Updates from Address Selection Design Team

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Address Selection

- Who ?

  - Composed of 16 people, working for almost 2 years !

  - Chartered to work on RFC3484 policy table updating mechainsm

- What have we done ?

  - Examined the problematic cases to see:

    - how dynamic the updating mechanism needs to be.

    - what kind of policy needs be distributed.

  - Examined the solution space including a policy merging algorithm.

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After IETF 77

- We worked intensively after IETF77

  - to discuss the remaining issues and almost reach consensus within the DT.

  - kicked by BBF's demands for a mechanism to update address selection policy.

    - **draft-troan-ipv6-multihome-without-ipv6-nat**

  - to propose the next step forward, after the investigation and discussion.

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Recent discussions/changes in
draft-ietf-6man-addr-select-considerations-02

- Configuration frequency and timing

  - Frequent policy changes are due to routing changes or host mobility, where routing hints (ICMP errors) for address selection may help

  - In a managed site, there is likely to be a managed policy, and DHCP available

- The handling policy conflict is a host issue, how to deliver the policy is a network issue

  - We focus on the network issue, since the host issue is common with many other parameters

- We should avoid delaying progression of a 3484 policy update method applicable to e.g. managed enterprise networks

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Proposal from DT 1/3

- Re. Policy Merging

  - By its nature, conflict always happens when you merge two set of policies.

    - A heuristic approach can merge policies. But, there is no distinct/established algorithm for it.

  - So, we propose not to standardize the merging process. (at least for now)

Policy

Policy

- This issue should be up to an implementation or a user, just like DNS server selection.

  - e.g. The NIF metrics are used for choosing primary interface and can be used for policy set selection.

Host

- The candidate algorithm is explored in draft-arifumi-6man-addr-select-conflict

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Proposal 2/3

- Re. What protocol carries the policy
  - RA is better to work with the routing.
    - Easy to reflect routing status, easy to update.
  - DHCP is better in management.
    - it has a lot more space.
    - host-specific policy enforcement.
    - DHCP-relay function is useful in large-scale network.
  - Don't see any other good protocols if we will support general environments like enterprise, residential network, etc.
- So, we propose to go with DHCP, and if necessary RA and ICMP error based mechiansm supplementary.

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Proposal 3/3

- Re. RFC 3484 revision

  - It's known to have several faults, and oviously needs update

  - DT improves the revision proposal:

    - draft-arifumi-6man-rfc3484-revise-03

    - 6to4/teredo is de-prioritized than IPv4

    - protection from mis-use of deprecated addresses

    - TBD: NAT64 WKP should be included in the default policy

  - DT proposes these changes to the default rules should be made, along with policy distribution mechiansm.

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In the end

- 6man is now in adoption call for RFC3484 revision

  - draft-arifumi-6man-rfc3484-revise-03

- We prefer 6man as a home for policy distribution. We need input from from dhc and mif wg.

  - draft-fujisaki-dhc-addr-select-opt

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