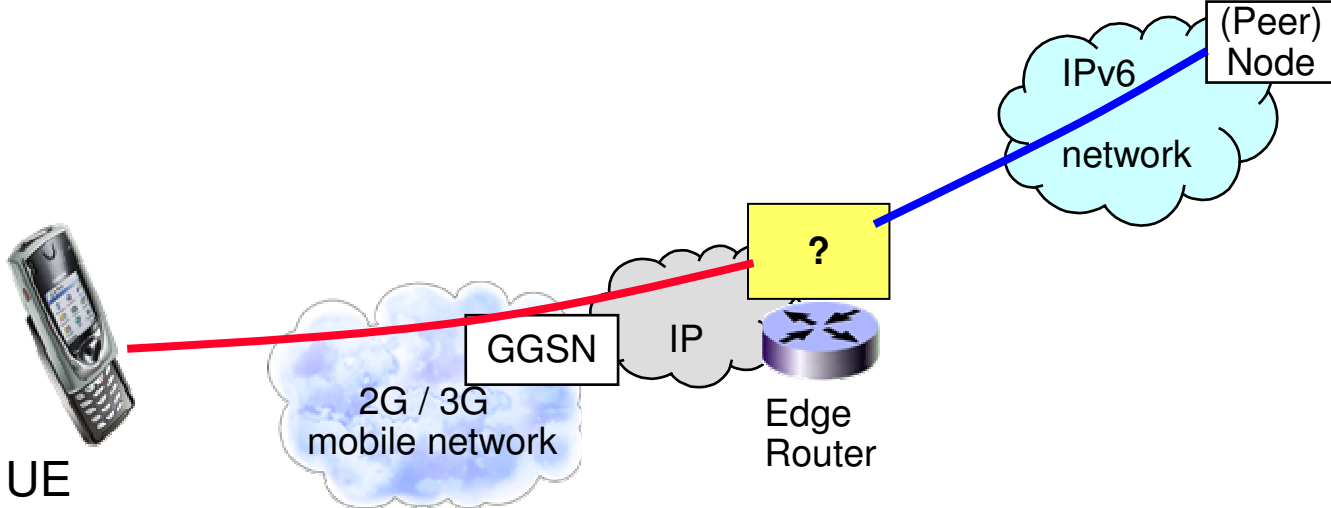


## 4. IPv6 UE connecting to an IPv4 node



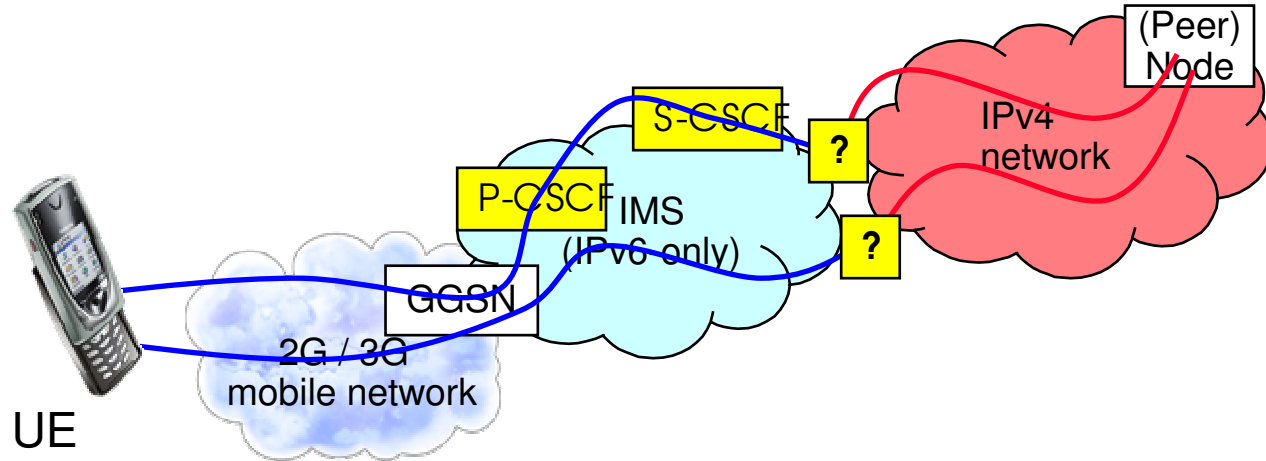
# GPRS scenario 5

## 5. IPv4 UE connecting to an IPv6 node



# IMS scenarios 1 and 2

## 1. UE connecting to a node in an IPv4 network through IMS



## 2. Two IMS islands connected via an IPv4 network

