

Analysis on IPv6 Transition in 3GPP Networks

<draft-ietf-v6ops-3gpp-analysis-07.txt>

- Issues Discussion -

IETF#58, v6ops wg

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Happened So Far

- *3GPP design team* started its work in Summer 2002
 - Worked on **3GPP Scenarios** and **Analysis** documents
- *3GPP Scenarios* accepted as a v6ops wg document in September 2002; *3GPP Analysis* in December 2002
- 3GPP Scenarios published as Informational **RFC 3574** in August 2003
- **7 revisions** have been made **on 3GPP Analysis** since December 2002
- Issue tracker used for 3GPP Analysis
 - <http://danforsberg.info:8080/draft-ietf-v6ops-3gpp-analysis/index>
- Wglc held for 3GPP Analysis -06 was ended on Oct 14th
 - Comments received, but maybe not enough
- Many thanks for all the people that have sent comments!
 - Especially Pekka Savola, Jasminko Mulahusic, Andreas Schmid, et al.

The Remaining Issues 1/2

1. Tunneling in the UE in the case the GPRS network does not support IPv6: what is the recommendation?
 - General solution: encourage 3GPP operators to deploy basic IPv6 support in their GPRS networks
 - But: IPv6-in-IPv4 tunneling *may* be done in the UE
 - A. laptop computer and a 3GPP UE as a modem -> tunneling in the laptop, and just using IPv4 GPRS nw
 - B. tunneling in the UE
2. NAT-PT or other generic translation mechanisms: what is the recommendation?
 - The most important case for a (special) translator is IMS scenario 1, GPRS Scenario 4 not so important
 - We reference to NAT-PT applicability document
 - Translators not recommended as a general solution
 - Related to Issue 4

The Remaining Issues 2/2

3. Closer details for IMS scenario 1 solution?
 - It is important to analyze this scenario in our doc
 - Describing only higher level solution details in our doc (as we currently do)?
 - We recommend to solve the general SIP/SDP IPv4/IPv6 transition problem in the IETF SIP wg(s)
4. Need to discourage IPv6-only UE deployment until the transition has progressed further?
 - Dual stack is the most probable UE deployment scenario in the near future -> UE dual stack recommendation seems sensible
5. Listing routing protocol (BGP/IGP) based tunnels as a solution alternative in the 3GPP operator's network?
 - Or leaving all such details to ISP documents?
 - Note: we have already cut text from GPRS scenario 2 and already refer to ISP documents!

The Way Forward

- Soliciting comments from the WG
 - ⇒ Please give comments on the document now or on the v6ops mailing list!
 - The following comments are also very beneficial:
 - A. I support forwarding this doc to the IESG (with the following changes / edits...)
 - B. I don't support forwarding this doc to the IESG, because...
- **GOAL:** gaining some form of consensus on the issues, publishing revision -08 and shipping it to the IESG in Dec 2003

⇒ Please, speak up!

*In my opinion,
3GPP
Analysis...*



The Scenarios

A brief summary on the 3GPP Analysis doc

- **GPRS Scenario 1 (Dual Stack UE)**
 - Wide variety of transition mechanisms can be used
 - Dual stack in the UE
 - Static/dynamic tunneling in the network
 - Tunneling in the UE in the case GPRS nw does not support IPv6
- **GPRS Scenario 2 (IPv6 UE connecting to IPv6 node through IPv4 nw)**
 - Static (dynamic) IPv6-in-IPv4 tunneling in the network
- GPRS Scenario 3 (IPv4 UE connecting to IPv4 node through IPv6 nw)
 - IPv4-in-IPv6 tunneling in the network
- GPRS Scenario 4 (IPv6 UE connecting to IPv4 node)
 - ALG / protocol translation needed in the network.
- GPRS Scenario 5 (IPv4 UE connecting to IPv6 node)
 - ALG / protocol translation needed in the network.
- **IMS Scenario 1 (UE connecting to a node in an IPv4 network through IMS)**
 - "Interworking unit" consisting of SIP ALG for signaling traffic and a protocol translator for the user data.
 - Solution is for limited cases.
- **IMS Scenario 2 (Two IPv6 IMS islands connected via IPv4 nw)**
 - Static IPv6-in-IPv4 tunneling in the network.