ANALYSIS OF 64

Presenter: Reinaldo Penno, rpenno@juniper.net

Co-Authors: Dan wing, dwing@cisco.com

Mohamed boucadair, mohamed.boucadair@orange-ftgroup.com

IETF-77, Anaheim

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TERMINOLOGY

- 64 refers to a set of solutions that have been specified so far within behave WG, namely
  - Stateful NAT64
  - DNS64
  - FTP64
  - Framework

WHAT IS THE DRAFT ABOUT?

- This document provides an analysis of how the proposed 64 solutions mitigate the issues raised in "Reasons to Move the Network Address Translator - Protocol Translator (NAT-PT) to Historic Status" (RFC4966).

- It provides an input for the WG to make decision on the items to be chartered

WHAT THE DRAFT IS NOT ABOUT?

- Solutions to the problems that were not addressed by 64.

- When a draft exists that tackles a possible solution, it refers that.

WHY AN ANALYSIS?

- Internal and external demand on the exact differences and achievements of 64 in relation to NAT-PT

- Internal and external demand on how 64 solve the issues raised by RFC 4966

- Provide a roadmap of items that need to be tackled by the WG as re-chartering discussions proceed

STRUCTURE OF DRAFT

- Problems Not Addressed by 64
    - Specifically related to RFC4966
    - Because of reduced scope as compared to NAT-PT
- Problems Addressed by 64
- Problems Addressed by NAT44 Translation Documents
- Conclusions

(SOME) PROBLEMS NOT ADDRESSED BY 64 THAT THE WG MIGHT WANT TO SOLVE

- Disruption of all protocols that embed IP addresses (and/or ports) in packet payloads or apply integrity mechanisms using IP addresses (and ports)
  - NAT44 causes the exact same disruptions. SIP, IPsec AH.
- Scalability concerns together with introduction of a single point of failure and a security attack nexus.
- Dual Stack Hosts will use NAT64
- No multicast support
- NAT46

CONCLUSIONS

- The above analysis of 64 solutions set shows that the majority of the problems, which are not directly related to the decoupling of NAT and DNS remain unaddressed.

- This points to several shortcomings of 64 solutions set which must be addressed if the future network deployments have to move reliably towards 64 as a solution to IPv6 - IPv4 interconnection.