Multi6 Design Team report

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DT work

- Met twice during the San Diego IETF to set the basic direction and collect the issues we needed to work on
- Email discussions and straw-man ideas
- Met for two full days in Manchester the weekend before RIPE meeting
  - Served as a deadline for getting more things written up
  - Kept the meeting away from deciding things were there were strong differences – instead making sure we wrote down the tradeoffs
- Made the results into several I-Ds

Internet drafts

- draft-nordmark-multi6dt-shim-00.txt
- draft-bagnulo-multi6dt-hba-00.txt
- draft-bagnulo-multi6dt-functional-dec-00.txt
- draft-arkko-multi6dt-failure-detection-00.txt
- draft-nordmark-multi6dt-refer-00.txt

What did we try to accomplish?

- Minimal or no additional dependency on DNS
  - Work for hosts without FQDNs
- An approach which allows application referrals to work
- Good enough security
  - Avoid time-shifting attacks if possible
- Think about privacy concerns
- Supports or extensible to handle mobility
- Think about avoiding hard /64 bit boundary

Things we assumed

- Something which deals with ingress filtering so that packets with different source locators are likely to make it out of the site
- DNS has its own redundancy with multiple NS records, thus it probably doesn't make sense to have it use the multi6 capability
  - But no known circular dependencies that would prevent such use

Things we need

- Congestion control concerns?
  - Possible to test reachability of multiple locator pairs in parallel?

Interesting things we haven't explored in depth (1)

- State management
  - What exactly identifies the multi6 context state?
  - Do the peers coordinate when they discard the state?
- Using non-reachable locators as ULIDs
  - Example: ULAs
  - Nothing in the approach and drafts prevents this
- Apps using DNS reverse and forward for non-reachable locators
  - There might be issues about DNS and interaction with IPv6 nodes that are not multi6 aware

Interesting things we haven't explored in depth (2)

- Handle subnet prefixes with more or less than 64 bits
  - No text about this yet
  - Unclear whether broader community is concerned about hard-coding the /64 boundary forever

Next Steps

- I assume the DT will cease to exist and further refinement will occur in the multi6 WG for the drafts already issued
  - What about other loose ends?
- Let's leave discussion of what's missing until after the rest of the DT presentations

	Referrals break vs. no multi6	>64 prefix	Works without FQDN	Can have addresses outside DNS	Compatible with other CGA uses	Supports/ extendable to mobility	
NOID	yes	yes	no	no	yes		slow changes
WIMP	one side	yes	no	yes	yes		one side
Classic HIP	no	yes	yes	yes	yes		yes
Diet HIP	no	yes	yes	yes	yes		yes
Diet HIP + RHIT	yes	yes	yes	yes	yes		yes
HBA	yes	yes	yes	yes	no		no
Classic CGA	yes	no	yes	yes	yes		yes
HBA/SEND CGA	yes	yes	yes	yes	yes		yes