Goals for Tunneling Configuration
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Jordi Palet (jordi.palet@consulintel.es)

Karen E. Nielsen (karen.e.nielsen@ericsson.com)

Florent Parent (florent.parent@hexago.com)

Alain Durand (alain.durand@???)

Radhakrishnan Suryanarayanan (rkrishnan.s@samsung.com)

Pekka Savola (psavola@funet.fi)

Objective

- Describe set of goals for a tunneling Configuration (TC):
  - To be used by networks to jumpstart its IPv6 offering to customers
- Cross check the different sets of goals with different network cases

Core vs. Access

- The transition in the core often is quite simple

- The access network may involve different type of L2 technologies

- Different L2 technologies have different requirements and issues, but a single mechanism will be a most efficient solution

Assumptions & Prerequisites

- Customer configuration may be diverse and not necessarily predictable
  - Single node or leaf network
  - Global IPv4 address or is behind NAT/s
  - In case of NAT, the external/internal IPv4 address are static or dynamic
  - In case of NAT, it can be customer or ISP owned
- IPv4 multicast is not widely available
- TC protocol should be simple to implement and easy to deploy
- TC protocol is provided within a restrictive timescale
- TC to be used in the transition phase:
  - No need to be perfect

General Goals

- Simplicity
- Easy to deploy and phase-out

Tunnel Set-up Goals

- TEP auto-discovery and tunnel establishment
- TEP reachability detection
- Scalability and Load-balancing
- Latency in set-up phases
- Tunnel link sustainability
- NAT traversal
- Firewall traversal
- Use native if available

IPv6 Configuration Goals

- IPv6 Address Assignment
- IPv6 Address Stability
- IPv6 Prefix Delegation
- IPv6 DNS

Implementation Consideration Goals

- Private and Public IPv4 Addresses
- Extensibility
- Stateful or Stateless

Management & Security Goals

- Security
- Traceability
- Registration
- Authentication
- Confidentiality
- Accounting

Applicability of TC to Network Cases

- 3GPP
- Narrowband
  - Seems to be same case as 3GPP ?
- Broadband
- Unmanaged
- Enterprise
- Others ?

- The idea is to prepare a matrix with common set of goals and describe those that may conflict, in order to provide light towards the next steps (existing protocols or new ones)

Main Goals ?

- NAT Traversal
- Preffix Delegation
- Authenticated vs. Anonymous
- Latency

Thanks !

Questions ?