

# 4via6 Stateless Translation

**draft-murakami-softwire-4v6-translation-00.txt**

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# Overview

- A group of operators worked together on draft-operators-softwire-stateless-4v6-motivation-02
  - France Telecom, Softbank Telecom, Comcast, Deutsche Telekom, Portugal Telecom and China Mobile
- 4via6 stateless manner could work on both translation and tunneling mode
  - Translation solution, draft-murakami-softwire-4v6-translation-00
  - Tunneling solution, draft-murakami-softwire-4rd-00
- In order to clearly explain why 4via6 stateless translation solution is needed
  - draft-dec-stateless-4v6-02 has been proposed

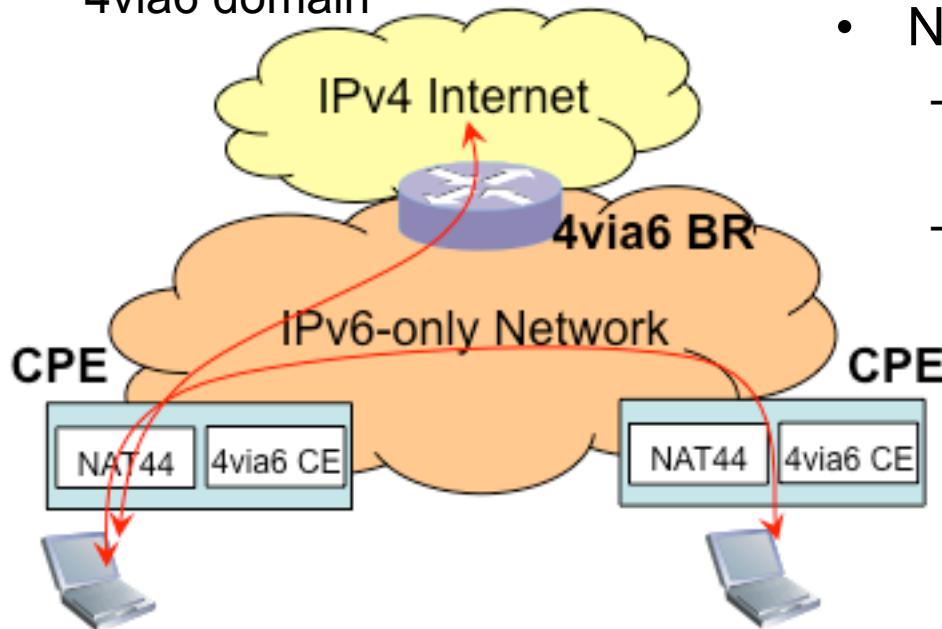
# 4via6 Stateless Translation

- It uses IPv6/IPv4 protocol translation in order to transport IPv4 packets across IPv6-only network
- It's suitable to be deployed in mobile environments in which CPEs with wireless modem use 3GPP access as uplink



# Behaviors of 4via6 Stateless Translation

- 4via6 CE
  - Generate an IPv4 address or an shared IPv4 address and port-set
  - Translate an IPv4 packet from/to an IPv6 packet
- 4via6 BR
  - Stateless translation at edge of 4via6 domain
- Mapping rule
  - 4via6 CE → BR
    - Source address: 4rd mapping rule
    - Destination address: RFC6052
  - 4via6 CE → 4via6 CE
    - Source and destination address: 4rd mapping rule
- NAT44



- The behavior is conforming to best current practice
- Translate the port number into the port-set generated in a given 4via6 CE

# 4via6 translation is suitable to the mobile network

- The translation solution in a mobile provider context requires less system changes (No impacts on core network elements)
- 4via6 translated traffic can be handled using existing native IPv6 functionality defined by the core 3GPP specifications. It keeps the operator's service model intact.
- This form of deployment has no noticeable impact on the users

# Confirmed Application based on testing

Application	Status	Note
Mail (POP, IMAP, SMTP)	OK	
Skype	OK	
ICMP Echo Request/Reply	OK	
OWA	OK	
iTunes	OK	
Web Access (GoogleMap)	OK	
Web Access (Youtube)	OK	
Web Access (Other sites)	OK	
PPTP	NG	PPTP can be passed if using ALG.
IPSec/UDP	OK	UDP encapsulation is required.
Twitter	OK	
EverNote	OK	
DropBox	OK	
Google Earth	OK	
Bittorrent	OK	

# Proposal

Accept 4via6 stateless translation as  
working group draft

Many Thanks!