IPv6 Transition In Cellular Networks

Snapshots of an Ongoing Analysis

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To Motivate and Advise re v6 Deployment

- explain benefits
- identify challenges
- suggest solutions
- show facilitators
- identify missing pieces

- focus on cellular networks

Existing Work For Other Network Types

- IPv6 Deployment Scenarios in Broadband Access
  RFC 4779
- IPv6 Deployment Scenarios in 802.16 Networks
  RFC 5181
- IPv6 Enterprise Network Scenarios
  RFC 4057
- no equivalent for cellular networks yet

Reasons for IPv6 Deployment

- large number of devices to be addressed
  - more and more data subscribers
  - machine-to-machine communications
- demanding applications
  - increasingly long-lived
  - often always-on
- NAT'ing is not a sustainable alternative
- subscriber networks potentially easier

Facilitators of IPv6 Deployment

- single type of network architecture
- influence on terminals
- influence on certain applications
- self-contained applications (“walled gardens”)
- good position to negotiate special deals with content and service providers (e.g. IPv6 Google)

Challenges of IPv6 Deployment

- legacy single-stack hosts
- negotiate or wait for v6 access to content
- new administration and support responsibility
- currently more PDP contexts

Gap Analysis

- no prefix delegation for subscriber networks
- no dual-stack PDP contexts yet

Next Steps

- finish version one
- discuss in 3GPP and IETF
- publish as joint 3GPP-IETF document?