IETF IPv6 Update

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Multi6 WG

- Multi6: chartered to study the question of "how to multihome in IPv6"

- Winnowed numerous proposals down to an architecture

- Shim layer between ULP (e.g., TCP) and IP
  - Separate identifier/locator functions

- Mostly transparent to applications (they use what they think are IPv6 addresses)

- Just an architecture, many details to work out

- Finish up some documents, then close WG

- shim6 WG will produce an implementable specification

Multi6 WG (Documents)

- In RFC Queue (all Informational):
  - draft-ietf-multi6-architecture
  - draft-ietf-multi6-things-to-think-about
  - draft-ietf-multi6-v4-multihoming (IPv4 Multihoming Practices and Limitations)
- In IESG Review:
  - draft-ietf-multi6-multihoming-threats

Shim6 BOF (WG Expected)

- Followup to multi6; work out the solution!

  - shim layer between IP and ULP, id/locator split

- Work out details, produce implementable spec

- Had BOF, proposed charter on mailing list

- Here is where real work will take place!!! Please follow/participate!!!

- Timeline:

  - 5 years until useable solution (realistically)

  - in 1 year we'll have better idea if on track

v6 Tunnel Config (v6tc) BOF

- Followup to need identified in v6ops

- Desire to have a way to set up automatic v6 tunnel to ISP/POP:

  - For running IPv6 over Ipv4

  - ISP has IPv6 in "core", but not at the edges

  - Wants to offer IPv6 service to customer via tunnel

  - Minimal/no configuration at client end

- Status: unclear if WG will form

IAB-IPv6 Ad-Hoc Committee

- RIRs (e.g., RIPE) were getting requests for large allocations (greater than in past)
- IANA hadn't done that before (been giving /23s)
- IANA wanted advice from IAB on what to do
- Some other random IPv6 issues were not being acted on.
- Formed an ad-hoc committee to advise IAB on IPv6 addressing matters:
  - Thomas Narten (chair), Bob Hinden, Brian Haberman, Kurtis Lyndqvist, Geoff Huston, Paul Wilson

On our plate

- Clarifying documentation (in RFCs) about how IANA manages IPv6 space
  - IANA web page cleanup for IPv6 address space (done: draft-huston-ip6-iana-registry-05.txt & IANA pages)
- ipv6.int deprecation: time to declare it dead (in progress: please review draft-huston-ip6-int-01.txt; says June 1, 2005 is end date)

On Our Plate (cont.)

- Examine problem where IANA gives /23s to RIRs (status: partially done)

- HD ratio - questions being raised whether existing HD-ratio based policies have intended effect (e.g., overly large allocations?)

- Re-examine implications of /48 recommendation

Current Focus

- IANA and RIRs are working on policies defining:
    - How big should IANA-to-RIR allocations be? /12? /16? (had been /23s)
    - When is an RIR allowed to ask for more? (reserving space? Utilization?)
    - Documents are being discussed in individual RIRs

Current Focus (cont.)

- IETF has an input voice:
  - Ensure prudent management of address space, with proper balance between aggregation/conservation
  - Policies consistent with architectural goals
  - Our interest is long-term stewardship, not day-to-day management
  - Get good aggregation over long-term time frame
  - Help articulate the technical implications of various policies

Going Forward

- Envision a document that describes technical considerations of allocation size, reservations, etc.

- Document experience (and lessons)

- Examine longer-term implications of various policies

- draft-huston-ipv6-hd-metric-00.txt is a rough start

- Need/expect community review of document

IPv6 Working Group

- Maintenance WG (in terms of where in its life)

- Finish protocol specs

- Revise/update existing RFCs

- Much of current charter done

- End of work might be in site?

IPv6 WG (Documents in RFC Queue)

- draft-ietf-ipv6-node-requirements (Info)

  – Summarize what one does to satisfy the various IPv6 specs

- MIBs:

  – draft-ietf-ipv6-inet-tunnel-mib (PS) "IP Tunnel MIB"

  – draft-ietf-ipv6-rfc2011-update (PS) "IP MIB"

  – draft-ietf-ipv6-rfc2013-update (PS) "UDP MIB"

  – draft-ietf-ipv6-rfc2096-update (PS) "IP Forwarding MIB"

- draft-ietf-ipv6-unique-local-addr (PS)

  – pseudo-random ULAs

IPv6 WG (Documents in IESG Review)

- draft-ietf-ipngwg-icmp-v3 (DS)

    - RFC 2463 revision

- draft-ietf-ipv6-host-load-sharing (PS)

    - Small Neighbor Discovery extension

- draft-ietf-ipv6-link-scoped-mcast (PS)

    - Improved generation of unique link-local multicast addresses)

- draft-ietf-ipv6-rfc2462bis (DS)

    - Stateless Address Autoconfig RFC revision

- draft-ietf-ipv6-router-selection (PS)

    - Route preferences for individual routes

IPv6 WG (Docs Almost Done)

- draft-ietf-ipv6-privacy-addrs-v2-02.txt

  – RFC 3461 revision

- draft-ietf-ipv6-ra-mo-flags-01.txt

  – Neighbor Discovery clarification

v6ops WG

- looking at rechartering, possibly to refocus on operational issues that come up during deployment

- no protocol work, do that in other Wgs

- In RFC Editor Queue:
  - draft-ietf-v6ops-mech-v2 (PS)
    - respin of RFC 2893
  - draft-ietf-v6ops-renumbering-procedure

Non-WG Document

- draft-huston-ip6-int-01.txt (Deprecation of "ip6.int")

- Formally declare that RIRs can turn off ip6.int effective June 1

Misc Links

- IPv6: http://www.ietf.org/html.charters/ipv6-charter.html

- v6ops:
  http://www.ietf.org/html.charters/v6ops-charter.html

- multi6:
  http://www.ietf.org/html.charters/multi6-charter.html

- shim6: shim6@psg.com (majordomo)

- v6tc: https://www1.ietf.org/mailman/listinfo/v6tc