IPv6 - IPv4 Translators Problem Statement and Analysis

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Goal of the draft

• Define requirements for IPv6 - IPv4 Translators
  – application behaviour
  – acceptable modifications
  – Placement of the NAT64
Supported Application behaviour (I)

1.1. v4-initiated short lived local handle
Only usage of the address is to pass it from DNS API
Supported Application behaviour (II)

1.2. v6-initiated short lived local handle
Only usage of the address is to pass it from DNS API
2.1. v4-initiated long lived communications
IP address reatined through multiple communications
2.2. v6-initiated long lived communications
IP address retained through multiple communications
Supported Application behaviour (V)

3.1. v4-initiated call-backs
Supported Application behaviour (VI)

3.2. v6-initiated call-backs
Supported Application behaviour (VII)

4.1. v4-initiated v6-in-v6 referral
Supported Application behaviour (VII)

4.2. v4-initiated v6-in-v4 refferral
Supported Application behaviour (VII)

4.3. v4-initiated v4-in-v6 referral

Diagram showing a network with v6 and v4 domains connected through a NAT64 device.
Supported Application behaviour (VIII)

4.4. v6-initiated v4-in-v4 referral
4.5. v6-initiated v4-in-v6 referral
4.6. v6-initiated v6-in-v4 referral
Criteria to decide what application support goal?

• Support only application behaviour supported by traditional NATs?
  – Only v6-initiated short lived local handle?

• Support applications supported by current NAT traversal techniques?
NAT64 required modifications (I)

V6 nodes?
NAT64 required modifications (II)

V4 nodes?
NAT64 required modifications (III)

both?
NAT64 required modifications (III)

none?
Other considerations

• Application scenario: placement of the NAT64 box
  – In the end site?
  – In the ISP?
• Transparency: NAT64 boxes will be transparent to:
  – V6 nodes
  – V4 nodes
  – Both
  – none