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**Dual Stack Hosts with DNS64**  
**draft-cao-behave-dsdns64-00**

Abstract

If a dual stack host is configured with a DNS64 server, the packet will be routed through the NAT64 translator instead of the plain IPv4 router or NAT44. This document suggest the DNS64 should handle type A DNS request normally to avoid packets being detoured to NAT64.

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## **1. Introduction**

If a dual stack host is configured with a DNS64 server [[DNS64](#)], the packet will be routed through the NAT64 translator instead of the plain IPv4 router or NAT44. This document suggest the DNS64 should handle type A DNS request properly to avoid packets being detoured to NAT64.

Draft [[DNS64-Config](#)] introduces serveral solutions to this problem. Specifically, the host destination address selection policy table is modified in order to give the synthesis AAAA record from the DNS64 a lower precedence than native IPv4 address. So the destination address selection algorithm will prefer the IPv4 address and communication will be IPv4 oriented.

The problem is that DNS64 is only specific for AAAA request, and does not specify whether and how to handle A query. So in the above solution, DNS64 will return presumably only AAAA record. Even if the host policy table is modified, host won't be able to select the IPv4 address.



## 2. Workaround

A simple workaround way to this problem is introduced in this section. We suggest the DNS64 should handle A request normally. So dual stack host will be able to receive both A and AAAA response from DNS64, and then destination address selection policy will take effect and host will select IPv4 address for communication.

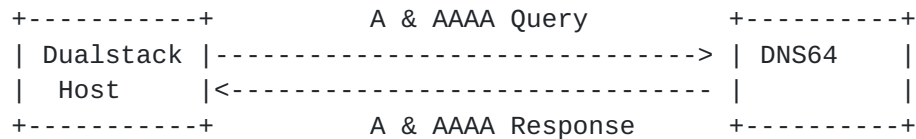


Figure 1: Dual stack host will DNS64



### **3. Security Considerations**

TBD.



#### **4. IANA Considerations**

This document does not require any IANA actions.

## **5. Normative References**

[DNS64] Bagnulo, M., "DNS64: DNS extensions for Network Address Translation from IPv6 Clients to IPv4 Servers", December 2009, <[draft-ietf-behave-dns64-05.txt](#) (work in progress)>.

[DNS64-Config] Wing, D., "DNS64 Resolvers and Dual-Stack Hosts", Oct 2009, <[draft-wing-behave-dns64-config-01.txt](#) (work in progress)>.

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