NAT64 Operational Experiences

draft-ietf-v6ops-nat64-experience-02

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History

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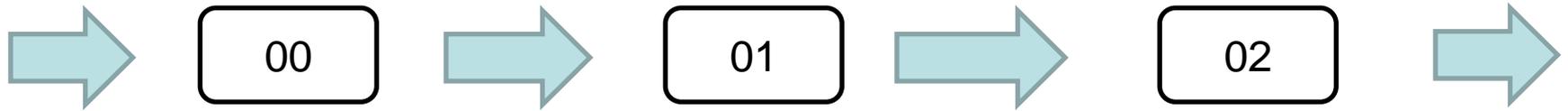
- Reviews from Joel Jaeggli, Wesley George and Satoru Matsushima

- Updated with comments from Philip Matthews

- Received comments from Wesley George, Philip Matthews, Randy Bush and Sheng Jiang during WGLC

- Reviews from Ray Hunter and Mikael Abrahamsson
- Document massage on the "Document Language Editing Session"

Thank you all!

Updates since IETF#86

- Restructure the document for better readability
- Share experimental/trial results to better convey NAT64 experiences
- Include stateless NAT64 discussions
- Discussions focus on:
  - NAT64-CGN placement
  - Redundancy design(cold-standby, warm-standby and hot-standby)

Restructure and Rewrite

- NAT64 Networking Experiences
  - NAT64-CGN Considerations
  - NAT64-FE Considerations

- High Availability
  - Redundancy Design
  - Load Balancing

- Source Address Transparency
  - Traceability
  - Geo-location

- Quality of Experience
  - Service Reachability
  - Resource Reservation

- MTU Considerations

NAT64-CGN Placement

- It's recommended to locate NAT64-CGN at or close to the network egress (e.g. AS border in fixed network)
  - Ensure consistent attribution and traceability within an ISP network
  - Simplify the network provisioning
  - Traffic volume for translations on NAT64 is less than NAT44
- However, the placement in a centralized location may make geo-location information inaccurate
  - The solutions included in RFC6967 can be used
  - We investigate radius-based approach to reveal source address, which has been discussed in BEHAVE

Redundancy Design

- The difference between cold standby, warm standby and hot standby is described

- We share the testing data for interrupt duration of each mode and performance tolerance of various apps

- Operators could choose a proper mode according to the application needs

- In general, we recommend warm standby to cover most services while hot standby could be used to serve limited traffic with high ARPU

Status

- We intend to cover complete NAT64 usages
  - Stateful NAT64-CGN usages(e.g. 464xlat) and stateless NAT64-CGN usages(e.g. MAP-T/4rd)
  - Stateless NAT64-FE (e.g. SIIT in data center) and Stateful NAT64-FE (e.g. HTTP-Proxy on load balancer)

- Is there something missing?

Next Step

- Volunteer to review from the group

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- Second WGLC?