Transition Requirements for IPv6 Customer Edge Routers to support IPv4 as a Service

<draft-palet-v6ops-transition-ipv4aas-00>

Hans M.-H. Liu

hans.liu@dlinkcorp.com

Jordi Palet

jordi.palet@theipv6company.com

History

- IETF98, Chicago, draft-ietf-v6ops-rfc7084-bis was accepted as WG item
  - Included RFC7084+new transition+HNCP

- 4 versions before IETF99, Prague
  - Push back from the WG

- In Prague presented several choices
  - No clear consensus

- In IETF 100, Singapore
  - Keep RFC7084 format, as "extension", and only for IPv4-as-a-Service

- New co-author

Reality Check

- Actual market situation still needs IPv4 in the LANs

- This will be the case for at least 3-5 years

- "No way" an ISP delivers IPv6-only service in the LANs

- So, CEs need IPv4 support "as a service"
  - "newer transition mechanisms" aren't part of RFC7084
  - vendors don't support those, in general
    - Want to have it in an RFC
    - Want to support that RFC in IPv6 Ready Logo certification

Summary (1)

- Nothing new compared with what was adopted as WG, but reduced to IPv4-in-IPv6
  - An "IPv6 transition Customer Edge Router with IPv4aaS" must comply with RFC7084

  AND

  - Support a few new transition mechanisms (464XLAT, lw4o6, MAP-E, MAP-T) and:
    - RFC7608 (IPv6 Prefix Length Recommendation for Forwarding)
    - RFC5625 (DNS Proxy Implementation Guidelines)
    - RFC8026 (Unified IPv4-in-IPv6 Softwire Customer Premises Equipment (CPE): A DHCPv6 Based Prioritization Mechanism)
    - RFC8114 (Delivery of IPv4 Multicast Services to IPv4 Clients over an IPv6 Multicast Network)
    - RFC8115 (DHCPv6 Option for IPv4-Embedded Multicast and Unicast IPv6 Prefixes)

Summary (2)

- As requested in the previous WG meeting
  - Problem description (need to 4in6 support)
  - Scenarios (was not clear in RFC7084, and is a new situation)
  - End-user architecture when WAN is IPv6-only but IPv4 is needed
  - Explain new code "cost" is not an issue, all the introduced mechanisms share code and data plane is common to what RFC7084 was already asking for

Goal

- Make sure operators (even small ones), have the right support from vendors to deploy IPv6-only access and still allow IPv4 inside the customer LANs.

- Support the vendors in having this documented.

Next steps

- Questions ?

- Become a WG item ?

- Inputs ?